REPORT OF THE NATIONAL CREMATION INVESTIGATION

The Rt Hon Dame Elish Angiolini DBE QC

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Background

1 Background

This report was commissioned by the Scottish Government following a number of investigations into the retrieval or otherwise of ashes from the remains of babies cremated in Scotland. The investigations were launched because of public concern arising from an initial enquiry by an author on behalf of the bereavement charity, SANDS Lothians, in October 2012. This led to the Edinburgh Evening News publishing an article in December 2012 suggesting that the ashes of miscarried, stillborn and neonatal babies were 'cruelly dumped in a mass unmarked grave at a city crematorium'. The parents of many of these babies had been advised there were no remains following the cremations.

Subsequent media coverage prompted the City of Edinburgh Council to establish an initial fact finding investigation at Mortonhall Crematorium, led by a senior officer of the Council, in early December 2012. The investigation reported in January 2013.

As a result of that report, and growing concern about the number of families who had raised enquiries relating to their own children's cremated remains, the City of Edinburgh Council commissioned me to lead a fuller independent investigation into the historical practices at Mortonhall Crematorium. That investigation began in January 2013.

However, the scandal had quickly grown beyond the reach of the City of Edinburgh Council. In April 2013, the BBC investigative journalist, Mark Daly, broadcast a documentary examining the Mortonhall situation and suggesting that similar issues might exist in crematoria across Scotland. Internal audits of the records held about such cremations were instructed by Glasgow City Council and Aberdeen City Council in early 2013.

Many parents of babies in other parts of Scotland who had not received ashes from their local crematorium sought information about their own circumstances directly from those crematoria, often assisted by their local MSP and local newspapers. The bereavement charity Sands provided support and information

to many of the parents affected by these issues. Some of these parents formed pressure groups requesting a public inquiry into the issues. ‘Mortonhall Ashes Action Committee’, ‘Glasgow Answers for Ashes’ and ‘Baby Ashes Scotland’ all drew attention to the wider circumstances in which ashes had not been returned to parents across Scotland. Similarly, a mother in Aberdeen, Leeanne Evans, sought answers from Aberdeen City Council about the circumstances of the cremation of her baby daughter, Alison. The persistence and tenacity of Leeanne Evans and of the members of these groups of other parents was admirable and I am grateful to her and to so many other parents for the very valuable information and evidence they acquired through their own individual efforts and determination.

In response to growing evidence that many parents across Scotland had been left in a state of distressing uncertainty, the Scottish Government established The Infant Cremation Commission (ICC), chaired by Lord Bonomy, in April 2013. This Commission was asked to review current policies, guidance, practice and legislation in Scotland in relation to the handling of all recoverable remains (ashes) following the cremation of babies and infants. It did not consider individual cases.

The Mortonhall Investigation and the ICC worked closely together, with the Mortonhall Investigation publishing its report in April 2014, and the ICC reporting in June 2014.

A further series of newspaper articles was published in both local Scottish newspapers and the national press between June 2014 and October 2014. It also became increasingly apparent that this issue was not confined to Scottish crematoria, and in November 2014 Shropshire Council commissioned an Inquiry into Emstrey Crematorium where families had also complained that their baby’s ashes had not been returned to them following cremation. This Inquiry published its report in May 2015. The Minister for Justice for England and Wales has recently also urged Hull City Council to instruct a similar investigation on a Crematorium in Hull.

As a direct result of recommendations from the Mortonhall Investigation Report and the Infant Cremation Commission Report, the Burial and Cremation (Scotland) Bill was introduced in the Scottish Parliament on 8 October 2015.

Meanwhile, increasing numbers of parents in Glasgow, Aberdeen, Fife and Falkirk had registered concern and enquiries about whether their baby's cremation had produced ashes that had been buried or scattered without their knowledge. As a result of the widespread nature and the volume of these enquiries, the Scottish Government asked me to conduct an independent investigation into crematorium practices across Scotland.

1.1 CHRONOLOGY OF EVENTS

i SANDS Lothians - 2012

In 2012 Lesley Winton, a freelance journalist, was engaged by SANDS Lothians to write a book. SANDS Lothians is a local bereavement charity, which helps families affected by Stillbirth and Neonatal Death.

As part of her research, Lesley Winton became aware that parents whose children had been cremated at the private crematoria, Seafield and Warriston, had received their babies' ashes. By contrast, parents whose children had been cremated at the local authority crematorium, Mortonhall, had not.

Ms Winton became deeply concerned that not only might this discrepancy have significant implications for bereaved parents of the future; it might also have a devastating impact on parents for whom it was already too late. Ms Winton therefore shared her findings with Dorothy Maitland, the Operations Manager of SANDS Lothians, in the hope that the information could be sensitively handled to help parents in this deeply distressing position.

Dorothy Maitland was herself the bereaved mother of a baby girl cremated at Mortonhall Crematorium in 1986, and together with Helen Henderson, another member of SANDS Lothians who had suffered the loss of her baby son in 2004, made further enquiries about the records of Mortonhall Crematorium. Shortly after this, Ms Maitland contacted the Evening News newspaper and advised

journalist Gina Davidson of her findings, including the information that Mortonhall had advised her that it would not be possible for her to retrieve the ashes of her daughter.

The Evening News published the story on 5 December 2012 and the City of Edinburgh Council, which is responsible for Mortonhall Crematorium, issued an immediate public apology to any bereaved parents affected by this development.

The subsequent media coverage led to over 250 families registering an enquiry with the Mortonhall Investigation, seeking to establish whether the ashes of their babies had been recovered following cremation. Similar, although less numerous, enquiries were made of cremation authorities including Glasgow City Council and Aberdeen City Council.

ii The Rosendale Report - January 2013

In response to the Evening News article in December 2012, the City of Edinburgh Council issued an apology to families affected by historical practices at Mortonhall Crematorium, and announced a fact-finding investigation. The initial report of this investigation, which was led by Mike Rosendale, then Head of Schools and Community Services, was published early in January 2013. Crucially, the key recommendation from this investigation was that an independent person be appointed to continue investigating historical practices at the Crematorium.

iii Mortonhall Investigation Report - April 2013 - April 2014[1]

I was commissioned to undertake an independent investigation into historical practices at Mortonhall later in January. I was asked to report to The Chief Executive of the Council.

iv Infant Cremation Commission (ICC) - May 2013 - June 2014

The Infant Cremation Commission, led by Lord Bonomy, was established in May 2013.

The Commission's remit was as follows:

- "to review the current policies, guidance and practice in Scotland in relation to the handling of all recoverable remains (ashes) of babies and infants, and to make recommendations for improvement to ensure that: parents and other bereaved relatives receive clear and consistent advice and information about the disposal of such remains and have their wishes adhered to; and that any such remains are treated sensitively and compassionately;
- to consider existing legislation, with particular reference to the Cremation Act 1902 and the Cremation (Scotland) Regulations 1935, in order to identify gaps, inconsistencies and weaknesses and to make recommendations on what issues should be addressed in future legislation;
- to consider existing practice and guidance in related fields such as the NHS and funeral services in order to identify gaps, inconsistencies and weaknesses that should be addressed; and to make recommendations on the format and content of future guidance;

[1] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commission Report can be found here: http://www.gov.scot/Publications/2014/06/8342

And

- to give guidance on the conduct of any investigations of historical practice undertaken by Local Authority or independent crematoria Operators."

The Infant Cremation Commission and the Mortonhall Investigation worked closely together.

1.2 Recommendations of the Mortonhall Investigation and the Infant Cremation Commission

Despite the wider remit of the ICC, which gave it greater scope for more specific and legislative changes, the two inquiries made many overlapping recommendations. This was partly because of their close working relationship, as noted above, and also because the Mortonhall Investigation specifically referred many of its recommendations to the ICC for wider national investigation.

Subsequently, the Inquiry into baby and infant cremations at Emstrey Crematorium in Shrewsbury also published a report in June 2015. This Inquiry was led by David Jenkins, who was asked to look at the way infant cremations were carried out at Emstrey Crematorium in Shropshire between 1996 and 2012. David Jenkins' report established that during this period Emstrey Crematorium failed to obtain ashes to return to parents following infant cremations.

The Emstrey Inquiry shared many of the concerns of the ICC and Mortonhall Investigation.

1.3 Responses

i National Committee on Infant Cremation

On 17 June 2014, the day of the publication of the ICC report, the then Minister for Public Health, Michael Matheson, made a formal statement to Parliament accepting all 64 of Lord Bonomy's recommendations. These included, as a priority, the formation of the National Committee on Infant Cremation.

The National Committee's main aims and objectives are set out in Recommendations 57 to 62 of the ICC Report, and can be summarised as follows, to:

- Develop, promote and annually review a Code of Practice on baby and infant cremations which reflects contemporary standards and best practice
- Ensure all recommendations from the Infant Cremation Commission are implemented, through a combination of strategic oversight, monitoring and also through direct tasks which will be undertaken by expert Working Groups set up by the National Committee.
- Promote improvements in practice, technology, policy and legislation
- Report annually to Ministers on standards and practice in baby and infant cremations

The National Committee is chaired by The Scottish Government, and has more than twenty members from multiple organisations and sectors including: clinical and neonatal experts; cremator manufacturers; crematoria and Funeral Directors' representative organisations; bereavement organisations; private and local authority cremation authorities and policy officials from England and Wales, and Northern Ireland. There have also been parent representatives on the Committee and its Sub-Groups to help ensure that those who have been most affected by issues in the past have a real say in improvements to policy, practice and law now and in the future.

To date, the National Committee on Infant Cremation has met on four occasions: 9 October 2014; 26 January 2015; 11 June 2015 and 13 November 2015. In its annual report, published in November 2015, it included as an annex details of the progress made against the ICC recommendations. This showed 27 of the 64 recommendations as fully implemented, with a further 25 recommendations due to be completed by the commencement of the Burial and Cremation (Scotland) Act 2016, and its associated Regulations.

Of the remaining 12 recommendations, 5 are underway and/or planned for 2016; three are annually recurring and therefore not subject to 'final completion'; 2 can only be commenced after the legislation is commenced and a further 2 are expected to be progressed following the completion of this Investigation.

ii The Burial and Cremation (Scotland) Act 2016

The Burial and Cremation (Scotland) Bill was introduced in the Scottish Parliament on 8 October 2015. Designed to completely replace the existing legislation, the Act received Royal Assent on 28 April 2016 and will be commenced in stages.

The Act provides an updated, comprehensive legislative framework for burial and cremation in Scotland. It takes forward the wide-ranging recommendations made by the Burial and Cremation Review Group in its 2007 report[2], and will implement those recommendations made by Lord Bonomy and the Mortonhall Investigation which require legislative change.

In summary, the topics on Cremation covered by the Act are:

- Duties of cremation authorities, applications, fees and registers – pregnancy loss is included in each of these processes;
- Who may instruct the disposal of human remains;
- Inspectors and inspection, as well as the power for Scottish Ministers to introduce licensing of Funeral Directors;
- The suspension of burial and cremation legislation in response to public health risks (for example, pandemics);
- Methods for disposing of human remains which may be introduced in the future;
- The ability of Scottish Ministers to issues codes of practice covering various parts of the funeral industry; and
- A statutory definition of ashes.

[2] http://www.gov.scot/Topics/Health/Policy/BurialsCremation/BurialCremationReview

In particular, the Act addresses a key recommendation of both the Mortonhall Investigation and the ICC Report, which was to clarify in law the meaning of 'ashes' following cremation. This lack of clarity had on occasion been suggested to some bereaved parents and families as a reason for the failure to return their child's ashes.

The Act takes the Bonomy definition of *'all that is left in the cremator at the end of the cremation process and following the removal of any metal'* and incorporates its meaning, intent and effect into the definition of cremation set out at Section 45 :

> *"Meaning of 'cremation'*
>
> *(1) In this Act, 'cremation' means the reduction to ashes of human remains by the burning of the remains and the application to the burnt human remains of grinding or other processes.*
>
> *(2) In this section—*
>
> *'ashes' does not include metal,*
>
> *'coffin' includes any type of receptacle,*
>
> *'human remains' includes, where remains are clothed, in a coffin or with any other thing, the clothing, coffin or other thing."*

As well as defining 'ashes', the Act also introduces measures that will ensure clarity about what is to be done with ashes that are recovered. A person who applies for a cremation will need to specify what should be done with the ashes - this will ensure that there is no ambiguity about what will be done with ashes, and will provide a legal statement of the applicant's wishes. The Act also includes provisions on a range of other Bonomy recommendations that will improve procedures for the cremation of babies and infants, and which will additionally make improvements to cremation procedures generally.

iii National Committee on Infant Cremation - Code of Practice

In November 2015, the National Committee published a new Code of Practice. Its purpose was to draw together as many of the ICC recommendations as

possible into a format which could easily be monitored by the Committee over time. The Code is also designed to be easily incorporated into sectors', organisations' and even individuals' procedures, policies and behaviours. The Committee indicated that the level of engagement and participation from all relevant organisations suggested that inclusion of the Code of Practice in the Burial and Cremation (Scotland) Act 2016 was unnecessary. They argued that retaining the Code as a non-statutory instrument allows the Committee the flexibility to continue to work with organisations and other stakeholders over time to refine and amend the code, so that it continues to meet everyone's needs. Its status needs to be reconsidered in light of the findings of this Investigation set out in this Report. The Act also provides for regulations with criminal sanctions to be created.

iv Appointment of Inspector of Crematoria

An Inspector of Crematoria for Scotland, Robert Swanson, was appointed in March 2015, in fulfilment of the ICC Report's Recommendation 63. This role currently covers functions laid out in the 1935 Regulations, as well as some broader non-statutory functions, but the Inspector role will change as the legislation is repealed to allow the new Act to come into force**.**

In brief, the Inspector's current role is to:

- Ensure crematoria are operating in line with the principles set down by Lord Bonomy, and in line with the new Code of Practice.
- Report any criminal or potentially criminal activity to Police Scotland.
- Visit every crematorium in Scotland at least once every year.
- Deal with queries or complaints from the public.
- Provide an annual report to Ministers on activities, but can also report to Ministers on specific issues or concerns if needed.

Since his appointment, the Inspector has undertaken introductory visits to all 28 crematoria in Scotland, and has met with most major stakeholders through attendance at meetings either as an invited guest or as an active member of various groups and committees (including membership of this National

Committee on Infant Cremation). He is currently undertaking formal inspections of all 29 crematoria, 16 of which have been completed at the time of writing.

As part of his duties, the Inspector has also already dealt with a number of enquiries and complaints from members of the public and other external agencies. Most significantly for this Investigation, from 5 June 2015 the Inspector has required all crematoria in Scotland to report to him instances where ashes are not recovered following cremation. The Inspector reports that since 5 June 2015 no Crematorium in Scotland has reported a failure to recover ashes from non-viable foetuses, stillborn babies, neonatal or infant babies.

v Updated Guidance on the Cremation of Pregnancy Losses

The National Committee has updated the existing guidance to NHS Scotland, to reflect the ICC recommendations. The revised version was submitted to Scotland's Chief Medical Officer and Chief Nursing Officer and was issued to all NHS Health Boards in June 2015.

vi Ministry of Justice Consultation on Cremation in England and Wales

In December 2015, the Ministry of Justice launched a consultation on cremation, following the UK Government's consideration of the recommendations of the Emstrey Inquiry and the ICC. A majority of the 12 Emstrey report recommendations were for the UK Government, including one specifically recommending that the Government should consider the ICC's 64 recommendations. The consultation therefore considered all of the Emstrey and ICC recommendations together, and sought views on each of them. The consultation closed early in March 2016.

Introduction

2.1 TERMS OF REFERENCE

On June 17, 2014, the then Minister for Public Health, Michael Mathieson MSP, announced to the Scottish Parliament the establishment of a National Investigation into infant cremations in Scotland. He explained that the Mortonhall Investigation Report by former Lord Advocate, Dame Elish Angiolini QC, published on April 30 2014, provided specific answers to affected families in the Edinburgh area, as well as a number of wider recommendations.

Lord Bonomy's Infant Cremation Commission Report, published by the Scottish Government on June 17, 2014, also provided national recommendations for future improvements. He added that Scottish Ministers acknowledged, however, that families from some other areas of Scotland were still seeking answers.

The current National Investigation, to be led by me, was therefore established to respond to this need. The appointment was made under Section 19 of the Cremation (Scotland) Regulations 1935, with powers to inspect, at any reasonable hour, any registers or documents (all applications, certificates, statutory declarations and other documents) relating to any cremation held by any Cremation Authority in Scotland.

The terms of reference of the Investigation were,

- to investigate the circumstances around the cremation of any infant or baby referred to the Investigation team by bereaved parents or others, including the work of crematoria, hospitals and NHS Boards and Funeral Directors as necessary;
- to report back to the bereaved parents or others the results of that investigation, particularly in relation to the likelihood of there having been ashes following the cremation, and the whereabouts, if known, of any such ashes;

- to conduct a more general investigation into practices and operations at any specific crematorium where case-specific investigations give rise to more general concerns;
- to report back to the Minister at the conclusion of the National Investigation with a summary of the work undertaken and the key findings.

2.2 STRUCTURE OF THE REPORT

This Report is divided into separate Chapters about each of the Crematoria under investigation with findings, conclusions and recommendations particular to the individual crematorium included in the individual chapter. An overview of the general issues emerging, so far as they relate to these 14 crematoria follows this introduction, along with a summary of general conclusions and recommendations arising from the Investigation.

A Report by the Forensic Anthropologist, Dr Julie Roberts is annexed to this Report and provides crucial expert evidence. The Report refers to her earlier Report for the Mortonhall Investigation[3] and confirms, amongst other significant findings, that bones in cremated foetuses from as young as 17 weeks' gestation can and do survive the cremation process. Taking that into consideration alongside the data presented in her report she concludes that,

> *"It is inconceivable that there would be nothing left of new born babies and infants aged up to 2 years following cremation. The 'no ashes' or 'no remains' policies at the crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt skeletal remains and /or individual or corporate decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together."*

[3] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

Furthermore, she explains that in very young foetuses it may take considerable forensic expertise to recognise bones which are, nonetheless, there. They may not be apparent even to experienced Cremator Operators.

In addition to this general report, the next of kin of each baby referred to the Investigation have been provided with copies of any recovered documents and details of the Investigation about their own specific circumstances. Many of those circumstances are also referred to anonymously in the chapters of this report about the relevant crematorium.

As I stated in the Mortonhall Investigation Report, it is important that those who must address these problems and interact with those so badly affected should do so as sensitively as possible. However, a proper professional approach inevitably requires resort to technical and explicit terminology that can appear brutal and insensitive in this very sensitive context. The terms non-viable foetus, stillborn and neonatal baby and infant will be used, as appropriate, within this Report. The term 'baby' is used to describe these four categories when they are referred to collectively and, more generally, as parents and others do not in ordinary conversation refer to expecting a foetus.

To ensure that the issues are properly addressed and are accurately defined, this Report necessarily contains some very distressing evidence and terminology throughout. The expert report by Dr Roberts annexed to the Report is particularly explicit with illustrations included in her Report.

2.3 METHODOLOGY OF THE INVESTIGATION

A total of 202 cases were referred to this Investigation involving 14 out of the 29 crematoria across Scotland. The Investigation was therefore a major undertaking. 320 witnesses were interviewed and many hundreds of documents recovered and examined. Each crematorium was visited and relevant staff interviewed. In older cases, many relevant witnesses had retired or passed away and in a number of cases records had been destroyed or weeded after the expiry of the minimum statutory period of 15 years for mandatory retention of such documents. In 11 cases, the families approached the Investigation

because at the time of their baby's death they had not received even the most basic information about where their baby had been taken and whether their baby had been buried or cremated. The Investigation was able to establish what had happened in each of these cases and to inform the families of their findings.

The investigation also involved discussions with professional and expert witnesses.

2.4 ACKNOWLEDGMENTS

Given the scale of this Investigation I was asked by the Minister to lead a team to carry out the necessary enquiries and preparation of the Report. That team consisted of Claire Soper, the Director of the team, Charlotte Triggs OBE, former Senior Prosecutor with the Crown Prosecution Service, Fiona Donnelly, Solicitor, former Associate Director Institute of Professional Legal Studies, Senior Lecturer Queens University, John Watt, former Area Procurator Fiscal and Marion Collins, former Civil Servant. Victoria Stott, University of Oxford, also provided invaluable research and editorial support to the team.

Amanda Moss BEM, my Executive Assistant at St Hugh's College, Oxford, has also provided great assistance to me throughout the Investigation.

The members of the Investigation team, led by Claire Soper have been outstanding. They have each shown great sensitivity and dedication to what has been a deeply disturbing and distressing major Investigation and I am enormously grateful to each of them for their care, professionalism and expertise.

I would also wish to acknowledge with thanks the cooperation and advice of the Inspector of Crematoria, Robert Swanson, along with the professional and expert witnesses whose evidence is contained in the Report.

Finally, I am deeply grateful to the many parents who participated in this Investigation and who, without exception, showed great courage and dignity in having to revisit the loss of their baby in such sad circumstances. Their

evidence will be of great assistance in the prevention of the recurrence of their own experiences for future parents facing the loss of a baby.

Rt Hon Dame Elish Angiolini DBE QC

Overview

3 Overview

A number of the significant aspects of the evidence in this Investigation reflect the context, legal framework and findings of my earlier report on Mortonhall Crematorium[4], published in April 2014. While an explanatory note and glossary of terms is provided in this report, both the Mortonhall Investigation Report and the Report of the Infant Cremation Commission[5] provide a foundation for this Investigation and are useful references for those consulting this Report.

This Investigation took place during the passage of the Burial and Cremation (Scotland) Bill through the Scottish Parliament. That Bill was passed on 22 March 2016 and will come into force incrementally. The Act addresses many of the shortcomings identified in this and the previous reports and, together with the Code of Practice issued by the National Committee on Infant Cremation, provides a clear and comprehensive framework to regulate and guide future practice on the cremation of babies. This Investigation has however identified additional issues and recommendations, some of which require further legislative action and the introduction of criminal sanction.

In the Mortonhall Investigation Report, I made several observations about the role of the professional organisations, the FBCA and the ICCM[6] as it affected these issues. Since the recommendations of the Mortonhall and ICC Reports have been published, the FBCA and ICCM have developed joint guidance on infant cremation for Cremator Operators which is to be commended[7]. Further, the FBCA has also developed a training module for infant cremation and asked South Lanarkshire and Inverclyde to be training centres for this purpose. Initially

[4] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

[5] An online copy of the Infant Cremation Commission Report can be found here: http://www.gov.scot/Publications/2014/06/8342

[6] Section 5.2, Key Organisations, explains who the FBCA and ICCM are.

[7] http://www.iccm-uk.com/iccm/library/Cremation%20practice%20-%20guidance%20-%20final%2017%20November%202014-2.pdf

this training was offered to new Operators going through their FBCA Certificate which now also includes an infant cremation component. This module has now been opened up to more experienced staff and, in particular, to those mentoring trainees. The ICCM has also now incorporated infant cremation in its training module. It is incumbent upon all senior management of crematoria to ensure such training is taken up by their employees as part of the need to change attitudes and embed a significant change of culture.

3.1 Organisational Culture at Crematoria

A great deal of discussion is included in this report about the various techniques, equipment and practices used by crematoria in Scotland and by individual Cremator Operators. While it is clear that the deployment of particular practices and equipment can enhance considerably the prospects of recovering ashes for parents, the overwhelming influence in obtaining ashes arose from the effectiveness of the leadership of those organisations and from the resulting culture of the crematoria. The stark difference between the atmosphere and culture of those crematoria that have historically and consistently provided ashes from babies and those that have not was evident.

The manifestation of cynicism or scepticism from some Managers and Operators whose working practices prevented or were, at the very least, indifferent to the consistent recovery of baby ashes was generally accompanied by an inward looking approach and disinterest in the working practices of other crematoria. While commercial sensitivity was often given as an excuse for such isolation, these crematoria demonstrated little evidence of a progressive or caring culture for the circumstances of the loss of a baby. In such cases many parents are patently vulnerable. In contrast, in other crematoria the determination and success in returning ashes was part of a wider culture of greater sensitivity and customer care.

The most eloquent demonstration of the effect of culture and determination was expressed in the striking observations of a Cremator Operator of 26 years' experience from Glasgow Crematorium at Maryhill,

"We have baby urns in the columbarium there. We have a big tower there. It's got 3,000 sets of ashes in it and we've got wee baby and stone urns and there's ashes in them from a hundred years ago. So they must have had baby trays or something similar to the trays we have even back then because as I say there are ashes in there that are a hundred years old and they're baby ashes. So they were able to collect them all that time ago without any modern equipment or anything….

…. Every one of them is very, very difficult. We tend to take a bit more care. We always have here, I must admit, taken more care … We've always used a tray here. I've heard that some crematoria don't and I don't understand why they would say that and I've heard that it's a year or two years [the cut off for ashes] ... I can't understand that. Personally I've had a small non-viable foetus (as they regard it) and there's still bone there. You're talking the size of fish bones but I know a bone when I see one. I've been doing it that long and for somebody to say that they can't get anything back…. and even if we don't see anything, everything that's in that tray, it doesn't matter if it's still a bit of a box that's in that tray, goes back to the family… The ashes from a one year old won't fit into a baby urn. This is why I can't understand folk saying there is nothing. It really is unbelievable."

The degree of care required was also emphasised by Dr Clive Chamberlain, expert Combustion Engineer, in his report to the Mortonhall Investigation[8],

"The usual conditions for the cremation of adults are not suitable for infant cremations and it is a matter of establishing whether there can be suitable conditions created having regard to all the factors which affect the outcome. The essential characteristic of infant cremation must be a gentle process."

What also marks out those crematoria that were consistently successful at recovering ashes for the parents of babies was their willingness to modify the adult processes to mitigate the ferocity of the environment inside the primary chamber of the cremator. This could be achieved by the use of a 'baby tray' to allow the ashes to be protected and contained against the volatile atmosphere in the chamber. Additionally, manual intervention with the controls of the cremator, reduction of the air forced into the chamber, reduction of the

[8] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

temperature of the primary chamber and the length of time of the cremation were actions which, if used, allowed the recovery of baby ashes.

A number of successful crematoria combined all of these modifications to great effect. The outcome could be further improved following the introduction in 2013 of a software programme for cremator equipment known as ‘infant mode’. This programme automatically mitigated the impact of the cremation process for foetuses and babies.

Other crematoria had intermittent success over different time periods during which they used a baby tray. The Investigation heard evidence that trays were withdrawn from use in some crematoria because of buckling of the trays. However, there was no evidence of any concerted effort to find more robust trays that would withstand the effects of the cremator for a longer period, or to involve senior management in resolving the issue. The manufacturer of the gas cremators in use at many of the crematoria in Scotland confirmed that instructions on safe use of the trays have been included in the manufacturer’s user manual for decades and confirmed that baby trays have been available since the 1960’s.

Following publication of the Mortonhall Investigation Report and the ICC report in 2014, crematoria in Scotland have been using a baby tray for cremation of infants. The Inspector of Crematoria has confirmed that no incidents of injury or failure to obtain ashes have been reported to him by any crematorium.

3.2 Working Practices at Crematoria

The outcome of the Investigation has demonstrated failings similar to those discovered at Mortonhall in a significant number of crematoria in Scotland. It also found examples of good practice now in place at Mortonhall with a transformation of working practice and culture there. Likewise, Seafield, Warriston, Glasgow Maryhill, Woodside Paisley, Falkirk and Cardross have all had in place working practices permitting the consistent return of ashes to parents for many years. The Investigation was also invited to consider practices at South Lanarkshire and Parkgrove in Friockheim, neither of which are the

subject of complaint and both of which have been successfully returning ashes to the parents of foetuses, stillborn and infant babies.

i Aberdeen

While issues of concern were found in a number of the crematoria in Scotland and in the practices of local Funeral Directors and NHS staff, the most serious issues in this Investigation have arisen at Hazlehead Crematorium in Aberdeen. During the course of the Investigation into Mortonhall Crematorium in 2013 spokespersons for Aberdeen Crematorium issued statements confirming that Aberdeen did not produce ashes from the cremation of foetuses and babies up to the age of eighteen months to two years. Referring to the broadcast of the BBC documentary, 'Scotland's Lost Babies' in April 2013, one of the Managers at Aberdeen City Council explained,

> *"it wasn't until I watched the BBC documentary…that I started to question it…I was a bit surprised and a bit horrified because we had always stuck by our statement of no remains.*
>
> *We stuck with the line that Aberdeen Crematorium did not recover ashes. I was looking for comfort and confirmation from Derek* [Snow, Crematorium Manager]*, because to me Derek was my expert and I had no reason to not believe him."*

There was of course considerable information emerging at that time to suggest that he and senior managers should have had reason to test and probe robustly the explanations presented to them by Derek Snow, the Crematorium Manager. The truth was that ashes would have been recoverable if any care or interest had been shown in recovering the ashes. Instead, the reality was one of years of malpractice unnoticed by senior management.

There was, quite simply, no interest in recovering ashes from foetuses and babies and no effort put into attempting to do so, although ashes had been recovered at Aberdeen many years before. The reality is described in detail in this Report and is deeply disturbing. The evidence discloses unethical practices over many years of the cremation of foetuses and babies along with unrelated and unknown adults. A further practice of raking adult ashes forward at the completion of a cremation and inserting into the same chamber an infant to be

cremated while the adult ashes were still present was also described. The entire contents of the chamber were then raked into the cooling pan. For obvious reasons this process was not recorded.

These practices are deeply shocking, will offend the sensibilities of the wider community and cause great distress to those whose babies were cremated there. It will also cause profound concern to the next of kin of any unrelated adults who were cremated in Aberdeen. These next of kin may have scattered, interred or collected and continue to retain ashes of loved ones cremated at Aberdeen which also include the ashes of an unknown baby or of one or several foetuses.

The position of an alleged understanding at Aberdeen Crematorium that there were no ashes to be obtained from babies up to two years of age was not explained and is inexplicable. The nature of the processes and the expedient and unethical way this was done, without any recording to this effect, means that it is not generally possible to identify those adults and babies who were cremated with each other. Exceptionally, in the cases of two infant babies referred to the Investigation where the evidence demonstrates that they were cremated on their own, no ashes were recovered. It can therefore be inferred from the records and from the evidence of the Cremator Operators that these ashes remained in the cremator and would have been mixed with the ashes of the subsequent adult cremation.

When obliged to consider these issues following the commencement of the Mortonhall Investigation and during the separate opportunity to explain their position to Lord Bonomy and his team in 2013, the true picture at Aberdeen Crematorium was not disclosed. The Infant Cremation Commission was therefore misled about the practices taking place at Aberdeen.

ii Other Crematoria

With some notable exceptions, this Investigation found a number of issues similar to those examined in the Mortonhall Investigation Report in the working practices of a number of crematoria.

In Glasgow many parents were misinformed by NHS staff and Funeral Directors about the possibility of recovering ashes and were thus deprived of the opportunity of making such a request to Daldowie and Linn Crematoria and to other crematoria in the Glasgow area. The quality of communication and understanding between the NHS, Funeral Directors and the Crematoria was poor and erratic. While there was evidence of the return of ashes for some babies at Daldowie and Linn, this was intermittent, depending on the use of a baby tray that was, in turn, dependent on the approach of the individual Cremator Operator.

The absence of any written procedures or monitoring of the use of a baby tray made enquiry very difficult and there were conflicts in the evidence between the Managers and the Cremator Operators as to what practices were being used. This was compounded by the inaccuracy and unreliability of the Statutory Register of Cremations as it related to the cases referred to this Investigation. Like Mortonhall Crematorium before 2013, Daldowie and Linn Crematoria worked in almost complete isolation from the rest of the Council and other crematoria with no strategic direction or development of the services provided for the parents of foetuses and babies.

Similar issues were evident at Dunfermline and Kirkcaldy Crematoria both of which come under the joint management of Fife Council. They share a common Bereavement Services Manager. Despite this arrangement, working practices at each of the two varied from the other. Dunfermline returned ashes intermittently when the baby tray was available to them and Kirkcaldy did not return ashes at all. Indeed, the working practices at Kirkcaldy were wholly contrary to the manufacturer's guidance and guaranteed to eliminate any prospect of recovering ashes by placing the coffins or boxes containing the baby directly under the main burner. Following the publication of the Mortonhall Investigation Report baby trays were eventually reintroduced to both crematoria. They immediately began to recover ashes from foetuses as young as 13 weeks. The effect on the Cremator Operators was considerable with one observing,

> *"When we started using trays and realised you got something back to give to the parents we were all, I mean, I am, generally gobsmacked. From the tiniest NVF at 12 weeks because we are using this baby tray, I mean what it looks like to me is like if it's the ribcage it looks like a nail clipping and were just told that that wasn't possible. We didn't know that places like Seafield Crematorium in Edinburgh have been able to use the tray for years and years and years."*

Another colleague commented,

> *"I did start to think about it when I was using a tray and I think the other boys will say that as well….it hits home to me now that I'm able to recover something using a tray where I couldn't before. It has affected me"*

The failure to genuinely search for best practice, to take real care and demonstrate sensitivity to the needs of some very vulnerable parents was evident in a number of different respects in crematoria in Scotland but there were many common failings which resulted from a lack of interest by senior management and a failure to develop cultures of continuous improvement, not just in respect of crematoria but in the practices of NHS staff and Funeral Directors.

The new Code of Practice, the availability of external training and the establishment of a much better regulated sector through the new Burial and Cremation (Scotland) Act 2016 should diminish the opportunities for such failure in the future but it is for the Chief Executives of each of the relevant Councils and organisations to ensure those practices are sustained and the general culture transformed.

3.3 RECORD KEEPING

There were no statutory obligations on crematoria to maintain records of the cremation of non-viable foetuses and many of the crematoria had no such records. Even when they did, the registers for non-viable foetuses did not contain information about the location of any ashes. The records about all other cremations had to be maintained for a period of 15 years. With the exception of two cases such records were maintained, although they were not always complete or accurate.

The practice of inserting the disposal outcome of the remains of the baby on the Register before the actual cremation had taken place was widespread. In short, what appears to be a record was a prediction and not a record at all. This rendered many records wholly unreliable and meaningless as a statutory record of the actual outcome of the cremation. There was significant evidence that in many cases across the country the outcome recorded was in fact only the instruction for the disposal of ashes and that this was not updated with the actual outcome. As at Mortonhall, prior to the computerised systems being introduced, most crematoria did not record in manual registers that there were 'no remains' even though they stated this to be the case. Most often the words 'dispersed in the Garden of Rest or Remembrance' would appear.

This casual and careless approach to a statutory obligation is of considerable concern. Steps now need to be taken to rectify these inaccuracies and to ensure this obligation is treated with the solemnity it deserves. The duty to do so conscientiously and truthfully is implicit in that obligation.

3.4 COMMUNICATION

i NHS Maternity Staff

It was clear during the Investigation that many midwives and hospital employees in maternity hospitals across the country had not been well informed about the basis of the advice they gave to parents and that much of the advice was simply gleaned from predecessors or colleagues. Very often that advice was that there would not be any ashes. Such advice resulted in parents not applying for ashes. Even NHS written guidance was inaccurate and misleading in a number of respects. Advice from the Chief Medical Officer in 2012 also assumed there would be no ashes from the cremation of non-viable foetuses. Despite the changes following the Mortonhall Investigation Report which mean that ashes are always returned following cremation, this Investigation was told by Glasgow City Council administrative staff in 2015 of a form still in circulation from the main Glasgow hospitals that included a declaration signed by parents stating,

"I understand there will be no identifiable remains."

That form has now been withdrawn following intervention by this Investigation. Many NHS staff often had to provide advice to parents under great pressure from other duties and some midwifery staff did not appreciate that there was written guidance to the staff to the effect that parents should be given ample time to consider the options. A significant number of mothers told the Investigation that they were in a state of acute distress at the loss of their child and felt they had little time to make decisions about the final act of care for their baby before leaving the hospital. Many were also heavily sedated or in physical pain. A specialist midwife on pregnancy loss acknowledged,

> *"It could be quite quickly after delivery when these options are discussed. Very definitely on discharge from the ward… it could be two or three hours, six hours, could be overnight between delivery and discharge, it just depends."*

Many parents relied wholly on the advice given by NHS staff and accepted in good faith the advice that there would be no ashes to be recovered from the cremation of their baby. This misleading information deprived many parents in Scotland of the opportunity to recover the ashes of their babies. Such advice and guidance to parents needs to be accurate and set out in different formats to take into account the impact of grief on the ability of the parents to absorb information given on one occasion. Most importantly, parents must also be given the time and space to make their decision.

These matters are now being addressed by the NHS but steps must be taken to review the effectiveness of training and guidance to ensure parents are not misinformed about such an important decision, nor propelled into making decisions prematurely.

ii Funeral Directors

Similar considerations emerged from the evidence of many parents about Funeral Directors across the country. This report discloses a significant body of evidence that parents were often advised by Funeral Directors that there would be no ashes from the cremation of their baby or very little prospect of ashes.

Funeral Directors indicated that such information came from the crematorium staff or from their senior colleagues or peers. Understanding of what the prospects of recovery of ashes were in each crematorium varied among Funeral Directors working to the same crematorium. Many were aware that ashes could be obtained in some crematoria but not others. A number of Funeral Directors indicated that they would not raise the issue of ashes at all unless the parents did so.

While many parents signed the Application for Cremation, they had allowed the Funeral Director to complete the form and simply signed the form as indicated by the Funeral Director. The instruction for the disposal of ashes was also often completed and signed by the Funeral Director. During the Investigation, parents were shocked to see that the space for the instruction had been scored through or marked 'N/A'. Of even more concern to parents was to learn that an instruction for 'dispersal of the ashes' had been entered onto the Application for Cremation by the same Funeral Directors, the representative of whom had informed the parents that there would be no ashes.

What is apparent from the Investigation is how much trust is placed in the professionalism of Funeral Directors and how Funeral Directors should be uniquely well placed to know what the situation is in various crematoria around the country. Yet apart from one challenge in writing by a now deceased Funeral Director in Aberdeen, Funeral Directors appeared to acquiesce in the information from the crematorium. This situation persisted despite the recovery of ashes in other nearby crematoria and inconsistent accounts from different personnel working in the same crematoria.

It was clear that the quality of communication between crematoria staff and Funeral Directors also varied considerably across the country and was subject to confusion and disagreement between the organisations. While the Investigation was told that some crematoria would warn Funeral Directors that ashes could not be guaranteed, this had been understood by Funeral Directors that no ashes were available for foetuses or babies and parents had been advised as much. As with the findings in the Mortonhall Investigation Report,

the whole process of communication with bereaved parents about cremation was generally unsatisfactory and muddled, with a small number of notable exceptions.

Despite the existence of Bereavement Liaison Groups in some areas, many of these had not discussed baby cremation and there was little evidence of any meaningful joint training on this issue anywhere until very recently. Evidence was also discovered of Funeral Directors and crematoria holding on to baby ashes for many years on their premises without advising parents until the intervention of this Investigation. The great vulnerability of parents in such circumstances calls for the very best in customer care and that was clearly not evident in so many of the instances examined. That level of care, knowledge and sensitivity is also needed from NHS and crematoria staff.

It is incumbent on all senior management in each of these three sectors to lead and secure adequate training, appropriate working practices and a culture of care and sensitivity. Given what is disclosed by this Report, systems must be in place to ensure those services are delivered consistently and are subject to regulation and inspection. This should include the Funeral Directing profession.

General Conclusions and Recommendations

4 General Conclusions and Recommendations

A number of general conclusions and recommendations follow. Conclusions and recommendations particular to each of the Crematoria follow the individual Chapters on each.

1. The evidence discloses unethical and abhorrent practices at Aberdeen Crematorium over many years, including the cremation of foetuses and babies along with unrelated and unknown adults.
2. A criminal sanction should be created to prohibit the cremation of a non-viable foetus, stillborn baby or infant with an unrelated person unless there is express written consent from the next of kin of the baby. There must also be express written consent from the next of kin of the unrelated person or it must be compliant with the testamentary intention of the unrelated person.
3. The overall regulation of the funeral profession needs to be improved. Funeral Directors as well as Cremation Authorities should be licensed and subject to a statutory regime of regulation and inspection.
4. The Scottish Government should exercise its powers under the Burial and Cremation (Scotland) Act 2016 to regulate the Funeral Directing profession.
5. An Inspectorate of the Funeral Business should be appointed incorporating the current role of the Inspector of Crematoria.
6. The Chief Executives and Senior Management of the Councils and organisations responsible for crematoria and funeral care in Scotland must take full responsibility for securing a forward looking and proactive approach to the management of their businesses and duties. This should include responsibility for ensuring a caring and sensitive culture in their operations and a renewed focus on customer service and standards of care. The parents of many of the families involved in this Investigation

have been failed by both crematoria and funeral care organisations over many decades.

7. Minimum standards of training and joint training should be introduced for the cremation of foetuses, stillborn and infant babies. Chief Executives should take responsibility for ensuring all staff are trained and certified to those standards, which should be periodically re-assessed. Such staff should be given opportunities to develop best practice along with funeral professionals and NHS staff.

8. All midwifery students should be trained to deal with the care of parents of deceased babies. There is a particular need to ensure that parents are given time and space to make decisions about the disposal of their baby's remains, that mothers are fit to provide consent and that accurate information is provided about the options available for parents.

9. It was clear that the quality of communication between NHS staff, crematoria staff and Funeral Directors also varied considerably across the country and was subject to confusion and disagreement between the organisations. While the Investigation was told that some crematoria would warn Funeral Directors that ashes could not be guaranteed, this had been understood by Funeral Directors that no ashes were available for foetuses or babies and parents had been advised as much. As with the findings in the Mortonhall Investigation Report, the whole process of communication with bereaved parents about cremation was generally unsatisfactory and muddled, with a small number of notable exceptions.

10. Steps must be taken by all Chief Executives of health, crematoria and funeral organisations to ensure that all staff required to advise parents on cremation or to carry out such cremations are properly briefed. They must have an understanding about the survival of baby bones in cremation where proper care is taken. They must also have an understanding of the fundamental importance to families of having back any small remnant of their baby, including ashes from the baby's clothes, blanket, toy or coffin to help them grieve for their loss.

11. It is incumbent on all senior management in each of these three sectors to lead and secure adequate training, appropriate working practices and a culture of care and sensitivity. Given what is disclosed in this Report, systems must be in place to ensure those services are delivered consistently and are subject to regulation and inspection.

12. The practice of inserting the disposal outcome of the remains of the baby on the Statutory Register of Cremations before the actual cremation had taken place was widespread. In short, what appears to be a record was a prediction and not a record at all. This rendered many records wholly unreliable and meaningless as a statutory record of the actual outcome of the cremation. There was significant evidence that in many cases across the country the outcome recorded was in fact only the instruction for the disposal of ashes and that this was not updated with the actual outcome.

    As at Mortonhall, prior to the computerised systems being introduced, most crematoria did not record in manual registers that there were 'no remains' even though they stated this to be the case. Most often the words 'dispersed in the Garden of Rest or Remembrance' would appear.

    This casual and careless approach to a statutory obligation is of considerable concern. Steps now need to be taken to rectify these inaccuracies and to ensure this obligation is treated with the solemnity it deserves. The statutory requirement to maintain such records implicitly contains a duty to do so conscientiously and truthfully.

13. Evidence was discovered of Funeral Directors and crematoria holding on to baby ashes for many years on their premises without advising parents until the intervention of this Investigation. Crematoria and Funeral Directors must be vigilant to secure the return of ashes to parents or next of kin where the parents or next of kin have applied for the return of ashes. Ashes should also be offered where any of the circumstances described in this report may apply to parents who may be unaware that

the ashes are still being held either at the crematorium or at the Funeral Director's premises.

14. Many parents relied wholly on the advice given by NHS staff and accepted in good faith the advice that there would be no ashes to be recovered from the cremation of their baby. This misleading information deprived many parents in Scotland of the opportunity to recover the ashes of their babies. Such advice and guidance to parents needs to be accurate and set out in different formats to take into account the impact of grief on the ability of the parents to absorb information given on one occasion. Most importantly, parents must also be given the time and space to make their decision.

15. This Report identifies incidences where babies have been cremated with an unknown, unrelated adult and/or their ashes have been disposed of without the knowledge of parents. Steps should be taken by the Chief Executives of organisations responsible for such crematoria to consult affected parents about an appropriate memorial.

Explanatory Notes and Terms

The Mortonhall Investigation Report describes in great detail the legal framework and statutory and non-statutory forms and records, the process of cremation, the way a cremator works and key partner organisations and mandatory training for staff conducting cremations. It is not proposed to repeat that information here but it will be useful to read a summary of these generic terms and practices before reading the reports on each of the individual crematoria.

The Burial and Cremation (Scotland) Act received Royal Assent on 28 April 2016. It is important to note that the position in law referred to throughout this Report predates the commencement of the provisions of the new Act.

5.1 THE LEGAL FRAMEWORK

The legal framework governing cremation in Scotland is clearly critical to the lawfulness and acceptability of cremation practices and record keeping at crematoria across the country. The key legislation in place during the timeframe of this Investigation was described and detailed in Section 2.5 of the Mortonhall Investigation Report.[9] The most relevant Regulations are the Cremation (Scotland) Regulations 1935, The Environmental Protection Act 1990 and its subsequent Regulations and the Health and Safety at Work Act 1974.

5.2 KEY ORGANISATIONS

In addition to the legislation, guidance produced by key organisations played a huge part in influencing cremation practice in Scotland. Around 90 percent of cremation authorities across the UK are members of the Federation of Burial & Cremation Authorities (FBCA) which was established in 1924. The Federation provides advice, guidance and training to its member organisations. Technical Officers periodically visit and inspect crematoria with a view to upholding

[9] See the online copy of the Mortonhall Investigation Report: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

standards in the industry. The FBCA Code of Practice was referred to by every crematorium in the Investigation as the key document they followed.

The Institute of Cemetery and Crematorium Management (ICCM) is open to individual membership of those employed in crematoria as well as the cremation authorities as corporate bodies. It aims to raise standards for the bereaved by providing accredited training. The ICCM produced a Charter for the Bereaved quality award.

Many cremation authorities interviewed were members of both the FBCA and the ICCM. Cremator Operators had undertaken FBCA certification which is described in the Training section below. Since the publication of the Mortonhall Investigation Report both organisations have updated their guidance and training to include baby and infant funerals and cremation.

The National Association of Funeral Directors (NAFD) is an independent trade organisation with the largest membership in the funeral sector in the UK. Membership is subject to a Code of Practice and use of its logo indicates adherence to this code of practice. The logo is therefore a quality standard mark.

Some Funeral Directors interviewed during the course of this Investigation were members of SAIF (The Society of Allied and Independent Funeral Directors). This organisation produces a charter which their members sign up to as a condition of membership.

5.3 TRAINING

This Investigation Report uses the term ‘Cremator Operator’ to describe those staff who physically carry out the cremation. Across the country they have various different job titles and for the sake of consistency in describing a group of staff carrying out this function we have used this generic term. Similarly, the Investigation found a variety of job titles in use for those people directly managing the Cremator Operators. These managers are variously called Superintendents, Supervisors and Crematorium Managers. Some have

additional duties as Registrars. None of these managers described to the Investigation having had specific training to take on that role.

All the Cremator Operators interviewed as part of the Investigation held the required certification. The vast majority had been trained ‘in house’ by other Operators who already held the FBCA Certificate and were experienced. After a period of training and carrying out 50 supervised cremations, Cremator Operators were assessed by an external examiner appointed by the FBCA. Prior to the Mortonhall Investigation Report, examination did not include cremations of infants or foetuses.

The FBCA Training and Examination Scheme for Crematorium Technicians, 2003 (abbreviated to TEST) discusses infant and foetal cremation briefly. It notes that many cremation authorities use a stainless steel tray (referred to in this Report as a ‘baby tray’) when cremating infants in order to contain the remains after the cremation is completed. The Scheme goes on to state:

> *“It is usually advisable to perform this type of cremation at the end of the working day as the coffin and tray can be charged into the hot cremator and allowed to cremate using minimal top combustion air. Under these circumstances, top combustion air and the residual temperature may be sufficient to ignite and maintain the cremation. If insufficient, the ignition burner should be used as necessary.*
>
> *On completion of the cremation, the tray containing the remains should be removed through the charging door and not raked through the ash door. Therefore, the cremator must be switched off and the primary chamber be allowed to cool to a safe temperature to allow the safe withdrawal of the tray the following morning.”*

However, this Investigation found that many crematoria chose not to use a tray (citing health and safety reasons) and this part of the training was simply ignored.

Generally, Cremator Operators did not receive any further training once they had their Certificate unless there was a change in cremation machinery in which case manufacturers of the equipment provided updates.

5.4 LICENCES TO OPERATE

Crematoria are required to hold a permit issued by the Scottish Environmental Protection Agency (SEPA). SEPA is empowered to serve an enforcement notice in the event of a contravention of the permit and to serve suspension notices in appropriate circumstances.

No licence is required currently to operate as a Funeral Director. The Burial and Cremation (Scotland) Act 2016 makes provision for Scottish Ministers to consider introducing such a scheme. For reasons of consistency and ease of understanding, this Report uses the term Funeral Director to mean any employee of a firm of Funeral Directors. The Investigation acknowledges that other terms are used in the industry such as Undertaker or Funeral Arranger.

5.5 DEFINITIONS OF THE TERM 'BABY'

For the purpose of this Report the term 'baby' is used to mean all categories listed below unless it is vital to distinguish the legal status of babies delivered before the 24th week of gestation.

- Infant – baby who has lived but dies before the age of two.
- Neonatal – baby who has lived but dies in the first month.
- Stillborn – baby delivered from twenty-four weeks of pregnancy that dies before birth (*NB this is the definition since 1992, previously it was twenty-eight weeks*).
- Non-viable foetus – a foetus that is delivered not capable of surviving or developing once outside the uterus and below the legal age to be considered stillborn. Other terms used to describe non-viable foetuses (usually at an earlier stage of gestation) include 'products of conception', 'pregnancy loss', 'miscarriage' and 'foetal remains'.

5.6 DEFINITION OF ASHES

During the time period covered by the Investigation, there was no legal definition of 'ashes' or 'remains'. The various definitions used by Cremator Operators in each of the crematoria will be covered in the individual chapters. In general, however, a distinction was made between what they called 'cremated remains' – remains of the actual body and its bones – and what they variously called 'residue', 'fly ash', 'dust' or 'coffin ash' which was considered not to contain any bone remains but rather to be the remnants of the coffin, clothing, teddy bears and the like contained in the coffin with the body.

During the timeframe of the Investigation, there was apparent significant divergence of opinion between the ICCM and FBCA in respect of their understanding of the terms 'ashes' and 'cremated remains.' According to the Chief Executive of the ICCM Tim Morris:

> *"whilst both terms are in common use and users might have a preference, the Institute considers that they are one and the same thing. The definition which the ICCM ascribes to both terms 'ashes' and 'cremated remains' is 'anything that is left after the last flame has ceased' in the cremator."*

This is at odds with the view then taken by the FBCA in its guidance. In the FBCA Guide to Cremation and Crematoria, published in 2006, the term 'cremated remains' was defined as *'the skeletal remains recovered following cremation.'*

This definition in the FBCA guidance was perceived by some of its member organisations as implying that if 'ashes' made up of coffin ash or other products were left over following a cremation, there would be no requirement to dispose of this material in accordance with Regulation 17 of the Cremation (Scotland) Regulations 1935 if they considered the material did not contain skeletal remains. The individual chapters will discuss how this understanding of the definition influenced the practice in each crematorium.

5.7 DEFINITIONS CONCERNING DISPOSAL OF ASHES

Different crematoria use different terms to describe how they dispose of ashes

- Dispersal of ashes – across the country some crematoria use this phrase to mean interment of ashes and others to mean scattering or strewing of ashes
- Interment of ashes – burying the ashes in the ground
- Scattering or strewing of ashes - scattering the ashes above the ground

5.8 DEFINITION OF SHARED CREMATION

Shared cremation, also called collective or communal cremation, means cremating a number of non-viable foetuses together in the cremator at the same time. This method is only permitted for non-viable foetuses. The number of foetuses cremated together varied across the country. Historically some parents knew this was the option being offered to them and others did not. As it is impossible to separate ashes of individuals cremated this way, they are never offered to parents.

5.9 FORMS AND RECORDS

A number of forms are completed at the time of arranging a funeral for an infant and these form key evidence for this Investigation. Some of these forms are statutory, set out in law and common to the whole of Scotland. Others have been developed according to local needs by local authorities, Health Boards or Funeral Directors.

5.10 STATUTORY FORMS

Form A – The Application for Cremation. Form A is a statutory form under the Cremation (Scotland) Regulations 1935. It is used to apply for the cremation of a deceased person. In accordance with Regulation 7 of the Cremation (Scotland) Regulations 1935, a cremation cannot take place unless a statutory declaration is made by way of completing the Form A. These regulations do not

apply to non-viable foetuses. Some crematoria used the Form A for non-viable foetuses and others designed a different form.

In all the crematoria investigated, the Form A also had a non-statutory section added to it to record the Applicant's instruction for the disposal of ashes.

Forms B and C – These are statutory forms which must be completed by a medical attendant before cremation can take place. They confirm the cause of death and that there are no suspicious circumstances. Again these do not apply to non-viable foetuses but many hospitals use a similar form designed for those.

Form D – This is a Certificate of Post Mortem Examination.

Form E1 – this is a certificate that is used in cases of a sudden or unexplained death that has been referred to the Procurator Fiscal. It certifies that an investigation has been carried out and the Procurator Fiscal is satisfied there is no requirement to carry out further examination of the body and so permission is granted for cremation.

Form F – the Authority to Cremate form was in use throughout the time period covered by the Investigation but the system changed in May 2015. It was a statutory form completed by a Medical Referee giving the crematorium authority to cremate.

Form G – This is the Register of Cremations. It records the details of the deceased, the date and number of the cremation and the method of disposal of ashes following cremation. Most crematoria did not record cremations of non-viable foetuses in the Register. Some had no register for these foetuses. Others had a separate register and a distinct series of cremation numbers for non-viable foetuses. The Register of Cremations was historically a paper based document with entries being either handwritten or typed. In the 1990s most of the crematoria in the Investigation began to use a computer based system which included a funeral booking and invoicing system as well as generating the Register of Cremations. Systems used by the crematoria in this

Investigation include Epilog, Epitaph and BACAS (Burial and Cremation Administration System).

5.11 Non-statutory Forms

The Investigation found a variety of forms used by NHS Boards to record discussions with parents following the loss of their baby and arrangements for the final act of care. Forms changed over the years and depending on the local authority area.

In respect of non-viable foetuses, the Investigation found a number of different forms used both by hospitals and by crematoria. As the non-viable foetus does not have a legal status in this context, at some places and in some time periods the statutory Form A (see above) was not used. Some hospital and local authority forms included a statement that there would be no 'identifiable remains' from cremations of non-viable foetuses.

Most crematoria did not record the cremation of non-viable foetuses in the Register of Cremations (Form G, see above), whether such cremations were individual or shared. Individual cremations of these babies tended to be recorded in a separate 'NVF Register' but the year when this began varied considerably across crematoria. Prior to the commencement of the new Burial and Cremation (Scotland) Act 2016, it is a voluntary exercise to keep such a register.

5.12 Cremation Equipment

There are two styles of cremator in use in the UK, supplied, installed and maintained by a number of different manufacturers. In its visits to crematoria, the Investigation saw cremators installed by Facultatieve Technologies and Furnace Construction Cremators. There are frequent references throughout this report to Evans Universal cremators. Evans Universal became part of the Facultatieve Group in 1998. Dowson & Mason and Tabo are also part of the Facultatieve Group.

The two styles of cremator are ‘single-ended’ and ‘double-ended’. A double-ended cremator has a large door at the front, for the charging (loading) of coffins and a much smaller door or hatch at the rear through which the Operator can place the rake at the end of a cremation and rake ashes to the cooling tray at the rear. A single-ended cremator has only one door which is used both for charging and for raking ashes to the cooling tray, this time at the front.

In a single-ended cremator, a baby’s coffin can be placed just inside the front door and the ashes raked a very short distance to the cooling tray. There is a spyglass at the front door which allows the Operator to watch the cremation and determine when it has ended.

In a double-ended cremator, if the coffin is placed just inside the front door, the ashes have to be raked the full length of the hearth (about 2m) to the cooling tray at the rear. There is often no spyglass at the front door, so Operators would look in from the spyglass at the rear door to check on progress of the cremation. Given the red hot heat, visibility is poor. The size of the rear door is such that it would not be possible to charge a baby’s coffin at that end with dignity.

5.13 BABY TRAY

In the past, cremators had perforated hearths and it was common to use a tray for infant cremations. The purpose of the tray was to contain ashes which would otherwise fall through the perforations in the hearth and be too small to recover.

The Investigation found use of a tray also with the newer generation of cremators with solid hearths and this is described in the individual chapters.

Some crematoria had trays purpose made by local blacksmiths. Difficulties with early trays included their weight and buckling in the heat. Now, different types of tray are manufactured. Some crematoria use a ridged bottom tray. This allows air to circulate under the coffin as well as on the top and sides and this facilitates an even cremation. The ridges also assist in containing ashes that might rise up to the flue otherwise.

Trays have handles so that they can be pushed in/pulled out of the cremator using the rake, avoiding the need for manual handling at very high temperatures. There is a need for careful risk assessment particularly when the tray has just been removed from the cremator. In older cremators where there is a 'lip' down from the door to the hearth, removing the tray can be quite difficult.

5.14 Cremation Process

The cremation process begins when the coffin is charged (loaded) into the cremator which will already have been brought to the appropriate temperature to comply with environmental legislation. Coffins are entered into the cremator chamber using a trolley. At certain times and in certain crematoria, infant coffins were placed in a tray and the tray was charged into the cremator from the trolley or placed manually by Operators. This is described in each individual chapter.

The conditions inside the cremator are largely controlled by computer software with some pre-set programmes available depending on the size of the coffin to be cremated, for example 'light' or 'heavy' mode. Operators can manually override these if they feel necessary as they observe the cremation taking place. This would include adjusting how much air comes into the cremator through air jets and which burners are used. The force of the air jets can be controlled by the Cremator Operator. In this Report this is referred to as 'manual intervention'.

Throughout the process, potentially harmful gases are taken through a secondary chamber to be cleansed before release into the environment.

Cremation is complete when the Operator observes that there is no longer any flicker of flame. Air is turned off and the remains are raked with a metal rake into a cooling chamber. In a double ended cremator this will be at the back of the cremator, and in a single ended one at the front. Cold air is passed through the remains and then they are removed from the cremator.

Any metals are removed with a magnet. After removal of ashes from the tray or the cremator these are reduced to finer particles. For adults this process is done in a machine called a 'cremulator' described below. The Investigation found that for infants this is sometimes done by hand with a pestle and mortar or just using the Operator's hands. Some Operators considered they would lose too much of the fine remains of an infant if they placed it in the cremulator.

A cremulator is a machine used to reduce remains to finer particles, after they have been removed from the cremator hearth and cooled, and before placing them in a box or an urn. Ashes are then placed inside a casket or urn if they are to be collected by the Funeral Director or Applicant, or placed into a suitable container if they are to be scattered or interred by staff.

An identification card follows the coffin throughout this process.

5.15 Cremation Process for Infants and Babies

Facultatieve Technologies provided the Investigation with information from their guidance manual in relation to cremating infants,

> *"For the cremation of infants, a heat resisting infant tray is available. The only rule for its use is: - will it hold the coffin without any overhanging? The coffin is first put on the tray and the two together carefully pushed into the cremator. Such a tray is necessary because the bones of small infants are very tiny and would be easily lost if the usual raking techniques were used. At the end of the cremation, the whole tray complete with cremated remains must be removed through the front charging door.*
>
> *Usually infants are most conveniently cremated towards the end of the working day when the tray and coffin can be put into a hot cremator and left, with perhaps top air jets only on, to slowly and gently cremate.*
>
> *Depending on the cause of death, some infants can be difficult to cremate, and if this is the case, then of course the burner may be used as necessary. Before withdrawal of the tray the cremator should be allowed to cool sufficiently to prevent the possibility of injury to the Operator, and it may be best to leave the cremated remains in the cremator until the following morning.*
>
> *This advice has not fundamentally changed since the first cremators were built by Evans Universal from 1987 when they acquired the cremator manufacturers Dowson and Mason. Earlier records show that*

infant trays have been manufactured by Dowson and Mason since before 1963."

'Infant mode' was installed in 2013 to Facultatieve Technologies equipment in the crematoria investigated. Infant mode was thereafter automatically selected if details of the deceased entered into the computer showed that it was a child under five. Infant mode is a gentler programme in terms of levels of air. However, it was installed after the date of cremation of all the cases referred to this Investigation. Prior to the installation of infant mode, Cremator Operators could choose to vary the levels of turbulence within the cremator manually as described above.

Aberdeen (Hazlehead) Crematorium

6 Aberdeen (Hazlehead) Crematorium

6.1 INTRODUCTION

A total of 37 cremations of infants and babies conducted at Aberdeen (known locally as Hazlehead) Crematorium were referred to the Investigation. The earliest of these took place in 1981 and the most recent in 2012. In addition, the Investigation was also asked by the Minister for Public Health to assist the next of kin of six adults who were cremated at Aberdeen Crematorium during this period. These next of kin were concerned that an infant may have been cremated along with their loved one.

Families of these adults contacted the Investigation after the Chief Executive of Aberdeen City Council released a press statement on 9 June 2014. This followed receipt of an anonymous letter from a person purporting to be a former member of staff. The press statement issued by the Council included the following announcement:

> *"I have received a serious allegation regarding practices at Hazlehead Crematorium. The allegation relates to the joint cremation of babies and adults.*
>
> *In light of the allegation I now have to reconsider the findings of our independent audit which were published last year and I have advised Lord Bonomy's Infant Cremation Commission of this development"*

Aberdeen Crematorium is situated about four miles west of Aberdeen city centre in a woodland setting. It is the only crematorium serving Aberdeen. The crematorium opened in 1975 and is run by Aberdeen City Council. There are two chapels that can accommodate 96 and 270 persons respectively. There is a memorial chapel and a Garden of Remembrance. There is no dedicated children's area in the garden but there is a memorial stone in the garden. Books of Remembrance for babies are displayed within the crematorium offices.

Aberdeen Crematorium is a member of the professional organisation known as the Federation of Burial and Cremation Authorities (FBCA[10]).

At Aberdeen cremated remains can be collected by next of kin or Funeral Directors on their behalf or scattered in the Garden of Remembrance. Remains are scattered one week after the cremation takes place to allow for any change of mind by the next-of-kin. These remains are scattered in a different area of the garden depending on the month in which the cremation took place. Although it would not be possible to pinpoint the exact location, the area in which ashes have been dispersed can be identified by the month the cremation took place.

Each month is marked by a large stone though these are not clearly visible to the public. The crematorium deals with a relatively small number of infant and stillborn baby cremations (16 in 2013) but a much higher number of non-viable foetus cremations (1020 in 2013). A large number of the non-viable foetus cremations would have been shared cremations with other non-viable foetuses.

Aberdeen Crematorium is equipped with four Facultatieve Technologies FT11/FT111 double-ended, gas-fired cremators which were installed in 2010. Prior to the installation of these cremators the crematorium used double-ended Parkgrove Electric Cremators which had been fitted in 1995/6 and upgraded in 2000/1. Prior to 1995/6 the equipment used was the Dowson and Mason Twin Reflux Gas Cremator which had been used since 1975.

A privately owned crematorium, Parkgrove Crematorium, is situated at Friockheim, a 50 mile journey from Hazlehead on non-motorway roads, south of Aberdeen. It was opened in April 1993. Parkgrove Crematorium has been providing babies' ashes to next of kin since it opened. Electric cremators have always been used at Parkgrove. The owner of Parkgrove Crematorium, Ken Parke, manufactured the electric cremators and installed the same electric cremators in 1995/6 in Aberdeen Crematorium. The Investigation found that Parkgrove Crematorium was returning ashes from infant cremations while

[10] Section 5.2, Key Organisations, explains more about the FBCA.

Aberdeen was not, although they were using exactly the same electric cremators between 1995 and 2010.

6.2 MANAGEMENT

i Structure

Aberdeen City Council is headed by a Chief Executive who has responsibility for all services. The Chief Executive from 1 March 2011 through to 30 June 2014, Valerie Watts, explained:

> *"I was Chief Executive of Aberdeen City Council. I had about five direct reports. I had a Director of Education and Community and Sports Service, Social Care and Wellbeing, Infrastructure and Planning, Corporate Services and Environment. Over and above that we ran the Office of Chief Executive which included media and communications member support. The crematorium came under the Director of Environment. He had three Heads of Service, one specifically with the remit of refuse collection, grounds maintenance etc. and the crematorium came within the grounds maintenance end of the business. That came under Mark Reilly's remit. Pete Leonard was Director, Mark Reilly was Head of Service and he would have had a number of managers that would have reported into him. If my memory serves me correctly I think the manager of the crematorium would have reported into him directly or directly into his grounds maintenance manager."*

Since 2010 Aberdeen Crematorium has been managed within the Directorate of Housing and Environment of Aberdeen City Council. The Investigation was told that the management arrangements had been restructured on several occasions during the period since the crematorium opened in 1975. The Directorate of Housing and Environment is headed by a Director under whom there are a number of Heads of Service/Assistant Directors. Reporting to the Head of Service is the post of Environmental Manager and beneath that level was Crematorium Manager (also known as the Superintendent) until February 2013 when the post of Performance and Development Manager was created between the Environmental Manager and the Crematorium Manager.

The post of Crematorium Manager has responsibility, among other things, for management of the crematorium and its staff, development of policies and strategies, management of finance and maintenance of standards.

There have been significant changes in the staff holding these posts since the crematorium opened. An organisational review (recommended in 2008 after an Accounts Commission inquiry) led to major changes in 2010.

During the period 1993-2014 Derek Snow was the Crematorium Manager at Aberdeen Crematorium. Derek Snow started in 1986 as a Crematorium Attendant. As Crematorium Manager, he had five different line managers between 2002 and 2010. Steven Shaw took up the role of Environmental Manager, and became Derek Snow's line manager, in 2010. The new role of Performance and Development Manager created in February 2013 (reporting to the Environmental Manager and taking over line management of the Crematorium Manager) was filled by Graham Keith in June 2013.

Derek Snow was responsible for the management of staff and the immediate operation of the crematorium.

He was assisted by a number of different Cremator Operators over the period he held the role. Derek Snow was dismissed on 28 June 2014.

ii Management approach

Most line management meetings at the crematorium appeared to focus on budgets and finance rather than policy or practice. Valerie Watts, Chief Executive between 2011 and June 2014, explained:

> *"There were lots of different methods of communicating within and across the Council which I would have used. Everything was driven by the committee system where committee reports were brought to the appropriate committee or indeed the full Council to inform the elected members and the administration and that was largely in relation to the setting of policy and direction. Once the elected members of the committees made those decisions around policy and direction it came back to me as Chief Executive and my management team to enact those policies. Then every week we had senior corporate management team meetings which were a two-way communication system with me communicating issues down to my manager and then they in turn raising issues for the corporate management team table to communicate issues across the wider SMT (Senior Management Team)"*

The issue of the cremation of foetuses and babies and whether or not remains were recovered and returned to parents does not seem to have been discussed. There was no overall strategic management of the crematorium. Aberdeen City Council had significant challenges elsewhere. Pete Leonard, Director of Communities, Housing and Infrastructure since 2010, explained to the Investigation,

> *"...in terms of the focus of senior management attention, you focus on the things that you know need fixing and you focus on the things you know to improve and areas where you need to make savings and you've got to try and bring the public and elected members with you, that's very much a focus."*

Aberdeen City Council were dealing with financial pressures from around 2008. The Chief Executive between March 2011 and May 2014, Valerie Watts said,

> *"When I first went to the post £120 million of savings had to be found but at the same time you had to do the right thing, you had to align the corporate plan with the Council policy."*

Dame Sue Bruce, Chief Executive of Aberdeen City Council between December 2008 and December 2010 told the Investigation,

> *"I was appointed at Aberdeen City Council when they were facing a particularly difficult financial time and I had to address major issues across the Council. Throughout my period at Aberdeen City Council I was not aware of any difficulties with the operational practices at the crematorium at Hazlehead"*

Mark Reilly, Head of Services said,

> *"When I came in to Aberdeen (May 2010) it was because Aberdeen had gone through quite a difficult time"*

A significant change for the crematorium was the appointment of the Performance and Development Manager to fill what was seen as too wide a management span and too shallow a hierarchy within the senior management team. Senior managers within the Directorate had very wide and extensive areas of responsibility. It was clear during the Investigation that the current Environmental Manager, Steven Shaw and those above him had remote and ad hoc involvement in the management of the crematorium or the staff. The

Investigation was told by the current Crematorium Manager, Angus Beacom, that,

> *"…staff felt that, in their words, not mine, they had been somewhat neglected by senior management"*

Pete Leonard, Director of Communities Housing and Infrastructure told the Investigation,

> *"I guess I was fairly light touch in my management in terms of, I don't think I had visited the site for some time."*

Pete Leonard confirmed that the purchase of new cremators was an expensive capital project and that he "*was more focused on keeping track of that*",

> *"I guess the crematorium for me was a case of things seem to be going ok so a light touch management was ok and I wasn't really getting involved.*
>
> *The crematorium, I guess, never really featured on my radar. I wish it had, but it never featured on my radar so it was kind of left alone."*

The Head of Services, Mark Reilly, told the Investigation,

> *"…Now there was a gap between Steven (Shaw, Environmental Manager) and Derek Snow (Cremation Manager) that I didn't particularly care for. I wanted to really look at the structure of Bereavement Services and crematoria and how that works and get one manager overseeing both."*

The Investigation found that despite issues about infant cremation coming to public attention following the media coverage about Mortonhall Crematorium in December 2012, no changes in practice were instigated at Aberdeen until November 2013 and July 2014.

Through interviews with these managers a picture emerged of a crematorium managed with a 'hands off' approach from senior managers. Steven Shaw, Environmental Manager told the Investigation,

> *"The crematorium was not a priority in terms of my management command. Until this* [Mortonhall media coverage] *emerged I don't think we ever discussed the cremation of babies and infants, never raised it"*

Derek Snow, former Crematorium Manager told the Investigation,

> *"My job title is Manager but I was only a manager when the Council wanted me to be a manager. I've had a lot of staffing issues and I went to my then boss Steven Shaw. He didn't want to know, he told me 'you deal with it, you're the manager'. I did not feel supported by my managers latterly, by which I mean since the new regime came in with Pete Leonard as Director. I have four managers. The only person I felt I got any help with in the end was Graham Keith."*

The crematorium was regarded by these senior managers as a successful business and as well managed by Derek Snow with very few complaints from next of kin.

Previous line managers interviewed by the Investigation confirmed this impression of Derek Snow and the crematorium. In interviews with former Environmental Managers Sandy Scott (2008-2010) and David Forsyth (2006 – 2008) there was clear evidence of a system of one to one meetings and annual appraisals with Derek Snow. However, the issue of cremation of infants never came up at these meetings.

iii Management response to Emergence of Issues at Mortonhall Crematorium in December 2012

The then Chief Executive, Valerie Watts, arranged to visit Aberdeen Crematorium on 10 April 2013. She told the Investigation,

> *"I suppose rightly or wrongly through me personally wanting to go and hear and see and get a feel for myself rather than leave it to my Director or Head of Service to tell me these things I felt that it was a sensitive and important enough issue I felt that I wanted to go myself. My Head of Service came with me that day, Ciaran Monaghan. I wanted him to come with me as my witness. I thought if it was important enough for the Chief Executive to go (and I don't mean that to sound boastful) but I thought if I am giving it enough of my attention I wanted him to be there to see what I was asking and what answers I was being given. It was quite a sombre day and I came away from it thinking that you've got to assess whether or not you're being told the truth. There was nothing that happened that day to give me any indications that I was being lied to."*

The Investigation requested documentation in relation to this visit and was advised by Ciaran Monaghan who was Head of Service, Office of Chief Executive, at the time of the visit, that,

> *"There is no longer any information on file about the visit other than an appointment briefing note…from which I can confirm that the visit took place from 4.00pm on Wednesday 10 April 2013 and that the Chief Executive was met by Derek Snow."*

He went on to say,

> *"There is no record on file of the names of the individuals met or of the questions asked or answers given... I am not aware of any specific follow up action that flowed from the visit."*

Senior managers told the Investigation they had been unaware that Aberdeen Crematorium did not give ashes to next of kin for infants, stillborn babies and non-viable foetuses. They were unaware that the practice taking place at Aberdeen differed from that taking place at other crematoria. They were unaware too that other crematoria in Scotland were returning ashes to parents after the cremation of non-viable, stillborn and infant cremations. Of all of the management posts, only the Crematorium Manager was based on site at the crematorium. The others managed remotely with some making periodic visits. There was an absence of any strategic management of services and an apparent complete reliance on the account of Derek Snow about the quality of the service provided.

It was only at the time of the publication of an article in the Edinburgh newspaper, the Evening News, about Mortonhall Crematorium in December 2012 (when the failure to give ashes back at Mortonhall was highlighted) that senior management in Aberdeen began to pay attention to the crematorium. However, despite the concerns being discussed in the media about Mortonhall at that time, no action was taken to change working practices at Aberdeen until November 2013. This was almost twelve months later and only following a visit to Seafield Crematorium by Aberdeen management prompted by Lord Bonomy.

Pete Leonard, Director of Communities Housing and Infrastructure, told this Investigation,

> *"And we had lots of conversations, so we'd be saying, well if some people are saying that they're recovering ashes, how is that? Are they using different temperatures and all this? There's a lot of speculation about 'well, we're not sure how they're doing it, but they're probably doing things like turning the ovens off at night and leaving the baby in to 'slow cook' and do we really want to be doing that and what if the parents found out about that?' and there were issues being thrown in around emissions and if you turn the heating down then you might be breaking the emissions law. There didn't seem to be any shared industry knowledge or best practice."*

Mark Reilly reported that he had a conversation with Derek Snow in January 2013, in which,

> *"I was told, we don't get any children's ashes because of the burner and the fierceness of the burners…and I was told we particularly didn't get anything up to about eighteen months-it could be sixteen months or whatever, it could be twenty months."*

Steven Shaw said of that explanation,

> *"To be honest I didn't really give it that much thought at the time. It wasn't until everything blew up that I started asking these sort of questions and trying to learn more about it."*

Pete Leonard, referring to a conversation with Derek Snow and a Cremator Operator, told the Investigation,

> *"0-3 years is what they said roughly but then they kind of said all depending on the weight of the child etc."*

When asked if the term 'up to eighteen months' ever came up, he said,

> *"It probably was eighteen months actually, yes, but I'm sure they said up to three years old as well, but certainly eighteen months was mentioned but up to three certainly came into it sometimes."*

Steven Shaw said he spoke to Derek Snow at this time and he confirmed that the long term practice of not giving ashes for non-viable foetuses, stillborn babies and infants under eighteen months to two years was correct. This assurance was accepted by senior management.

Steven Shaw told the Investigation,

> *"I think the age of eighteen months seems to ring a bell. He gauged that up to eighteen months there is no ashes. From eighteen months up to maybe two years we would maybe get something."*

He also said that he had found out that they used to get ashes when baby trays were used but that the trays were stopped by 'Health and Safety'. No evidence of any injury was presented to the Investigation. No records of any Health and Safety reports or intervention relating to the use of a baby tray were provided to the Investigation. He advised the Investigation that he was told,

> *"It was all down to supposedly having the most up-to-date cremators in the country."*

Pete Leonard appears to have accepted this assertion despite Aberdeen's failure to return ashes predating the installation of these up to date cremators by many years. No effort was made by anyone at Aberdeen City Council to reconcile whether or not baby ashes exist or whether staff simply did not recover them. Neither was there any probe as to whether the type of cremator equipment or working practices at Aberdeen affected either position. The cremators at Aberdeen referred to by Pete Leonard were also the type most commonly used in Scotland. Other crematoria were using them in such a way as to be able to successfully retrieve remains.

Steven Shaw advised that he was told by Derek Snow that what happened at Mortonhall Crematorium did not apply to Aberdeen,

> *"I was told 'no not at all because we don't have any remains' and I accepted that explanation from Derek (Snow) at that stage. I knew after speaking with Derek that we didn't give ashes because there were no ashes."*

There was no evidence that any effort was made by anyone at Aberdeen City Council to clarify at exactly what age or stage ashes were available. The senior managers did not challenge what they were told despite the information emerging from Mortonhall Crematorium nor did they seek information from Seafield Crematorium, or even closer, Parkgrove Crematorium, to ascertain

how these crematoria could have been obtaining ashes despite the Aberdeen position that none existed until the age of eighteen months to two years.

Mark Reilly commented,

> *"Over that period there was a lot of information coming out. Somebody was saying every time I cremate I can always get ashes, some people were saying oh we don't get ashes, some people say sometimes we do, sometimes we don't and we knew the sort of information coming out varied."*

On 3 April 2013 the BBC broadcast a documentary, 'Scotland's Lost Babies' which reported that the issues about the failure to return babies' ashes to families may not be confined to Mortonhall Crematorium. The documentary included an interview with the Superintendent of Seafield Crematorium who said that she always recovered ashes and returned them to parents.

Steven Shaw told the Investigation that,

> *"it wasn't until I watched the BBC documentary…that I started to question it…I was a bit surprised and a bit horrified because we had always stuck by our statement of no remains.*
>
> *We stuck with the line that Aberdeen Crematorium did not recover ashes. I was looking for comfort and confirmation from Derek, because to me Derek was my expert and I had no reason to not believe him."*

There was of course considerable information emerging to suggest that he should have had reason to test the explanations presented to him by Derek Snow.

Pete Leonard, Director said,

> *"I did not see the BBC documentary and was not aware that Seafield were using a tray and getting ashes."*

Nor did he appear to have been briefed at the time by any of his staff on the content of the documentary.

iv Audit requested by Aberdeen City Council management

Pete Leonard told the Investigation,

> *"Around about that time we received a letter from Sue Bruce (then Chief Executive of City of Edinburgh Council) with the scope of the inquiry that she had asked Dame Elish to perform and I had a conversation with Valerie Watts then Chief Executive of Aberdeen City Council. I said I'd been to see the crematorium team, they assure me everything is okay but I really think we need to get some objective people in to do an audit and investigation into some of the processes and ask them questions. That led PwC to do an investigation, which was very much process based. At the same time, myself and Mark Reilly went to visit the team, got more behind the scenes.*
>
> *I think not getting ashes had been for as long as they could remember. Certainly with the new cremators they didn't. With the older ones I don't think they did, but I think they said previously they may have done in the dim and distant past, there might have been something. I think they gave some examples there, but I can't really recall.*
>
> *I think it pretty much reflected what the guys said and looked at the records. On reflection I think we didn't focus enough on behaviour. When subsequently things changed in terms of what people's story was, my own reflection on myself was perhaps I could have been a bit more challenging around some behaviours.*
>
> *I drew up the terms of reference for the report and cleared these with the Chief Executive but it was based on what Sue Bruce had sent through, it was very similar terms of reference.*
>
> *I am asked if the auditors looked at records as opposed to wider processes. Yes, that was the case. I am asked if anyone was examining the actual operational processes of cremation itself. No there was not. I think the years picked for audit were aligned with the different types of cremators from what I can see. I think there were different changes to the record keeping and we kept records up to a certain date. I think somebody had written to say they'd had some issue around 2008 and that they received ashes so on the back of that, we said can you go further back and examine what the practice was then"*

An audit by the company PwC LLP was duly commissioned and terms of reference agreed in March 2013. The auditors reported on 9 July 2013. This audit was limited in scope and did not look at the actual cremation operational processes but rather traced a sample of cremations to the supporting records and administrative process in respect of the cremation of stillborn babies and infants under the age of two. The audit report describes its work as to

‘undertake a data collection exercise and review the current procedures in operation to better inform the Council Officers’ understanding of arrangements and practices.’ The report was based on the documentation available but there is no indication of the Council seeking audit of the actual cremation working processes by a suitably qualified cremation industry expert or body such as the FBCA.

The PwC audit report’s recommendations and findings included the following:

- The policy and communication process should be formalised and written. This section of the report refers to infants under eighteen months old whereas most of the rest of the report refers to infants under two years.
- In those cases sampled between 1984-1985 all instances record that ashes of babies were obtained with the majority being dispersed in the Garden of Remembrance but some being taken away for burial or scattering. There were no application forms available to check if the dispersal in the Garden of Remembrance was with the approval of the next of kin.
- In those cases sampled from between 1 Aug 1999 to 31 July 2000 when the electric cremators were in use and BACAS[11] had been introduced (1998), the records indicate ashes of a stillborn infant were scattered and for the ashes of an eight month baby the application form and the operating sheet said there will be no remains whereas the BACAS recording system states that remains were collected. In three cases the instruction in relation to ashes is either scored out or marked ‘not applicable’ and BACAS states ‘no remains’. In eight cases the form is marked not applicable or no remains and BACAS states ‘no remains’. In two cases (eighteen months and twenty

[11] BACAS stands for ‘Burial and Cremation Administration System’. It is the database system used by many crematoria.

months) the application form states ‘to be collected’ and BACAS records they were collected.

- In those cases sampled between 1 April 2007-31 Dec 2012, where a child was two years or older, ashes were recorded as being in existence and were collected by the Funeral Director; where the child was less than two years, in seven out of eight cases looked at, the operating sheets state no ashes remained and this is recorded in the BACAS recording system. In the remaining case the operating sheet stated ‘remains to be collected by the Funeral Director if any’ and the daily schedule stated there were no ashes. The child was one week old.
- The Council should consider the processes in place to ensure data is accurately recorded within BACAS.

As observed above, the auditors were not asked if the cremation processes were any different in those years that they found ashes to have been returned to families. The Investigation is aware that baby trays may have been in use in some of those years. This audit report was apparently relied on by Aberdeen management to support their continuing position. Pete Leonard, Director, told the Investigation,

> *“There had been a conversation about use of trays and what have you and I was very nervous about health and safety and I guess I placed a lot of reliance on the internal audit which we scoped out in March and it reported in July 2013.”*

There was no evidence given to the Investigation that after the production of this audit report the Council challenged Derek Snow’s assertion that there were no ashes to be obtained from babies less than eighteen months old. At the very least the information provided by PwC should have alerted the Council to the inconsistency between their public position and what the audit disclosed from the past.

There is no evidence of the contents of the report being probed or checked to ascertain the reason for the different outcomes in the sampled cases. This

information should have been of particular interest given the Council's public position that ashes did not exist for babies under eighteen months to two years.

As of 10 July 2013 it had therefore been brought to the attention of Aberdeen City Council that during the period 1984-1985 the records reported that ashes did exist at Aberdeen, contrary to the Council's public position. This does not appear to have been taken further. Despite these findings and inconsistencies with what the Council understood to be the position, no further formal investigation was carried out at that time nor was a more probing audit commissioned.

On 15 July 2013 the then Leader of Aberdeen City Council, Councillor Barney Crockett issued a statement on behalf of the Council that stated,

> *"I hope families here in the North-East will take some comfort from knowing that we have had a close look at our own procedures at Hazlehead Crematorium and found them to be sound. We remain fully confident that our crematorium staff at Hazlehead have carried out their duties with the upmost of professionalism and have always approached their very sensitive work in a caring and considerate manner."*

Procedures at Aberdeen continued as they had been until, at the prompting of Lord Bonomy,[12] staff visited Seafield Crematorium in Edinburgh in November 2013.

6.3 POLICY, GUIDANCE AND TRAINING

Some of the Superintendents and Cremator Operators who worked at the crematorium during the period of the remit for this Investigation are deceased and a small number of retired members of staff declined to speak to the Investigation. There were no local written procedures in place during the whole period of the Investigation.

[12] The Rt Hon Lord Bonomy led the Infant Cremation Commission which reported to the Scottish Government in June 2014

The witnesses interviewed were able to speak to working practices at Aberdeen going back to 1986. The Report therefore focuses on practices from that time to the present day.

i Written Procedures

Operational practice and policy at Aberdeen Crematorium was derived by word of mouth from more experienced peers or Supervisors with very little other than the Operators' manuals produced by manufacturers committed to writing.

Operational staff observed,

> *"…In relation to written guidance procedures that was available for cremation, there was heaps of things round the walls in the office but the instruction in procedures I used were all by vision on site and word of mouth from other Operators. I never read anything."*

Another said,

> *"….All we got towards the training was a reference card, the Scottish Federation of Cremations and Burial. What you got was a list of about eighteen questions and you read it and then you had a file with stuff like that in it. It was nothing too in-depth and then you just referred to that. But then the new machines went in (2010) that was a totally different story because they came in complete with manuals."*

Derek Snow, the Crematorium Manager added,

> *"When I started in 1986 there was no written procedures or guidance for babies. As far as I know there's still nothing like that at the moment."*

Steven Shaw, the current Environmental Manager, said that it was clear to him that,

> *"we didn't have written up simple guidelines. I pushed for them to write up the procedures."*

Pete Leonard said,

> *"When we started speaking to the guys, it was very clear then that there were no practices which made me nervous. "*

Prior to the Mortonhall Investigation, Aberdeen Crematorium had no local written guidance on practice and procedure available for staff members.

General written guidance on cremation was provided by the FBCA. This guidance provided the basis for certification of Cremator Operators. The subject of infant and foetal cremation is discussed very briefly in the Scheme. It notes that many cremation authorities use a stainless steel tray when cremating infants in order to contain the tiny bones that may remain after the cremation is completed. The Scheme goes on to state:

> *"It is usually advisable to perform this type of cremation at the end of the working day as the coffin and tray can be charged into the hot cremator and allowed to cremate using minimal top combustion air. Under these circumstances, top combustion air and the residual temperature may be sufficient to ignite and maintain the cremation. If insufficient, the ignition burner should be used as necessary.*
>
> *On completion of the cremation, the tray containing the remains should be removed through the charging door and not raked through the ash door. Therefore, the cremator must be switched off and the primary chamber be allowed to cool to a safe temperature to allow the safe withdrawal of the tray the following morning."*

Staff also had access to manufacturers' manuals for the cremators they were using. Aberdeen City Council's response noted in the 10 July 2013 PwC LLP internal audit report was that they would be formalising their written policy and would consider any findings that came from the Scottish Government's review.

However, when staff were interviewed by the Investigation in February 2015 there was still no formal written procedure, guidance, instruction or local training manual available to staff at Aberdeen Crematorium despite

- the recommendations of Lord Bonomy in his report of May 2014,
- the Mortonhall Investigation Report April 2014,
- the PwC internal audit recommendation of July 2013,
- interest expressed by the Scottish Parliament,
- press and extensive media coverage of the issues surrounding the cremation of babies throughout the period 2012-2014.

Neither did the receipt of an anonymous letter result in such action. This letter indicated that the reason baby ashes were not being returned to families at Aberdeen was because babies were being cremated alongside the coffins of

unrelated adults. Members of staff were still working on drafting the crematorium's first Operational Procedures Booklet in early 2015.

In particular, there were no local written instructions for Cremator Operators about how best to achieve the recovery of ashes for infants or any discussion about what type of ashes should be considered appropriate for recovery.

ii Training

The training of staff at Aberdeen throughout the period has mainly been in-house training on general cremation practice. When it came to the cremation of foetuses and babies, staff learned from their more experienced peers or supervisor. However special training for the cremation of babies was not included.

The longest serving senior member of staff at Aberdeen Crematorium was Derek Snow. He was trained in house but also attended external training. He did his training through what he described as 'the old system' which involved attending a two week training course at Linn Crematorium followed by an examination. Derek Snow stated that over the period of his work there (1986 to 2014) he did not have the opportunity to visit other crematoria after that course apart from a visit to Newcastle when the replacement of the cremation equipment at Aberdeen Crematorium was under consideration before 2010.

Steven Shaw told the Investigation he thought that staff were all trained more or less the same way. He believed that Derek Snow's training was cascaded down from one member of staff to another,

> *"Derek trained someone else who then trained another and that's how it's been."*

It was put to Pete Leonard, Director, that Derek Snow had suggested that he was only really a manager when it suited his line managers to treat him as such, that he was given very little scope to manage and was not given the opportunity to attend training. Pete Leonard replied,

"I couldn't really say. I am asked if he ever made a complaint to me about the way he was being managed. No not at all, he seemed to be happy in his work."

This is in stark contrast to what former Environmental Manager, Sandy Scott said about Derek Snow wanting to leave since 2006. Sandy Scott told the Investigation,

"Derek Snow did not want to be at the Council. He made it quite clear he wanted to leave and I did some investigating and spoke to my Head of Service but we felt we couldn't let him go at that point. It was always a feature of our one to ones as he wanted to bring it up with me."

Both former Environment Manager, Sandy Scott and David Forsyth confirmed that the opportunity to have further training was available. David Forsyth said,

"Part of the appraisal process was an opportunity to ask for training and if it was within budget we could look at that."

Sandy Scott confirmed that,

"If Derek had asked for training (I can't remember if he did) then as long as it was relevant we would look at that. There is still budget for that."

In the late 1990's, in addition to in-house training, Cremator Operators were sent on training courses to Harrogate or Sutton Coldfield. The Harrogate course did not cover the cremation of infants or non-viable foetuses. When the new electric cremators were introduced in 1995 a trainer was brought in from Parkgrove Crematorium (where ashes from the cremation of babies were obtained) to train the Cremator Operators on its use. This training was specific to the functionality of the electric cremator and not about the process of cremation as the Operators were already trained and qualified.

From at least 2001 the cremation training was done in-house at Aberdeen Crematorium. Cremator Operators told the Investigation that there was no specific training given for infant, stillborn or non-viable foetus cremations. An external examiner from the FBCA attended after the Cremator Operator had carried out fifty cremations (one in five of which was recorded) for the practical

examination.[13] However, what does not appear to have varied was the fact that no part of the examination referred to the cremation of babies.

Cremator Operators told the Investigation,

> *"…There was no specific training for children or infant cremations."*
>
> *"…In my test there was never any mention of infant cremations."*

As cremation training was done in-house the Cremator Operators had virtually no contact with staff from other crematoria, except Parkgrove, until the enquiries into Mortonhall came to light.

Other training on issues such as manual handling and first aid was available but there was no continuous or developmental training provided in relation to cremation. When new gas cremators were installed in 2010 further training was provided by the manufacturers, Facultatieve, in the use of the new machines.

Facultatieve told the Investigation that it was their role to train in the use of the machines, not the process of cremation. However, part of the training when installing their machines is to go through the Operations Manual and Operators have to sign each section to say they have read and understood it. This would include infant cremations. The Manufacturer's Manual states,

> *"Infants*
>
> *For the cremation of infants, a heat resisting infant tray is available. The only rule for its use is: - will it hold the coffin without any overhanging? The coffin is first put on the tray and the two together carefully pushed into the cremator. Such a tray is necessary because the bones of small infants are very tiny and would be easily lost if the usual raking techniques were used. At the end of the cremation, the whole tray complete with cremated remains must be removed through the front charging door.*
>
> *Usually infants are most conveniently cremated towards the end of the working day when the tray and coffin can be put into a hot cremator and left, with perhaps top air jets only on, to slowly and gently cremate.*

[13] An explanation of the training and examination taken by all Cremator Operators can be found in Section 5.3 Training

> *Depending on the cause of death, some infants can be difficult to cremate, and if this is the case, then of course the burner may be used as necessary. Before withdrawal of the tray the cremator should be allowed to cool sufficiently to prevent the possibility of injury to the Operator, and it may be best to leave the cremated remains in the cremator until the following morning."*

This advice has not fundamentally changed since the first cremators were built by Evans Universal in 1987 when they acquired the cremator manufacturers Dowson and Mason. Earlier records show that baby trays have been manufactured by Dowson and Mason since before 1963.

Sandy Scott, former Environmental Manager told the Investigation,

> *"In terms of the new building and equipment my involvement was minimal; it was done by the architects. We would have input into making sure that the staff welfare was okay. I think responsibility for setting up training for the staff to use the new equipment would have been with the architects. We didn't have the experience to set up the training."*

As with the Mortonhall Investigation, despite the complexities and difficulties of this particular aspect of cremation operations, there has been little by way of any local or national written guidance for Cremator Operators at Aberdeen. The absence of any practical formal training over these years to attempt to support staff in recovering remains from infants or foetuses is a significant concern.

6.4 CREMATION PROCESS AND EQUIPMENT

The process for cremating an adult is described in Chapter 5, Explanatory Notes and Terms .

Cremator Operators at Aberdeen described to the Investigation a number of different cremation processes for babies depending on the year, the type of equipment in use and the availability or otherwise of a tray. These are:

- cremation first thing in the morning when machines were being preheated ready for the first adult cremation of the day
- cremation last thing at night by raking forward the ashes of the last adult to be cremated and placing the infant coffin in the cremator at the same time and leaving overnight

- placing an infant coffin at the side of or on top of an unrelated adult coffin and cremating both bodies together

i Cremation Equipment and How It Affected Cremation Processes

Electric cremators manufactured by Parkgrove were used at Aberdeen from 1995/6 to 2010. During the time period when electric cremators were in operation in Aberdeen Crematorium the staff did not recover ashes of babies or non-viable foetuses. The same electric cremators were used over this period at Parkgrove Crematorium in Friockheim where, even in the absence of baby trays and infant mode, ashes for babies were being recovered by staff there.

Ken Parke, the manufacturer of the electric cremators told the Investigation that baby trays are not required in the Parkgrove cremators as the extract fan is not employed for the cremation of babies. He explained that infant cremations are carried out at the end of the day and, once complete, left in the cremator to cool. Ken Parke explained that,

> *"The coffin is just placed into the cremator and there's no fans, no extract fan and it's left there overnight and then the next morning it's raked down and processed."*

The next morning the ashes are raked out of the cremator, any metal removed and the ashes crushed.

Although Ken Parke was frequently at Aberdeen Crematorium he was never told by Aberdeen staff when he attended there that they were not getting ashes for babies. However, Ken Parke confirmed that he had a telephone conversation with Derek Snow in or about May 2003 when Derek Snow asked about obtaining ashes for babies,

> *"I said to him at the time, 'you've got exactly the same machine as ours and there's no reason why you shouldn't get ashes'. There will always be ashes there. It might be the coffin that's there but there will always be ash there."*

Whereas in Friockheim the ashes were raked out the next day and retained, in Aberdeen crematorium ashes were not looked for as the Operators stated they believed there were no ashes for infants under eighteen months or in some

cases two years. Cremator Operators were advised by more senior colleagues that they would not recover ashes from babies. Despite this advice and alleged belief, an examination of the Registers of Cremations between 1981 and 1996 reveal that ashes were in fact recovered on occasion and would be returned to the next-of-kin.

Gas cremators manufactured by Facultatieve were installed in 2010. In April 2013 the Facultatieve cremators were given an additional programme known as 'Infant mode' as part of an upgrade related to the monitoring of emissions.[14] Facultatieve described infant mode as,

> *"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years."*

Despite the introduction of infant mode, Aberdeen City Council continued to maintain that there were no ashes to be returned to next of kin from the cremation of babies variously up to eighteen months to two years of age until November 2013.

A Cremator Operator who had worked at Aberdeen Crematorium since early 2000, and who had therefore used both the Parkgrove and the Facultatieve cremators, told the Investigation,

> *"…We would not look for ashes for a child under the age of eighteen months."*

No one could give an explanation for this understanding. Others said that whether they looked for ashes or not depended on the size of the coffin.

ii Cremation of babies and non-viable foetuses along with unrelated adults

Several Cremator Operators described the process during the period of the electric cremators between 1995 and 2010. It was explained that an adult

[14] Section 5.14, Cremation Process for Infants and Babies explains more about 'infant mode'.

cremation would take place and when that cremation was almost complete, the ashes of the adult would be raked forward to the edge of the hearth at the rear of the Cremator. They reported that the baby's coffin would then be placed into the chamber and the cremation would take place there with the adult's ashes still in the cremator. This was often done last thing at night and all the ashes were raked down the following morning. The Investigation was told that the Operators now accepted it was possible that baby ashes were mixed up with the adult ashes when the cremations were carried out this way.

One Cremator Operator explained,

> *"Going back to the old machines and before we used the trays, the adult cremation was almost finished and we used to rake it down near to the finish, to the ashes compartment and then we would charge in the child's coffin and just let it burn away and then the whole lot was raked down together.*
>
> *So we'd have the adult's ashes and then the child's ashes. It would be impossible to tell, obviously if a baby's coffin is put into a chamber at one end and there's an adult set of ashes at the other end, in the combustion process itself ashes are going to fly about inside a chamber. I'm guessing it's 100% impossible to keep those ashes completely separate…the same argument could be made for the previous cremation"*

Another Operator told the Investigation about a further process they also used,

> *"If it was a baby under the age of eighteen months then that baby would go in with an adult. No particular adult, just whatever one is going in to the cremator. We always tried to cremate the babies the same day they came in but it could be with any adult that day. Even if it was a private funeral arranged by the parent this is what would happen. This is how we always did it then. This was the new machines and the old machines, all the time I have been here up until 2010. This is what I was trained to do. The person who got the adult's ashes was also actually getting the child's ashes. There were two ways of doing this. I either put the baby's coffin on top of the adult's coffin or, in the older machines, I raked forward the adult's ashes before the cremation was totally finished and then put a baby in as well. The ashes were always raked out all together. For non-viable foetuses in boxes rather than coffins, we put the boxes in the cremator alongside the adult coffin. I am asked when this practice stopped. It was sometime after the new cremators came in and before the issues at Mortonhall came out in the press. I am not sure what the reason was for changing. It might have been the lack of height in the new*

cremator, it might have been because they had infant profile setting. I am not sure. We stopped cremating them with adults but we still did not look to recover any remains at that point."

This practice was confirmed by seven out of the eight Cremator Operators interviewed for the Investigation, with one Cremator Operator, who had cremated for a period of less than three years, stating that he did not imagine that babies would be cremated with adults. He had not cremated infants but did confirm that individual non-viable foetuses were put into the cremator together. Derek Snow, the Superintendent, also denied being directly involved in any such cremation but stated,

"Although I didn't see non-viable foetuses being put in with adults, I was aware of it. I didn't do anything to stop it until the Mortonhall thing came up… if nothing had come up about Mortonhall I would still have been doing the same thing. We never knew any different. If it turns out that older babies, other than non-viable foetuses were being cremated with an adult, I was not aware of that. If that's being going on I definitely did not know about it,"

Derek Snow's position about his state of knowledge contradicts the evidence of Graham Keith, Performance and Development Manager, who told the Investigation that when he showed Derek Snow the anonymous letter alleging that both viable and non-viable babies were being cremated in with adults Derek Snow responded,

"Yes. There could be some truth in this."

If the raking was carried out before the adult cremation was completely finished, as indicated by some Operators in Aberdeen, this would contravene the FBCA Code of Practice paragraphs 3(a) which states:

"Once a coffin with its contents has been placed in the cremator, it shall not be touched or interfered with until the process of cremation is completed. On completion the whole of the Cremated Remains shall be collected and shall be disposed of in accordance with the instruction received."

It is also contrary to paragraph 5,

"Each coffin given to the care of the Cremation Authority shall be cremated separately."

Another Operator told the Investigation,

> *"I believe I have seen a time when an adult coffin and a child's coffin were charged together. It was not myself and I cannot honestly tell you who it was who did it but I have seen it myself both with non-viable foetuses and coffins."*

A further colleague told the Investigation,

> *"As far as I know everyone has cremated infants with adults by putting them in at the beginning and by raking the adult forward first. That's the way we were told, that's the way it's always been done. I'm led to believe that that's the way it's always been done from the day it was open. The way I looked at it, this dinnae feel right and that's why when we got the new machines I changed the way I done it.*
>
> *I suppose we all work different ways, some people might have just done it all the time, I couldn't say how often it was. When you were cremating you was in charge of initially three and then it was four cremators, we was in charge of all of them ourselves. The person who is cremating is in charge.*
>
> *There is no way of knowing which adult the baby went in with. In the old machines, I don't think it recorded everything. In the new machines now everything gets recorded but for the infant ones under eighteen months, they didn't put in any details. There was nothing recorded, there was nae computers or anything"*

Another Operator confirmed this:

> *"…In the pre-2010 machines information for children under eighteen months was not put on to the computer."*

In two of the cases referred to the Investigation it was established that no details whatsoever had been entered into the computer operating system of the cremation equipment.

A Cremator Operator told the Investigation that,

> *"…Looking first at non-viable foetuses, once we charged an adult coffin, non-viable foetuses were just placed at the side. They were just little cardboard boxes that we had received from the hospital. They were just raked out at the end of the cremation with the adult ashes."*

Another former Operator stated,

> *"When I worked there I just wanted out. I just wanted away from that place and, because I knew that I was going to be going back to the funeral business so therefore I was going to be having more dealings with the Crematorium, I thought go quietly rather than cause a ruckus. It is something that I regret not doing now but I'll have to live with that but that's it."*

One factor that may have had a bearing on when non-viable foetuses were cremated was a change in practice at Aberdeen permitting the deceased to be held over for up to twenty-four hours or slightly longer after the funeral service and before the cremation[15]. One Cremator Operator told the Investigation that before this practice changed he would pre-heat the cremators in the morning ready for the first cremation of the day and would place non-viable foetuses in the cremator during this pre-heat phase. However, when the practice of holding over was in place, he no longer had a period of waiting for the first funeral of the day to be completed because there was already a body to be cremated from the previous day. That being the case, he placed the non-viable foetuses in with that adult.

> *"…so then you would put these dozen (boxes containing non-viable foetuses) on the top of an actual coffin, without the tray. So they would all be cremated at the same time."*

There was also evidence that joint cremation may also have occurred when someone was working late to ensure they could get home earlier. A Cremator Operator was asked in what circumstances an infant's coffin would be placed in beside an adult and answered,

> *"I suppose it would just be for example if you were working late. It probably meant the difference in finishing at 7 o'clock as opposed to 8 o'clock.*

[15] Same day cremation was enshrined in FBCA guidance in 1945 and was commonly practised before that. However, the practice of holding deceased persons over to cremate them later was discussed in the 1990s in connection with emerging concerns about 'the use of the world's resources and sustainability, the environment, and the likely effect on the cost of energy'. By 2011 the practice had been taking place for some time and the stakeholder organisations issued an agreed set of guidelines which confirmed that 'holding-over' for a period up to 72 hours was appropriate in certain circumstances which included having the consent of the next of kin and safety and sanitary considerations.

This (holding over) was a saving for the council because it meant we weren't there working overtime so long. Then you had maybe two bodies kept over - the last two services, one in the east chapel and one in the west chapel. So you had two coffins when you went in, in the morning with a half past eight start. You would check your machines; and you maybe had a dozen foetuses. You were going to operate the machines properly this time because you had the two adult coffins from the previous day; there wasn't much clearance if it was a large coffin, but if it was a smaller coffin you maybe had about nine inches' clearance."

This evidence about the cremation of non-viable foetuses and babies is clearly deeply shocking and offends against not just the FBCA Code of Practice but against any sense of human decency. The resulting distress to the parents of the babies cremated at Aberdeen, to the next of kin of any adult who was cremated at Aberdeen during the period of these practices and to the wider community will be profound.

The PwC LLP audit report dated 10 July 2013 stated that,

'Following each cremation we were informed the chamber is checked by the cremation staff'.

The auditors had clearly not been given the correct information about the processes in place at Aberdeen Crematorium.

It was also clear that Lord Bonomy had been misled by the Aberdeen staff who met with him and his team during the Infant Cremation Commission's visit to Aberdeen Crematorium.

iii The Anonymous Letter

The above set of circumstances was raised in an anonymous letter dated 28 May 2014 received by Aberdeen Council. The letter stated,

"I have been very upset at the enquiry into the way infant cremations have been handled in certain crematoria over Scotland. As a past employee at Aberdeen Crematorium we were trained in a procedure that we thought to be correct, after reading the report in the media I have been very upset and stressed to think the procedure at Aberdeen Crematorium was wrong and now wait for an enquiry into this. For many years the procedure to cremate babies/infants was to cremate in with an adult be it viable or non-viable, this was carried out as far as I know up

until the enquiry came to light. I think it's wrong that you sit on this and nothing has been said. This must be a very difficult situation not only for Aberdeen City Council but for the staff past and present that now know this procedure was very wrong. This is why there were never any remains recovered from children less than two years, they were never cremated on their own, they always went into the cremator with an adult. I am appalled that I myself have been part of this and think the responsibility lies with Aberdeen City Council for allowing this to happen. This needs to be rectified!"

The practices referred to in the letter have been borne out by the evidence obtained in this Investigation.

In response to receipt of the letter interim Chief Executive, Angela Scott, issued a press statement on 9 June 2014 that stated,

"I have received a serious allegation regarding practices at Hazlehead Crematorium. The allegation relates to the joint cremation of babies and adults.

In light of the allegation I now have to reconsider the findings of our independent audit which were published last year and I have advised Lord Bonomy's Infant Cremation Commission of this development."

The Investigation was told by Steven Shaw that,

"Going back to the anonymous letter, I just couldn't believe that would actually happen. I don't know that much about the crematorium and the processes and how it all works but I know that you don't put two bodies in together."

The Investigation was informed that Council Management interviewed Derek Snow about this matter and Mark Reilly said,

"The only thing I did gather from Derek when I asked if they were still doing this practice, he said 'No, we stopped when Mortonhall came out and we only did it when we were busy'."

Pete Leonard, Director of Communities Housing and Infrastructure said,

"I guess I felt really let down and right from the word go, what we'd said to the guys was 'we're not going to judge you on what's happened, when you're in an industry and you follow historic practices, sometimes you might find yourself doing something that culture accepted before. Something which might look horrific but you're caught up in the middle of that and you're just doing what you've always been told. So this is about

understanding what's going on'. We had said, 'if there's anything, anything at all, now's the time to get it out, you've got our full support'. We couldn't have emphasised that more and so to then find out that the guys were lying and they'd been so convincing …I was bloody angry to be honest but really upset. Then I was really upset because of the impact on families. I've got young children myself and you can empathise. So then we had to move into trying to figure what happened and I wasn't looking at punishing anybody, I just wanted to figure out what had been going on and we don't really know. I mean, having gone through the experience of believing what they said before, to be honest, anything they said, I took with a pinch of salt. Could be true, it maybe isn't true and there was no real way I got that mechanism to get to the truth. The investigation may have more success."

Neil Carnegie, Senior Service Manager for Housing Management was requested by Mark Reilly, Head of Services, to undertake an investigation into whether or not staff members at Aberdeen Crematorium had been truthful to Lord Bonomy's Infant Cremation Commission and to senior management about processes and whether they had withheld information that they were required to disclose about the cremation of babies with adults. In relation to that practice he told the Investigation,

"I am satisfied that there was malpractice in terms of they were putting more than one coffin in at the same time as well. In terms of exactly what was happening, I am still not sure. There was malpractice. I think it would have been a fairly regular routine arrangement but I was told different versions of events."

These practices may also explain the apparent lack of enthusiasm for exploring other options to enhance the prospect of recovering ashes, such as finding safe working practices to reintroduce a baby tray, the failure to make use of the infant mode profile following its introduction in 2013, manual intervention to moderate the heat and air within the chamber of the cremator or just simply looking to find ashes.

iv Baby Trays [16]

The operating manuals present in the crematorium for the Facultatieve gas cremators bought by Aberdeen City Council in 2010 recommended the use of

[16] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

baby trays for infant cremations. This issue was raised by a Cremator Operator with the then Superintendent, Derek Snow. Derek Snow advised the Operator that trays had been used previously and did not work. A Cremator Operator told the Investigation that,

> *"…I went to Derek (Snow, former superintendent Aberdeen Crematorium) and I says please just tell us how to do it. All I got was 'we had the baby trays in here years ago, it doesn't work, we'll just do this normal'. And that was basically that.*
>
> *I think basically that Derek was adamant that trays were not the answer because it was so dangerous."*

Another Cremator Operator told the Investigation,

> *"I probably did see when reading the Facultatieve manual that there was something about how to cremate babies, but it didn't resonate with me because we did it differently. In particular, I think it mentioned baby trays and we didn't use one so I thought it didn't apply to us."*

It is worth noting however that baby trays were used in Aberdeen in earlier periods. Staff members interviewed by the Investigation were unable to confirm the dates of use of a baby tray with any certainty. The records for the period 1984-85 examined for the internal audit report by PwC show that ashes were recovered at that time. Further sampling by this Investigation found ashes being recovered and returned to families on occasions up to 1996 although it is not known whether this was with the assistance of a baby tray. Derek Snow recalls a tray being used when he began working at Aberdeen Crematorium in 1986. He said it was considered a health and safety risk and he understood it was withdrawn around 1989 until they were reintroduced in November 2013 (for stillborn babies and infants) and July 2014 (for non-viable foetuses) following the visit of Lord Bonomy and the publication of the Mortonhall Investigation Report.

A Cremator Operator who worked at Aberdeen Crematorium between 1997 and 2005 however recalled using a tray when he worked there. When speaking about the cremation of non-viable foetuses he told the Investigation,

"…The Cremator Operator had discretion as to whether he used the tray or not and whether they put the coffin in the tray or without the tray."

He explained that during the time when a baby tray was used there were visors and gloves and other protective gear. It is clear that trays and protective clothing were available at some point. He did however say that there was nothing at all left in the tray. This explanation begs the question of why they used the tray at all. He highlighted that the tray was difficult to get out of the cremator and that information in relation to children less than eighteen months was not fed into the computer when the electric machines were used at least between 1997 and 2005.

The Cremator Operators who began working in Aberdeen in 2001 do not recall a tray in use then.

The questionnaire completed for the Infant Cremation Commission by Aberdeen City Council in 2013 states in response to the question,

"'Does the manufacturer's operation manual give guidance/instructions on best practice for cremating babies/infants. If so, please provide details'

Answer: 'Yes the use of metal trays is recommended but this was not implemented due to the health and safety issues surrounding the handling of these trays'."

In relation to trays Pete Leonard said,

"There had been a conversation about the use of trays and what have you and I was very nervous about health and safety and I guess I placed a lot of reliance on the internal audit which we scoped out in March and it reported in July 2013."

The audit report by PwC did not make any mention of baby tray equipment.

There is no evidence to show that any attempt was made to find alternative methods or to introduce safer working methods to allow the use of a tray. There is also irreconcilable inconsistency between the expression of an absolute belief that there were no ashes to be obtained from babies because of the physiology of their skeletal development and the stated position that ashes could be

collected with the use of a baby tray which was not used because of health and safety issues.

The possibility of using a tray was raised by Gordon Bruce, now deceased, Head of Aberdeen Funeral Directors in 2003. Mr Bruce offered to pay for a tray for Aberdeen Crematorium or to donate one. This was also referred to by another Funeral Director who said,

> *"When I was at Aberdeen Funeral Directors the owner, Mr Bruce, who has now passed away asked questions a few times about the fact that Friockheim had the same machines and could get back ashes…Aberdeen Crematorium refused to give us anything. I am certain that Mr Bruce offered to purchase a tray at one point if that was the stumbling block at Aberdeen Crematorium…The offer was never taken up."*

The Investigation was shown a letter from Facultatieve, the manufacturers of the gas cremators to the former Crematorium Manager, Derek Snow, dated 30 January 2002, in response to a telephone call from Derek Snow. The letter begins,

> *"Further to your telephone conversation today with our [name] concerning baby trays, tools and storage racks, we have pleasure in enclosing the price list of the goods requested together with the information sheets relating to the ancillary equipment as discussed."*

v First Recovery of Remains

Shortly after the media publicity about the practices at Mortonhall Crematorium in December 2012, the Cremation Manager Derek Snow was away from work when two concerned members of staff decided to cremate a non-viable foetus of seventeen weeks' gestation and check to see if there was anything left. This was without the use of a baby tray. Both Operators thought that they saw little bones. It was the first time they had ever checked for remains after carrying out a cremation of a non-viable foetus. They showed the remains to other staff members who saw what they described as *"like tiny little bones."*

This cremation was carried out by placing the non-viable foetus on the hearth of the cremator. While they acknowledged that there is always the possibility of something being in the chamber of the cremator from a previous cremation after

the dust settles, both Operators thought they saw tiny bones. They reported this to the Assistant Superintendent as the Cremation Manager was absent. They were never told what happened to these remains. Some staff members reported that they were told that 'an executive decision' had been made in relation to the ashes. Nobody was able to confirm to the Investigation what action had been taken with regard to these ashes.

The Investigation was provided with a note prepared by Graham Keith about the episode which stated,

> *"As you are aware Scottish Government guidelines advise that there will be no cremated remains from non-viable foetuses. This ash was buried along with recovered metals and residue from machines in the Garden of Remembrance."*

Steven Shaw said of this:

> *"I recall hearing something from Graham (Keith) but I am not sure if it is the same conversation. I'm not sure if the parents in that case were made aware, they should have been, I would have expected that but that's something I'm not 100% sure of."*

No one has been able to confirm further what happened to the ashes or confirm the identity of the foetus. No further action was instructed by management to explore in an official manner what had been reported from staff about this informal trial cremation.

The Investigation found that in spite of the publication of the Mortonhall Investigation Report and the Infant Cremation Commission Report[17] in 2014, members of staff at the time of this Investigation's interviews in early 2015 had different understandings of the definition of ashes and remains though they all shared the view that it would be comforting for families to get something back. The staff clearly had not been briefed on the findings in either Report to enable

[17] An online copy of the Mortonhall Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commision Report can be found here: http://www.gov.scot/Publications/2014/06/8342

them to understand the physiology of baby cremation and that it is possible to recover bones from cremated foetuses as early as seventeen weeks' gestation.

The Cremator Operators confirmed that since the introduction of the new process of using a baby tray in 2014 they have seen bone remains from a non-viable foetus of eighteen weeks' gestation and have been recovering ashes from foetuses and infants.

Cremator Operators questioned why, if remains were being recovered in other crematoria, this information was not fed back through the FBCA to Aberdeen.[16] This is of particular concern when a representative of FBCA, George Bell, then Bereavement Services Manager at Mortonhall Crematorium, was involved as examiner for many years and when the Crematorium Manager Derek Snow was in attendance at FBCA meetings. One Cremator Operator told the Investigation,

> *"…I feel a bit gutted to be in this situation when it could have been done years ago"*

6.5 Administration and Record Keeping

The Investigation understands that the administration and record keeping systems at Aberdeen Crematorium have been changed since the time of the interviews for this Investigation.

There are two areas to consider,

- Bereavement Services at Aberdeen City Council headquarters who receive and process all the required forms to allow a cremation to take place and where the Registrar is based.
- Computer operating system records on site at the crematorium.

i Bereavement Services

Official administration and record keeping for Aberdeen Crematorium is handled by the Bereavement Services team based at Aberdeen City Council headquarters at Marischal College.

There are two key officials in charge of the processes – the Assistant Registrar and the Authorised Officer.

Funeral bookings are made by Funeral Directors or the hospital with the crematorium directly and the crematorium enters the booking into a daily schedule. The crematorium faxes the daily schedule of funerals to Marischal College when the services for that day are all booked. For adults, stillborn babies and infants the unique identification cremation number is included in this daily schedule. Although the number is generated by BACAS (the database system), to which crematorium staff do not have access, the cremation numbers are consecutive, allowing the crematorium staff to allocate numbers following on from the previous day's schedule. Non-viable foetuses, however**,** are not cremated on a daily basis so the crematorium staff cannot so readily check the previous number. The crematorium staff therefore write the letter F (to denote foetus) on the daily schedule instead of a number, and the administrative team at Marischal College allocate the unique number to the non-viable foetus cremation when the schedule arrives with them. The administrative staff input the data from the daily schedules to BACAS. These daily schedules are then returned to the crematorium with the unique numbers and the Medical Referee's Authority to Cremate confirmed to allow that day's cremations to go ahead.

At the time of the Investigation interviews, Funeral Directors delivered the required paperwork to the Assistant Registrar's office at Marischal College rather than to the crematorium. [18]

On arrival all paperwork is checked and details are entered onto BACAS by the support assistant.

[18] Paperwork provided is routinely Form A, Forms B and C, Form 14 or sometimes an E1 if the case has been to the Procurator Fiscal. E1 forms are scanned and emailed directly to Marischal College, not delivered by the Funeral Director. Section 5.10, Statutory Forms, explains more about these forms.

Staff interviewed were adamant that the information input to BACAS was taken directly from the Form A (Application for Cremation). However, they conceded that 'no remains' was not an option on the Form A and yet they entered these words into BACAS once that option had been added to the software's options. The explanation offered was that perhaps the options for the ashes had been scored through and that this had been interpreted as 'no remains'. The PwC Audit Report of 10 July 2013 had recommended the Council should consider the processes in place to ensure data is accurately recorded within BACAS.

The first computerised database system to be installed was called IONA in 1996. It was replaced soon after by BACAS which was introduced in 1997. At that time there was no option provided in the system for disposal of ashes in the drop down menu for a category of 'no remains'. Martin Caxton, General Manager of Clear Skies Software which supplies the BACAS programme, explained that the flexibility to add disposal options came with an upgrade to the system originally installed.

The BACAS system produces the cremation card, known in Aberdeen as the 'yellow ticket'. The yellow ticket is the identification method for the deceased as the coffin arrives at the crematorium and when it is cremated after the service. This Yellow ticket should remain with the coffin until the cremation takes place. The yellow ticket was to be returned to Marischal College from the crematorium once the cremation was complete and the details entered onto the yellow ticket at the Crematorium regarding disposal of the ashes should have been updated on BACAS at Marischal College. The Investigation found that this usually happened but that there did not appear to be a system in place for chasing up any yellow tickets that did not come back to Marischal College. Until recently the yellow tickets were then destroyed. Now they are stapled and kept on file with cremation papers.

> *"The first entry that we put in for disposal is the intention. That's the instruction that we're getting from the Funeral Director on behalf of the family about what would happen to the ashes.*
>
> *After the cremation has taken place and after the remains have been picked up, the yellow card is returned to us. It's got signatures on it and*

what actually happened to the ashes. It could change completely. The intention could be 'dispersal when attending' but they change their mind and it's changed to 'being picked up by' – so we've got all that written on the yellow card."

If the disposal outcome was 'no remains', the ticket would be returned to Marischal College with only the date and a signature on it.

Cremation papers are delivered to the Medical Referee by hand and are left at the crematorium overnight. In the morning the authorisation form known as Form F is collected from the Medical Referee and a summary of the Form F is sent to the crematorium by fax. If one or more cases on the summary have not been cleared by the Medical Referee the cremation cannot take place until the Medical Referee phones the crematorium directly to authorise the cremation to proceed.

Paperwork is delivered to the crematorium by hand by a member of the administrative staff including the yellow tickets (cremation cards), floral tribute cards and cremation certificates.

Non-viable foetuses are given a separate number beginning with an F. This is generated by BACAS. For shared cremations of more than one foetus every foetus is given its own number and a yellow ticket is generated for each one. The paperwork for shared cremations comes directly from the hospital and the foetuses are identified by a reference number only.

There was a manual Register kept for non-viable foetuses before BACAS was introduced. There is no statutory obligation to maintain a register for these cremations. The register did not have a column for recording the disposal of ashes in common with other such registers in other crematoria.

ii Records maintained on cremator operating system at crematorium

There should be cremation reports of all cremations carried out at Aberdeen since 2010 when Facultatieve machines were installed. The computer records the whole cremation in terms of temperature, air, which mode has been used, which Cremator Operator carried out the cremation and the unique cremation

number of the deceased as entered by the Cremator Operator. It also records any manual interventions made by the Cremator Operator. The prime purpose of these reports is for emissions monitoring by the Scottish Environmental Protection Agency (SEPA).

For two cases referred to the Investigation with funeral services on separate dates, there are no cremation reports. This means that the unique cremation number for those two babies was not entered into the computer's operating system. Given the evidence of the Cremator Operators about the practice of cremating babies with unrelated adults, it can be inferred that each of these two babies was cremated along with an unrelated adult. Unfortunately, it is not possible to tell from the cremation reports or any other monitoring data held by Aberdeen or Facultatieve the identity of the adults with whom the babies were cremated. This is because the small size of the baby coffin would not cause a different level of emissions to be recorded from that expected of an adult being cremated alone.

The fact of physical separation of Bereavement Services from the crematorium was identified as an arrangement that could have been improved if the two teams were brought together. David Forsyth, former Environmental Manager (2006-2008), told the Investigation,

> *"I think it would have been better to bring Bereavement Services and the crematorium teams together and we did speak about that and about digitalising the records."*

His successor, Sandy Scott, said

> *"I really wanted Bereavement Services and crematorium to come closer together so we did a review. They very much worked in silos and I found that strange. We did a few brainstorming sessions together but it was more difficult than I anticipated. I think there had been entrenched views for a long time about whose job should be whose. The previous Assistant Registrar was quite a strong character and so was Derek. I think they each thought their own job was the more important."*

iii Sampling of registers

Registers of Cremation from the period before the introduction of the computerised system BACAS were sampled for the years 1981, 1988, 1992, 1993, 1994 and 1995 by this Investigation.

Sampling of these Registers showed that there were entries in 1981, 1988 and 1992 recording that ashes from babies had been collected and taken away. These entries are dated and it can be inferred from this that the Register was updated with the actual date of collection. This included cases of stillborn babies and, if the Register is accurate, reveals, as also found by PwC that ashes were indeed available from Aberdeen Crematorium in the past, contrary to their stated position.

However, the words 'no remains' or 'no ashes' do not appear in any of these Registers.

The Authorised Officer for Bereavement Services told the Investigation

> *"I am informed that it seems no-one has ever written 'no remains' in a cremation ledger before the computer came. I was not aware of that. I can't understand that. That's an interesting one. We've always put it as 'dispersed in the Garden of Rest. I don't know why she would never have written no remains. Thinking back nearly twenty odd years, we weren't giving out remains but yet we were putting dispersals in the Garden of Rest in the Register. I probably didn't even realise it."*

It would appear that an entry of 'Dispersed in the Garden of Rest' without the later addition of a date might in fact be the instruction received for the ashes rather than the actual outcome. Evidence from the administrative staff at Aberdeen City Council revealed that, as at Mortonhall, the outcome of cremations had been entered on the Register prior to the cremations taking place meaning that the Register commonly consisted of a predicted outcome rather than a record of the actual outcome.

This practice continued when the Registers of Cremation were changed from the manual to a computerised system. However, shortly after installing the BACAS record keeping system, Aberdeen City Council requested from the

software supplier that an option of ‘no remains’ be added to the list of possible options for recording the disposal of ashes. From March 1997 until 25 November 2013 (when a baby tray was introduced) almost all Register entries for babies are recorded as ‘no remains’.

An issue with the accuracy of recording in BACAS was raised in the PwC LLP audit report dated 10 July 2013. The Council response was,

> *“The Council will review how records are documented and look to put in place validation checks to verify the accuracy of the documentation recorded on the Daily operating Sheets and BACAS.”*

As at Mortonhall the Investigation found that from one day to the next the outcomes for disposal of ashes changed from ‘dispersed in the garden of rest’ to ‘no remains’ without any change in the actual outcome having taken place. This means that the statutory Registers of Cremation, so far as it relates to stillborn babies neonates and infants at Aberdeen are wholly unreliable.

6.6 COMMUNICATION

i Communication between families and NHS staff

Many parents interviewed for the Investigation recalled that they were in a state of acute distress at the loss of their child and felt that they had little time to make decisions about the final act of care for their baby before leaving the hospital,

A Specialist Midwife for Pregnancy Loss acknowledged,

> *“It could be quite quickly after delivery when these options are discussed, very definitely on discharge from the ward…It could be two or three hours, six hours, could be overnight between delivery and discharge, it just depends”*

One family suggested,

> *“There’s actually no rush. I don’t understand what this rush is with them. They’re on this conveyer belt. We’ve got to get you out and through and we can’t just take time.”*

A significant number of parents interviewed felt that they did not have all the options clearly explained to them and made decisions they later came to regret. A number of parents had difficulty remembering who had told them what, what forms they saw or signed, what was on forms that they signed and how decisions were reached.

One mother told the Investigation,

> *"The funeral arrangements were made with the hospital chaplain. He just spoke to me about it and then organised it all. We did fill in forms that night (the night the baby died), we signed forms that night. But I can't remember what the forms were for."*

Another said,

> *"It was just before we were leaving the hospital. I'm talking about a few hours after she was delivered. I think at the time anything was overwhelming. The chaplain was a very nice man and he came across very helpful and he offered us his condolences. I would rather have had a little bit longer to think about things before having to make a decision."*

Sometimes arrangements began to be discussed before the baby had actually been delivered. Another parent, who was only seventeen at the time said,

> *"It wasn't long after I had been told [name] wasn't going to survive that they spoke about the funeral. It's really painful, it was just hours after. I didn't feel able to talk about that kind of thing at that point in time."*

Many mothers described being in physical pain or on strong medication at the time of these conversations. The Investigation was told by the acting Specialist Midwife for Pregnancy Loss at NHS Grampian, Myra Kinnaird, that

> *"They've got up to seven days to actually change their mind on what they have signed or come back and let us know. If they don't then it defaults to hospital collective cremation"*

The Investigation did not find evidence of families knowing they could have asked for more time.

Midwives or the Hospital Chaplains informed parents verbally that there would be no ashes recoverable from the cremation of the baby. This was received wisdom among nursing staff. A written information leaflet produced in 2008

was provided to the Investigation by NHS staff. The leaflet, entitled 'Information for Parents Whose Baby Has Died' states

> *"Please note that when babies are cremated, because of their size, there are no ashes."*

The leaflet does not point out that remains may be recoverable at crematoria other than Aberdeen Crematorium. It is difficult to reconcile the contents of this leaflet with a letter sent to the Chaplain at Aberdeen Royal Infirmary on 27 May 2003. The Hospital Chaplain, Fred Coutts, wrote to Ken Parke of Parkgrove Crematorium on 20 May 2003. This letter stated,

> *"I have heard form Aberdeen Funeral Directors that you recently cremated the body of a stillborn for them and that you returned the ashes to the family in a casket. I am writing to you to seeking confirmation of this. I have been advised by Aberdeen Crematorium, which has been confirmed by other crematoria in Scotland and the Federation, that no ashes remain after the cremation of such a small baby and consequently none can be given to families. Can you confirm now that you are able to give ashes back to families when stillborn babies are cremated? This is important for us to know in our work in the Maternity Hospital so that parents can be advised accordingly."*

Derek Craig of Parkgrove replied on 27 May 2003,

> *"The use of Electric Cremators at high temperature allows the cremation to take a slow and gentle burn with no internal or external fans used. The coffin is placed in the end of the machine as the last cremation of the day. After the last flame has diminished the remains are raked forward into the cooling tray then withdrawn from the cremator and allowed to cook in the cremulating room. All cremations of this kind have resulted in a small amount of remains left."*

A Midwife told the Investigation,

> *"We were told up until I think 2012, that there wasn't any ashes that can be retrieved from Aberdeen Crematorium because of the method of cremations, because it had a more up to date burner, whereas Friockheim and Buckie had older burners and sometimes the hospital Chaplains would arrange for the parents to go to either of these and they would receive ashes.*
>
> *If parents asked us if they would get ashes we would say no because our understanding was that – we were told by both the City Council and the hospital Chaplains that there's no ashes before age two because the*

bones are so soft, so we wouldn't actually get ashes from a baby at that stage. The information we gave to parents was that there wouldn't be any ashes available."

The Mortuary Manager at Foresterhill NHS Grampian Site told the Investigation,

"Up until the beginning of this year [2015] I used to complete the A Form (Application for Cremation) on behalf of the family for pre-twenty-four week foetuses...We've been told that it should in as many cases as possible be the mother who is the Applicant. Only in exceptional cases will NHS Grampian be allowed to apply on behalf of the family and that would generally mean something like ill health or unable to sign the form.... So the midwife goes through it... and then the mother signs it and now the midwife signs it."

If the parent opted for a private cremation or burial, they were put in touch with the Chaplaincy Service. Gordon and Watson Funeral Directors was the firm chosen to carry out services organised by the hospital. Parents could also choose to make arrangements through their own Funeral Directors.

ii Communication between Funeral Directors and families

Gordon and Watson are the Funeral Directors used by NHS Grampian to organise hospital arranged funerals. A formal contract was entered into between NHS Grampian and Aberdeen City Council dated 14 September 2015 for the sensitive disposal of pregnancy losses up to 23 weeks and 6 days. It provides for the options of shared cremation, individual cremation or burial. It further provides a duty on NHS Grampian to ensure that mothers are aware of their rights in relation to giving instructions and of how ashes will be dealt with. It contains a duty on behalf of NHS Grampian of

"Ensuring that mothers are informed that there may not be ashes/cremated remains... and that Aberdeen City Council as the Cremation Authority are unable to guarantee that recovered ashes contain human remains."

The Investigation was shown a paper which was presented to Aberdeen City Council's Communities Housing and Infrastructure Committee dated 18 March 2015 entitled 'Infant Cremation Commission Report and Recommendations'. It provides an update of actions carried out by Aberdeen City Council following the Infant Cremation Commission report.

Action on the majority of recommendations which were for Aberdeen City Council to action were noted as complete or in progress.

Where the hospital is arranging the funeral, the role of the parents would be to agree a date and time for cremation, express any wishes concerning the service, inclusion of any toys or photographs in the coffin with the baby and any arrangements to see the baby in the funeral home before the service. It is the role of the parents also to give an instruction for the disposal of any ashes, but they were usually told that there would be none and were not asked for an instruction.

Like the hospital staff, Funeral Directors believed there would be no remains from the cremation of a non-viable foetus or stillborn baby or infant. A parent told the Investigation,

> *"Then pretty much as soon as we met (the Funeral Director) and we said cremation she was saying 'You do know there will be no ashes' and we had to have quite a pause in the meeting at that point just because we hadn't considered that, that's not what we had read and that was another sort of hurdle to get over. We actually asked her to double check that. She double checked that with Hazlehead and came back to us and we were told that it was because do the age of [name] and the equipment they were using...They said that the reason there would be ashes elsewhere in Scotland is because they didn't use the same equipment that they used there. It was to do with temperature or something. This was 2012."*

Another said,

> *"The Undertaker said 'if you get a cremation there is no fee and there would be no remains'"*

In examining the available Forms A in the Investigation it was observed that in many of the forms the disposal section was scored through, particularly those completed by hospital staff. Others varied stating 'no ashes', 'scatter if any' or' retain if any'. Where parents organised the funeral of their child directly they choose their own Funeral Director. Some parents did not recall the question of ashes being discussed and others expressed surprise that an instruction in

relation to ashes had been given when they had been told that there were no ashes for babies. A parent told the Investigation,

> *"Looking now at the part of the form that deals with disposal of ashes, having been told there were no ashes it makes no sense to see that on the form the instruction is for the ashes to be scattered in the Garden of Remembrance and that the relatives do not wish to be present at the scattering. We've asked the question about the ashes and they have told us you don't get ashes back from a baby. So if they're going to say how do you wish to deal with the ashes, do you want them scattered in the Garden of Remembrance? If we had said yes, then that would have begged the question but you've just told us there aren't any ashes. And it says 'do the relatives wish to be present at the scattering?' If they had said there are no ashes and now they are telling us this – it doesn't make any sense. We would have wanted to be present"*

Many parents did not recall seeing the Form A which is often signed at a time when they are dazed or heavily sedated and unable to fully understand any explanations given and to fully understand what was being asked albeit some recognised their signatures on the form. The Investigation was told,

> *"We don't recall seeing it (Form A) but I can absolutely confirm that's my signature. I don't recall reading any of those questions or providing answers to any of them…There are crosses on the places for us to sign which indicates perhaps that we were given a form and asked to sign it. It's possible that the form was blank when I signed it. We said what about the ashes and were told you don't get any ashes back from a baby. At that point in time you're taking everything that that's the way it is so you don't question."*

Another parent said,

> *"We were told there was the possibility we might not get any ashes back, but that if there were ashes the Funeral Director or the crematorium would be in touch with us. We were not given any options of other places to go. There was no mention of Friockheim…We were very clear we wanted the ashes back. We never heard from the Funeral Director or the crematorium. We assumed therefore that there were no ashes…On the Form A, Application for cremation, the signature is mine. The form was completed by the Funeral Director. In the section on what to do with the ashes, all of the options have been scored through. However, there was a bit of a form we were given that said would you want the ashes back and we circled yes. That may have been the Funeral Director's own form. It was made quite plain to them that if there were ashes that that was something that we wanted to have."*

Yet another said,

"I cannot remember that form but my signature is on it but the rest of the writing is not mine"

However, parents were not always warned that there may not be ashes,

> *"I think looking back had we gone fifty, sixty miles up the road (according to the papers at the time) we might have got ashes back there and I think had I known that at the time, it might not have changed our minds but I think it would have given me something else to think about, because that was my way of moving forward at the time."*

Others felt that they had not been given any or clear information about ashes with a parent saying of the Funeral Directors,

> *"They actually never mentioned anything about ashes. I still regret it and I thought that if I had been told earlier (that there would not be ashes) I wouldn't have done it*
>
> *We went into the Funeral Director's office. We don't remember being asked about ashes. We don't remember seeing the Form A ...but it is our signatures on the form.*
>
> *So when the Funeral Director came to collect him and I had asked when I would be able to pick up the ashes and he says he didn't think that there would be any. His exact words were 'I'll try my best. I'll see what I can do' ...but I never ever heard from him again to ask him about it."*

Another told the Investigation,

> ***"…****we didn't know before the funeral that there weren't going to be any ashes, we wouldn't have done it (cremation) otherwise"*

None of the parents reported being given the option of travelling to another crematorium where ashes were returned. A parent stated,

> *"I don't remember being offered a different crematorium either"*

However, a Funeral Director told the Investigation,

> *"…It was the common understanding in the business which is why sometimes we would refer families that wanted cremations for their children to go to Parkgrove Crematorium if they wanted something back or go for burial."*

This is a curious position given the stated belief that there were no ashes. Funeral Directors had been told that there were no ashes because of the physical nature of the bones. Some families were simply told there would not be ashes,

> *"I was told 'there will be no ashes and that was it' by the Undertaker.*
>
> *The decision to have cremation was taken because most of the family had been cremated. At that point the Undertaker mentioned ashes. He just says there wouldn't be ashes because [name] was a baby. I didn't really appreciate what it meant at the time. You're very trusting and you'd assume that what you're being told was accurate."*

Other families told the Investigation that on occasion the Funeral Directors checked with the crematorium whether or not there would be ashes,

> *"We both asked at the same time 'Why will there be no ashes?' and it we just because anything under the age of eighteen months has no ashes because their bones are just not formed. That was relayed to us by the Undertaker who was on the phone to Hazlehead at that point."*

Another parent said,

> *"But the Funeral Director went and she asked again for us to confirm and I just feel as though they were doing what they had been told...I just think the Undertakers were amazing."*

It would appear that on occasion parents were not warned that there may not be remains, that they were not given other options and that they were not always given a full and proper explanation of the choices on the Form A.

6.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Only after Lord Bonomy's invitation to visit Seafield Crematorium in November 2013 was a programme commenced to draw up Operational Procedures. All staff contributed to the final version in conjunction with the manufacturers and a Health and Safety representative.

In March 2015 the Aberdeen Crematorium's Operational Procedure Version 1.0 (the Operation Procedure) was produced. This was a draft version. Cremator Operators told the Investigation that,

> *"…Since the changes we've made now using the trays we have written our own procedures.*
>
> *…Technically the procedures were only put in a book quite recently. Going back to when I first started (2005) there wasn't actually a procedure book."*

Baby trays were used for the cremation of stillborn babies and infants from 25 November 2013, a mere four days after the visit to Seafield Crematorium. Even then, baby trays were not used for non-viable foetuses which were still placed on the hearth until July 2014 when they were also placed in baby trays. This is because, despite the evidence of their own experience that ashes could be obtained from baby cremation, Aberdeen City Council decided to wait for a clear instruction from the Scottish Government or the Infant Cremation Commission on how to proceed with the cremation of non-viable foetuses.

The current procedure for infants, stillborn babies and non-viable foetuses is that they are placed on the baby tray by the Cremator Operator and the machines are set to infant profile. The resulting ashes of infants, stillborn babies and individual non-viable foetuses are now either scattered or retained for collection by next of kin depending on the instruction received. Ashes from shared cremations of non-viable foetuses are scattered in the Garden of Remembrance.

Since the reintroduction of the tray in 2013 there has been a 100% success rate in obtaining ashes from babies, where ashes have been requested. Staff

members at Aberdeen described their distress at the realisation that they could have been recovering ashes over many years.

> *"Since the Mortonhall Report came out I've have been asking myself questions. If it comes out that we were doing that and there could have been ashes given back….*
>
> *It doesn't help because we've been taught to do things and clearly it wasn't accurate. The information we were told was not accurate and for us as cremators to have followed what we were told to do and then now it's been deemed inappropriate - you would have to be a really hard person not to be affected by the consequences of what we effectively were told in training to do."*

6.8 FINDINGS FOR INDIVIDUAL CASES

Thirty-seven babies cremated at Aberdeen were referred to this Investigation. With the exception of one case in 1987, ashes were not returned to the families of these babies. In the 1987 case, it was discovered that the baby's ashes had, at the request of the family, been posted to another crematorium to be interred with the baby's brother.

Twenty-three cases are recorded at Aberdeen as having 'no remains'. All of these cremations took place following the introduction of the computerised recording system BACAS, the earliest cremation taking place in 1997.

For two cases no cremation report was produced from the cremation equipment. With the cremators installed in June 2010 only, such reports were normally automatically produced by the Cremator software following cremations. It can be inferred from the absence of these reports and the evidence of the Cremator Operators about cremation practices at Aberdeen that these babies were not cremated alone but in separate instances with an unrelated adult on each occasion. This took place without the consent or knowledge of the next of kin of both the babies and the adults concerned. It is not possible to say which adult these babies were cremated with because of the manner in which this was done. This practice of cremating along with an unrelated adult was commonplace at Aberdeen but it is only in these two cases that the absence of documentary evidence demonstrates that the babies were

not placed in the cremator for individual cremation. The other cases predate the installation of this equipment.

In a further two of the twenty-three cases, both of which took place in a later year, a report was produced by the cremator software suggesting that the babies were cremated individually. However, the ashes were not returned to the families. Evidence from Cremator Operators in Aberdeen about their practices in such cases leads to the inference that it is probable that their ashes were not looked for or recovered from the equipment at the end of the cremation and that they were therefore left in the cremator and raked out with the ashes of the next adult cremation.

Nine cases are recorded as 'dispersed in the Garden of Rest' but with no date of dispersal recorded.

Two cases are recorded in the Register of Non-Viable Foetuses. The register has no column to record the disposal of ashes. One of these cases was a stillborn baby whose cremation should have been registered in the Statutory Register of Cremations.

One case from 1997 is recorded as, 'scatter no relatives'. This is identical to the instruction for ashes given on the Form A.

One case from 1995 has no disposal recorded but has a date in the disposal column identical to the date of cremation. This is unusual as the practice in the Crematorium at that time was to scatter ashes one week after cremation.

It cannot be ascertained with any certainty where any of the babies' ashes have been disposed of by Aberdeen Crematorium. Neither can it be determined whether the ashes were in fact dispersed as suggested in the records. This is due to the failure to look for and recover ashes and the practice of raking down the cremator into the cooling tray together with ashes of a previous or a subsequent cremation that had been left at the end of the cremator containing another individual's ashes.

Some will have been scattered in the Garden of Remembrance without the parents' knowledge where the instruction on the Form A has been completed as 'disperse'. However, those families on many occasions were told there would be no remains by hospital staff and/or Funeral Directors and therefore gave no instruction.

Other baby remains will be wherever the ashes of an unrelated adult cremated at the same time has been interred, scattered or retained. Some others may have been interred at the tree line at the bottom of the Garden of Remembrance along with residue and metals from other cremations.

This is a deeply shocking outcome for so many parents who entrusted their baby to professionals as many members of the community do at a time when we are all are at our most vulnerable and burdened with grief. These families have been failed.

A paper which was presented to Aberdeen City Council's Communities Housing and Infrastructure Committee dated 18 March 2015 entitled "Infant Cremation Commission Report and Recommendations" indicated an intention to "commence discussions with affected parents on their wishes for an appropriate local memorial" Aberdeen City Council met with representatives from SANDS Aberdeen to discuss how best to take this forward and it was agreed that discussions with parents should commence after the National Cremation Investigation has published their report. This will allow all parents affected by the cremation of babies at Aberdeen Crematorium to discuss a potential memorial.

6.9 CONCLUSIONS

1. Like Mortonhall this was a section of the City Council working in almost complete isolation without any strategic direction, development or quality control of the service, so far as it related to babies, infants and non-viable foetuses. There was little knowledge by Senior Management of the service provided to the families of these babies. There was insufficient interest taken or leadership shown by management.

2. As with Mortonhall, much of what was learned by Cremator Operators at Aberdeen was received wisdom from more experienced peers. The extraordinary belief that there would be no recovered ashes from babies up to the age of eighteen months or two years was contradicted by what was known to be recovered in many other crematoria as well as in Aberdeen itself in earlier years. It is also clearly contradicted by the evidence of the Forensic Anthropologist, Dr Julie Roberts, who states that bones in cremated foetuses from as young as 17 weeks' gestation can and do survive the cremation process. She stated in her report,

   "My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is inconceivable that there would be nothing left of newborn babies and infants aged up to two years following cremation. The 'no ashes' or 'no remains' policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt skeletal remains, and/or individual or corporate management decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together."

3. Training was largely carried out in-house and there was no appetite to look beyond and seek best practice from other crematoria, professional organisations or manufacturers of equipment. There was no evidence of any joint training with Funeral Directors or NHS midwives working in this area. The inter agency Bereavement Services Group did not address the issues of baby cremation until after the Mortonhall Investigation. It is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate joint training and joint understanding of their obligations to the parents of these babies.

   This inertia allowed unacceptable practices to develop across all the relevant agencies in Aberdeen.

   The cremation of babies along with unknown adults is an unethical and abhorrent practice which will offend the sensibilities of the wider

community and cause great distress to those whose babies were cremated there. It will also cause profound concern to the next of kin of unrelated adults who may have collected and continue to retain ashes of loved ones cremated at Aberdeen which also contain the ashes of a baby or one or even several non-viable foetuses.

4. The understanding that there were no ashes or that they could not be recovered was not explained and is inexplicable. The nature of the processes and the expedient way this was done, without any recording to this effect, means that it is not possible to identify those adults and babies who were cremated with each other.

5. An additional practice carried out at Aberdeen was described to the Investigation. This involved raking adult ashes forward at the completion of a cremation and inserting into the same chamber an infant to be cremated while the adult ashes were still present. The entire contents of the chamber were then raked into the ash pan to cool. For obvious reasons this process was not recorded. It is therefore not possible to identify those unrelated adults and babies to whom this happened.

6. When obliged to consider this issue with the commencement of the Mortonhall Investigation and during the separate opportunity to explain their position to Lord Bonomy and his team the true picture at Aberdeen Crematorium was not disclosed. The Infant Cremation Commission was misled about the practices taking place.

7. It was clear from the interviews of staff in early 2015 that despite the passage of time since the Mortonhall Report, the report of the Infant Cremation Commission and extensive media coverage of the circumstances at Mortonhall Crematorium that staff had not yet been properly briefed or briefed at all to allow them to have an accurate understanding of the physiology of the bones of foetuses, stillborn babies and infants.

8. The most senior level of management at Aberdeen must provide strong leadership and now take full responsibility for the effective management

of the crematorium. It must also ensure that immediate and appropriate training takes place and that effective and ethical practices are maintained. This relates not only to a change of working practices but to an assurance that the culture of the organisation and the knowledge and understanding is such as to prevent any future abuse of the trust of those families who have placed the remains of their loved ones in their care.

9. It is of serious concern that some of the mothers of the babies referred to this Investigation were unable to give informed consent to the cremation of their child because of the persistent effects of sedating medication or strong pain relief. Some were recovering from surgery and all were suffering considerable grief. Steps should be taken to ensure that any form to be completed by any patient after a foetal loss, stillbirth or infant death is fully explained to the mother at a time when they are fully able to understand that to which they are consenting. Likewise, for those suffering the unexpected loss of an infant baby must be given adequate time and consideration to make a decision about the cremation of their child.

10. As with other crematoria there was a total absence of any local written instruction or guidance. This remained the case even in 2015 after an audit report of 2013 which highlighted the lack of written procedure. This meant that the actual practices employed in the crematoria were not documented and available for inspection by normal quality assurance procedures. Had such written guidance been available it may have alerted Cremator Operators to the deviant nature of their practices.

11. By allowing the predicted outcome rather than the actual outcome to remain in the disposal column Aberdeen City Council created a situation where the inaccurate information was allowed to remain on the Register. Although the inaccuracy was identified no steps had been to correct the accuracy of the Register. This casual and careless approach to a statutory obligation is of considerable concern.

Cardross Crematorium

7.1 INTRODUCTION

The Investigation was asked to look at one case from 1994 in relation to Cardross Crematorium. The family did not receive ashes for their baby. Through their own efforts they were able to find out when and where their son's ashes had been dispersed.

Cardross Crematorium opened in 1960. It is managed by Argyll and Bute Council. It is situated in a peaceful rural setting with views over the River Clyde towards the Cowal peninsula just west of the village of Cardross. In the Gardens of Remembrance there are eleven lawn areas. The lawn area in which ashes are scattered or interred is noted in the Register of Cremations. There is a Baby Book of Remembrance.

Generally, cremated remains can be either collected by next of kin or Funeral Directors on their behalf or they are scattered in the Garden of Remembrance. Remains are scattered one week after the cremation takes place. The crematorium has a relatively small number of infant, stillborn and non-viable foetus cremations (Four infant /stillborn babies in 2013 and two non-viable foetuses in 2013). Cardross Crematorium has a relatively small number of cremations in total with approximately 600 per year in recent years.

At the time of the Investigation, Cardross Crematorium was equipped with one Evans Universal 300/2 double-ended, solid hearth gas-fired cremator which was installed in 1997. This was upgraded with new software in 2013 which provided new mechanisms for monitoring and reporting on emissions and infant mode[19]. Prior to that Cardross Crematorium had a double-ended Dowson and Mason Cremator with honeycomb hearths.

A baby tray has been used in Cardross Crematorium since 1960. A large size baby tray is now used (24" x 12"). It is used for the cremation of all non-viable

[19] Section 5.14, Cremation Process for Infants and Babies explains more about 'infant mode'.

foetus, stillborn baby and infant cremations unless the coffin exceeds the tray size. In those circumstances a tray is not required to retain ashes.

7.2 MANAGEMENT

i Structure

Since 2010 Cardross Crematorium has been managed within the Directorate of Environmental Services of Argyll and Bute Council. The Directorate is headed by the Director of Environmental Services under whom there is a Head of Service and beneath that level, an Amenity Services Manager. A Performance Manager reports to the Amenity Services manager and the Crematorium Registrar reports to the Performance Manager.

The post of Crematorium Registrar has overall responsibility for the operational management of Cardross crematorium.

ii Management Approach

The Council operates a plan and performance management framework. The Chief Executive since 2008, Sally Loudon, explained how she kept abreast of issues in the Council,

> *"(In addition to individual plans) Then you've got team plans, service plan and Departmental and Council plans and then the Community Plan and there's performance indicators against each of those so if I look at say the Development and infrastructure scorecard which gives me the performance information for that particular Department I can drill all the way down to team plans that will tell me if there's any issue.*
>
> *The other thing that gives assurance is the internal audit. There's health and safety audits and they give more detailed information and then they feature on the scorecard."*

More senior managers had limited day-to-day management of the crematorium largely because they believed it operated efficiently. Jim Smith, Head of Services said,

> *"I got some reports back from Tommy (McLean, Crematorium Registrar) who had been involved with his colleagues but there's no real need to get particularly involved as what we are doing in Argyle and Bute, albeit at a relatively low scale seemed to be operating and running well.*

...I've been out on a limited number of occasions with both Tom Murphy (Roads and Amenity Services Manager) and myself to meet with Tommy (McLean) and the four staff members who are based down at the crematorium.

iii Management Response to Mortonhall Investigation Report and Infant Cremation Commission

The Chief Executive visited the crematorium when she first took up post in 2009. It then came to her attention again around the time of the Mortonhall media coverage. She told the Investigation,

> *"I became re-interested in it after Mortonhall. In fact, it was probably even before the media coverage because the Chief Executive of Edinburgh, Sue Bruce, alerted us as Chief Executives that this was an issue that we might want to go and have a look at within our own areas. So at that point I asked the then Director to make arrangements to go and do an assessment of what was happening and whether the issues that were being expressed in Edinburgh applied here. So there was an internal review of a management review."*

The internal review was tasked with looking at whether there were remains available for non-viable foetuses, stillborn babies and infants and whether the parents knew that there might not be remains available. The Chief Executive confirmed that,

> *"The answer to both of those was yes there were remains available apart from in three instances over the last twenty-two years and that the parents had signed to say that they understood that perhaps there wouldn't have been any remains."*

Pippa Milne, Executive Director, Argyll & Bute Council who had previously worked at City of Edinburgh Council, (though not in the Crematorium) and so was aware of the issues with Mortonhall explained,

> *"When there's been external stuff we do an external audit– certainly in this one it was to seek our own reassurance even though we hadn't had a complaint. We hadn't had any external contact raising issues for us so based on my discussions with the team there didn't appear to be anything that indicated there was a problem. It was about the relatives' sensitivity and of the issue nationally so it was really to give us that assurance if we had had something coming out of the internal audit we might have then taken a view to do something different but it would have to have been something quite significant or a real issue of complaint and something that called into question our ability either through the skills to*

do that audit, or of being so sensitive in terms of a potential wrongdoing by the Council and the early indications weren't that we had issues like that to be concerned about."

iv Commissioned Audit

The Chief Executive of Edinburgh Council had alerted Argyll and Bute Council to the issues in Mortonhall in 2012. An Internal Audit Report was produced in August 2014, some four months after the Mortonhall Investigation Report was published. The internal audit was carried out by Argyll and Bute's in-house audit team. The level of assurance found was 'substantial' which the internal auditors defined as meaning "*Internal control, Governance and the Management of Risk have displayed a mixture of little residual risk, but other elements of residual risk are slightly above an acceptable level and need to be addressed within a reasonable timescale*."

The background to the audit was the public concern expressed in 2012 over the accuracy of information given to bereaved parents about the existence or non-existence and final resting place of the ashes of their babies who had been cremated arising from historical practices at Mortonhall Crematorium in Edinburgh. The audit is an internal Council document.

The main objectives of the audit were described as,

- To review current policies, guidance and practice in relation to the handling of all recoverable remains (≤1 year old)
- To review current policies, guidance and practice in relation to the handling of all recoverable remains. (General Population)
- To ascertain whether parents and other bereaved relatives receive clear and consistent advice and information about the disposal of such remains and have their wishes adhered to; and that any such remains are treated sensitively and compassionately.
- To review the report published by Lord Bonomy taking cognisance of recommendations where relevant.
- To review administrative protocols including cash handling, billing, invoicing, record keeping, security and storage of records.

The audit, which included a walk through the procedures, found that in the last twenty-two years there had been fourteen cremations of non-viable foetuses with ashes recovered in all but three instances. Ashes were recovered from all sixteen stillborn babies and ten babies of less than one year from the same period.

In relation to the three occasions when ashes were not recovered parents had been notified that there would be no 'identifiable remains' resulting from the cremation and had signed disclaimers confirming this. The case referred to the Investigation is not one of these three.

Tommy McLean, Crematorium Registrar, speaking of those three occasions, told the Investigation,

> *"I reckon at least two of them were around the time when we got the new cremator fitted...On the new cremator, I'm thinking that the first time we went to use the tray we realised we were experiencing difficulties on how we were going to get the tray out of the cremator once the cremation had took place, because it sits at a far, far warmer temperature. I think there's a chance we may have cremated them not using a tray"*

The audit found that,

> *"infant trays are used to aid the recovery of ashes, however there have been some instances where the casket has been too big to fit into the tray therefore arrangements have been made to purchase bigger trays."*

The size of the tray had not however impacted on the ability to retrieve infant ashes at Cardross Crematorium from larger caskets.

7.3 POLICY, GUIDANCE AND TRAINING

i Written Policy

Written policy existed in the form of manufacturer's operating manuals and also procedures which Tommy McLean, Crematorium Registrar, said were,

> *"Just to cover the duties from the start at the front if you're doing chapel duty and then from the start of the process if you're a Cremator Operator in the back (Cremating area)."*

A complete Service Manual was not however drawn up until July 2015 which referred to Argyll and Bute Council Policy on burial and cremation, Argyll and Bute Council Rules for Cremation, Associated Work Instructions.

Some of the Cremator Operators had completed training courses in Rotherham Crematorium and Linn Crematorium. Others were trained by the superintendents and then examined by the FBCA. One reported having carried out 100 cremations before doing his examination.

None of the external training was reported as having covered the cremation of non-viable foetuses, stillborn babies or infants.

7.4 CREMATION PROCESS AND EQUIPMENT

i Equipment

Cardross has had a baby tray since 1960 and have recently purchased a bigger one. Protective gear in the form of suits, jackets, aprons visors and gloves are used when handling the baby tray.

A Cremator Operator told the Investigation,

> *"...There's always been a baby tray and its always been used to my knowledge. If there is anything going to be left it's going to be in there so we try to make sure if we can, if at all possible, where it is just a thimble full, where it is a cup full, an egg cup full, we'll return it to the family and let them know."*

ii Cremation Process

At the time of the cremation of the baby referred to the Investigation the old Dowson and Mason twin flux cremators were in use. It was explained by the Superintendent that the cremator ran at a cooler temperature and required greater manual intervention. The volatile airs injected into the cremator were a lot less severe than in the newer cremators. If a tray for the ashes was not used the Superintendent believed ashes were not recoverable. The Crematorium Registrar explained,

> *"If you didn't use a tray you could lose whatever was in it (cremator) very quickly because it works on a system where there was two chambers.*

There was the top half where you done the cremation, but there were holes almost six inches in diameter that went through into a bottom chamber where the cooling would take place plus there were your flues so any air coming in, if you didn't use a tray, whatever was there would just be blasted through the holes."

Since the cremators were replaced the practice is to carry out the non-viable foetus, stillborn baby or infant cremations last thing in the day so that the tray can be left to cool overnight. The remains are then cremulated[20] the following day. What is left is not always cremulated. The Superintendent explained in relation to cremulation,

"Depending on what's left, if it's a white powder which could be residue coming from the coffin, it will dissolve or break up really, really quickly into powder, so there probably wouldn't be the need to cremulate.".

iii Definition of Remains

None of the Cremator Operators at Cardross had a defined age under which they understood ashes were not available. Staff members used the terms 'ashes' and 'remains' interchangeably. The Crematorium Registrar told the Investigation,

"I think of it as just the remains that are left when we're raking out the cremation, it's whatever 's in the cremator chamber after the cremation process is finished. I have definitely seen little bones for stillborn, for a young child. I don't think I have for a Non-viable foetus, but remember out of the number of cremations that we've done I personally myself have maybe only cremated two or three or four Non-viable foetuses."

Another Cremator Operator said of non-viable foetuses,

"Basically all that's left is the remains of the cremation process. What's there could be dust, could be bits of wood, there still is something. I've done two this year and we've had remains left. You maybe would get it into maybe not as much as half a mug (two inches) sort of thing. Maybe sometimes you maybe get an eggcup full, there is always...at least something. "

The Chief Executive of Argyll and Bute Council told the Investigation

[20] Section 5.14, Cremation Process, explains what a cremulator is.

"My understanding is that how you define ashes or remains has never really been an issue at the crematorium here because it's always been the overall remains we are talking about and parents are clear on that and that if the parents want whatever's left as a kind of memorial they can get them. We had never separated the remains from the ashes part of it"

7.5 ADMINISTRATION AND RECORD KEEPING

Official administration and record keeping is all done on site at Cardross Crematorium. The Crematorium Registrar and a Cremator Operator maintain the records with some support from an administrator on a part-time basis. Funeral bookings are made by Funeral Directors and booked into the diary system and on to the BACAS[21] system (the computer record keeping system).

After the cremation of the ashes the card that had been generated to travel with the coffin is sent back to the office and the records are updated with the details of the disposal of the ashes. The Crematorium Registrar told the Investigation,

"It would only be once the scattering of ashes or the caskets being removed by the family or the Undertakers the card then gets presented back to the office. We'll then update the records to state the ashes were removed on such a date or they were scattered on whatever lawn area it would be."

Although the disposal instructions are inserted at the outset he explained,

"But on the system, there's an actual other bit of the disposal section that once the disposals took place you log back in and state the date and when it happened, where it happened."

The superintendent completes the information on BACAS on a daily basis. If there is a change of mind in relation to the ashes a signed letter is sought from the applicant authorising the change and a hold is put on the ashes in the meantime.

7.6 COMMUNICATION

i Communication between Funeral Directors and the crematorium

[21] Section 5.10, Statutory Forms, explains what BACAS is.

Cardross uses an additional form for the cremation of non-viable foetuses in addition to the Form A (Application for Cremation). This form, which can be completed by either the family or the Funeral Director, requires a signed acknowledgement that there may not be ashes following the cremation of a non-viable foetus. It states,

"I/We acknowledge that it may not be possible to recover any remains following the cremation and that if this application has been made on behalf of parent(s) that this possibility has been made known to them"

Cardross Crematorium confirmed to the Investigation that this form is still in use at the time of writing.

It is policy at Cardross Crematorium policy is to check that the instruction for disposal of ashes for all babies has been signed by the parent. Cardross Crematorium do not have direct contact with the NHS.

ii Contact with Families

Staff at Cardross Crematorium advised that they did not have much direct contact with families except when a family member would telephone in relation to the location of ashes after the cremation or where they attend the scattering of the ashes

7.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Although the delay in requesting an internal audit is difficult to understand it meant that the auditors could review the crematorium in the light of the findings in the Mortonhall Investigation Report and the Infant Cremation Commission recommendations. The audit found that Cardross Crematorium already met some of the recommendations and that,

> *"Crematorium staff are familiar with and are considering how to progress the many recommendations within the Lord Bonomy Report."*

Specific recommendations in the report included the completion of a service manual detailing procedures for all aspects of the service, the purchase of a

larger baby tray and the sending of notices to applicants confirming that ashes have been scattered, when they were scattered and by whom.

7.8 Findings for Individual Cases

One baby cremated at Cardross was referred to this Investigation. The baby was stillborn and was cremated in 1994. The parents told the Investigation they were told by someone from the hospital that there would not be any ashes. They did not know what the role was of the staff member who assisted them with making the funeral arrangements. The Investigation ascertained that she was a social worker attached to the maternity unit but that she has long since retired. This social worker liaised with the Funeral Director on the family's behalf and they had no contact with him. The parents do not recall signing a form giving an instruction about ashes. They insist that they would not have signed a form saying someone else could scatter the ashes, particularly as they had been told there would not be any.

The Form A is signed by the baby's father but he told the Investigation he did not complete the ashes instruction. Section 16 of the form which deals with the instruction for the disposal of ashes is completed to say 'scattered' but this is clearly in the Funeral Director's writing.

This instruction for disposal of the ashes appears to have been completed at the same time as the date and time of service as it is in blue ink, while the Applicant's signature is in black ink like the particulars on the first page.

It is possible that the social worker brought the form to the Funeral Director's office after the father had signed it at home with her (as he has told the Investigation) and at that stage neither the date and time of the service nor the instruction for ashes had been completed. The Funeral Director would need to obtain the date and time of the funeral directly from the crematorium. The Funeral Director does not appear to have had any recourse to the family with regards to the instruction for ashes.

The Funeral Director Gordon Glen told the Investigation that he would have told the social worker that they *"could not be certain if there would be ashes or not*." He said that when he was arranging a funeral directly with a family he would always take an instruction for ashes in case there were any as Cardross Crematorium would not have accepted a Form A without an instruction for the ashes. He explained that he would have discussed with the family the issue of uncertainty about ashes and then taken an instruction before asking the Applicant to sign the Form A. However, in this case he had no contact with the family. The family have said that they were told definitively that there would not be any ashes by the hospital social worker.

The result of the instruction on the Form A was that this baby's ashes were not returned to the parents but were scattered in the crematorium gardens in accordance with the instruction. The baby's mother contacted Cardross Crematorium in February 2015 and at a meeting was told her son's ashes had been scattered. In November 2015 she returned to the crematorium and was shown exactly where in the Crematorium gardens the ashes are scattered.

This caused the family considerable distress. The mother tried to make sense of it,

> *"And why would they then allow a stranger to take your child's ashes and go and scatter them without your knowledge? It makes you feel like you've abandoned your little child, it makes you feel like you've abandoned that baby, walked out of that crematorium and just forgotten. Maybe they're desensitised to it?"*

7.9 CONCLUSIONS

1. Although training was largely carried out in-house, care was taken to maximise the possibility of obtaining ashes by the modification of procedures and the use of a baby tray. These methods were successful in the majority of cases. Unlike other crematoria, Cardross sought a solution to handling issues around the baby tray. Once they realised that they were no longer retrieving ashes consistently without it they took action to re-introduce it. Cardross Crematorium is to be commended for the care applied to this aspect of cremation.

2. There was no evidence of any joint training with Funeral Directors or NHS midwives working in this area. It is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate joint training and joint understanding of their obligations to the parents of these babies.
3. The procedure for the updating of records was efficient and effective. The co-location of record keeping services and cremation processes may have assisted to ensure that this took place.
4. The Investigation found evidence of a strong team with solid management.

Craigton Crematorium

8 CRAIGTON CREMATORIUM

8.1 INTRODUCTION

A total of fourteen cremations of infants or babies conducted at Craigton Crematorium were referred to the Investigation. The earliest of those cremations took place in 1990 and the most recent in 2007.

Craigton Crematorium is the trading name for Funeral Services Ltd, a part of Co-Operative Group Ltd. The crematorium is situated in Glasgow on Berryknowes Road in Cardonald.

Craigton Crematorium opened more than 50 years ago and has one service chapel seating more than 100, an area in which Books of Remembrance are displayed and is surrounded by Gardens of Remembrance which include a Children's Memorial Garden. In 2013 the crematorium carried out 909 adult cremations. In 2013 the crematorium also carried out seven individual cremations of non-viable foetuses.

The crematorium has arrangements with local Funeral Directors and the NHS for the disposal of non-viable foetuses through shared cremation with other non-viable foetuses. In 2013 3,535 foetuses were cremated in shared cremations. There were no cremations of children or stillborn babies in 2013.

8.2 MANAGEMENT

The Investigation was provided with a chart setting out the senior management structure. This showed a vertical line at the head of which is the Co-operative Group Chief Executive with the Head of Consumer Services next. The Funeralcare Managing Director, the National Operations Director and the Head of Support Operations follow, before the Bereavement Services Manager and the Crematorium Manager.

There have been a number of changes to the roles and responsibilities of those managers with direct responsibility for the running of the crematorium.

Harry Tosh, who started at Craigton Crematorium in 2002, was appointed Superintendent in 2007. Harry Tosh has been in post as Manager and Registrar since 2008 when the role of Superintendent merged with that of Manager.

John Williamson, Head of Operations for Scotland and Northern Ireland, told the Investigation that until 2013 the crematoria were managed within geographical regions rather than as a group. As Harry Tosh's line manager he had monthly one to one meetings and was in frequent contact by phone. There were annual appraisals and quarterly reviews. Senior Managers above his Operations Manager level were not actively involved in overseeing Craigton Crematorium at all unless there were exceptional circumstances such as the issues at Mortonhall Crematorium coming to light, or requests for major capital expenditure which go through a Strategy Group.

8.3 POLICY, GUIDANCE AND TRAINING

Harry Tosh, Manager and Registrar, told the Investigation that, until January 2013, it was Craigton Crematorium policy to follow the Federation of Burial and Cremation Authorities (FBCA) guidance on the definition of remains and to check ashes for skeletal remains.

Harry Tosh was aware of the then differing positions of the Institute of Cemetery and Crematoria Management (ICCM) and Federation of Burial and Cremation Authorities (FBCA) about the definition of recoverable remains (ashes). At Craigton, a visual check for bone would be carried out by Cremator Operators to determine if ashes should be returned to families. If visible skeletal remains were found, everything would be returned to families who had requested ashes. If no visible skeletal remains were found, the ash would not be returned to families but would be scattered in the Garden of Remembrance as 'residue'. John Williamson, Head of Operations Scotland and Northern Ireland, told the Investigation that at the time, prior to the Mortonhall Investigation, he had no difficulty with adopting this position as he considered it consistent with the practice for adult cremations where what is returned is skeletal remains. He now fully accepts the new definition applied across Scotland.

A long serving Cremator Operator was asked about the training he received during the period with which this Investigation is concerned. He told the Investigation,

> *"I started in August 1991 as a trainee crematorium assistant …we had to go to a training crematorium which was the Linn Crematorium in Glasgow at the time. The training took a fortnight. At the end of the fortnight you were asked questions. We had to do a cremation. Their cremators were different from ours… when I came back to work on our own cremators here it was just watching and being told what to do by the people who were operating the cremators at the time. In those days we were called Funeral Service Operatives (FSOs). We did the cremating, the garden and chapel duties. It's much the same now but we have a qualification. The qualification for the crematorium technician came in around about the time I was starting in 1991, I think. Before then you didn't need a qualification, you were just a gardener who also cremated. That's how it worked in most crematoria."*

Asked whether he had undergone any subsequent training, the Cremator Operator explained how in 1992, with the arrival of new cremators, he and his colleagues,

> *"were trained to operate them by Evans technicians. It used to be called Evans, now it's Facultatieve Technologies. That was the initial training and then as we were going along we learned things. I can't remember exactly when, but I did an advanced training with Evans and went down to Leeds for it where their headquarters are. I think it was a three-day course, which made me an advanced crematorium technician."*

Facultatieve confirmed that they used to run this course. It was about understanding emissions, monitoring and maintenance of the cremators.

The Investigation enquired whether Craigton Crematorium has any documents containing written policy or procedures. In his reply the Manager referred to Cremator Operators relying on the FBCA Code of Cremation Practice, the ICCM Charter for the Bereaved – Guiding Principles for Burial and Cremation and the Facultatieve Operating Manual. A series of documents under the heading *Way of Working* provides guidance to staff, including on providing mourners with a dignified experience and ensuring that the crematorium is run efficiently. It does not refer specifically to dealing with the cremations of non-viable foetuses, stillborn babies or infants.

8.4 CREMATION PROCESS AND EQUIPMENT

Staff available to be interviewed by the Investigation were able to speak about operational and working practices back to 1991. One of the cases referred to the Investigation dated back to 1990 and there are no individuals who can speak to this specific year from an operational perspective.

Craigton aimed to operate in such a way as to maximise the recovery of such remains. This included, in the case of foetuses and babies, using metal trays since 1993, cremating using residual heat and carrying out a visual inspection of the remains following cremation to check for bone material. Harry Tosh reported that despite their best intentions the process did not always produce remains which Cremator Operators could identify as bones, in which case families were informed of this at the time.

It was confirmed by David Eagle, Regional Operations Manager for Glasgow Co-operative Funeral Care and previously Funeral Home Hub Manager for Bellshill, that remains from babies were returned to families in some cases. He told the Investigation,

> *"Craigton was like Maryhill, it was a case of ask and we shall see. There was no guarantee but it was a matter of 'ask if there's ashes to be available then we will let you know'."*

According to Harry Tosh, the policy about the definition of ashes changed in early January 2013. Thereafter,

> *"if the family want remains back, we will give what's left after the cremation."*

This change in policy followed the emergence of the adverse publicity about Mortonhall Crematorium. John Williamson, Head of Operations Scotland and Northern Ireland, told the Investigation that senior managers in the Co-operative Group had met to discuss the position at Craigton Crematorium in light of the media coverage of Mortonhall. The Managing Director took the decision to change the policy at Craigton immediately and to start returning ashes to families regardless of the presence of visible skeletal remains.

A Cremator Operator described how a conversation with a parent had highlighted the need for a change of approach away from his understanding of the FBCA interpretation. He said,

> *"I had stuck rigidly to the rules and it wasn't until one of the mums told me as long as she knew her baby had been in it, that's what she wanted… up to that point, I honestly had never considered it. I put my hands up to that, I hadn't. I stuck regularly to the line if there isn't human remains, if I don't see human remains, then I'm not going to give somebody a lump of burnt wood and pretend to them that it's human remains."*

Dr Julie Roberts, Forensic Anthropologist, has explained that in very young foetuses it may take considerable forensic expertise to recognise bones which are, nonetheless, there.

The Investigation enquired how, in practice, anything remaining following a baby cremation was checked for skeletal remains. Harry Tosh, Manager and Registrar, explained,

> *"our procedures at that time were that we always did look to see if there were identifiable remains, if there weren't any identifiable remains we would let the family know…Early January 2013 onwards if the family want remains back, we will give what's left after the cremation."*

A Cremator Operator explained the procedure that he had routinely followed. He said,

> *"I was always taught that ashes are human remains and that was how we always work. At the end of the cremation we looked for human remains in what was left in the tray. If that wasn't human remains and the instruction had been a 'retain' then I would inform the office that there was or there wasn't remains."*

The same Cremator Operator explained the procedure if humans remains could be identified. He told the Investigation,

> *"If I could identify bones we gave the parents everything that was in the tray. You couldn't possibly remove just the human remains and return only those."*

Referring to the stage in the gestation period at which he had found human remains, the Cremator Operator told the Investigation,

"I'm sure I found them in twenty-four week babies… and younger than that."

Dr Julie Roberts, Forensic Anthropologist and expert witness to both the Mortonhall Investigation and this Investigation[22] has confirmed that bones from cremated foetuses as young as 17 weeks' gestation can and do survive the cremation process. The Cremator Operator would not, however, have known the precise age of those non-viable foetuses he was cremating, as this is not part of the information with which he is routinely provided.

The Investigation enquired whether any cremations of more than one body at a time were carried out in the cremators at Craigton. It is lawful to dispose of non-viable foetuses with other non-viable foetuses through shared cremation, and this practice is carried out at Craigton. The Cremator Operator described his experience of shared non-viable foetus cremations in which twenty foetuses at a time would be cremated inside a box in the baby tray.

i Impact of Cremation Equipment

The Investigation explored the impact of working practices on the services delivered particularly in relation to the equipment, including the use of baby trays, and the policies applied.

Almost all of the cremations that take place at Craigton crematorium are of adults and many of the features of an adult cremation are replicated during the course of a baby cremation[23]. Different modifications of the procedures for cremation of non-viable foetuses, stillborn babies and infants were described by the Cremator Operator.

ii Cremators

A Cremator Operator told the Investigation that when he joined Craigton Crematorium in 1991,

[22] See Annex of this report

[23] See sections 5.14, Cremation Process and 5.15 Cremation Process for Infants and Babies for more details.

> *"We had an old Dowson and Mason [cremator] which was operated by levers and valves. They had been put in in 1957 so we didn't have the same legislation that SEPA (Scottish Environmental Protection Agency) have now introduced."*

He explained the practicalities of operating the old machines which were double-ended and double-hearthed.

> *"With the double hearth you had your top hearth and it was wee bricks, we called them 'half-moon' … and they came together and there were holes so when the cremation finished, you knocked the ashes down onto the lower hearth through the holes and then you ashed out from the bottom. You had two small hatches at the back end and you charged from the far end. The two smaller hatches, one took you into the top hearth and the other one took you into the ashing out hearth."*

In 1992 Craigton Crematorium was updated with the installation of two single-ended gas-fired Evans 300/2 cremators. The same Cremator Operator explained some of the differences from the previous model,

> *"With a single hearth, you push the coffin in, the cremation takes place in that chamber and you ashed out from that chamber. It's a flat hearth… We didn't have the room when they put new ones in for a double ended. We were building the new ones while the two others were in situ so there wasn't room to put the new ones where the old ones were."*

Software upgrades were installed in 2005 and 2013. The upgrades were primarily to comply with new emissions monitoring guidance from the Scottish Environmental Protection Agency (SEPA). In 2013 those crematoria having their software upgraded for this purpose were also installed with 'infant mode' at no extra cost. Infant mode is now available ensuring that conditions within the cremator are adjusted to make them more gentle and therefore suitable for the cremation of babies.

Dealing with the impact of the infant mode setting on recovering ashes, the Cremator Operator commented,

> *"there will always be some remains to scatter, it's such a low temperature with so little air, there will be some, there will be wood ash at least."*

He also told the Investigation how babies were cremated before the introduction of a baby tray.

> *"What we did was we'd have two people charge it and we'd lift the door and sit the baby just at the edge. We've got a wee rake, and we just pushed it in just beyond the door. And then we left it down to residual heat. There wasn't any air on so I think it just burned where it was. Of course there would be remains and we would collect them as well. Even if it was only wood dust we would scatter that. We would treat it the same as if it was human remains."*

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[24] explained in his evidence why such modifications to the cremation process are beneficial saying,

> *"the usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

iii Baby Trays[25]

A baby's small coffin, or box containing a non-viable foetus, may be placed on a steel tray inside the cremator to better contain any ashes and prevent them being lost by being spread throughout the cremator by the force of the air jets. Part 5.13 of this Report discusses the use of a steel tray to greatly improve the likelihood of retrieving remains from an infant cremation.

There are two trays available at Craigton for foetal and infant cremations. The first was introduced in 1993 and the second in 2013. They can accommodate wooden baby coffins up to 18" by 8."

The Cremator Operator told the Investigation that the baby tray had been used ever since it became available. It is now used in conjunction with the cremator's infant mode setting, but before the setting was introduced infant cremations took place as the last cremation of the day. This process, he said, was recommended by Evans, the manufacturer at the time.

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[24] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

[25] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

In order to insert the tray into the cremator it sits on the end of the trolley, quite close to the cremator. Once the cremator door is open the tray is pushed in gently. As the Cremator Operator explained,

> *"We don't want it to go in too far because getting it out can be the awkward bit. The tray slips off onto the hearth, we shut the door and we then go over and we select infant mode."*

iv Dispersal of Ashes

There are four options in respect of the ashes. They are 'dispersal by crematorium staff with no family attending', 'dispersal with the family in attendance', 'retain for uplift by the Funeral Director' and 'retain for uplift by the applicant'.

As explained in the Mortonhall Investigation Report[26] there is overwhelming evidence that foetal bones do survive cremation, at least from seventeen weeks' gestation. However, prior to the evidence of Dr Julie Roberts included in the Mortonhall Investigation Report, no such evidence had been published and the belief that non-viable foetuses do not have bones was prevalent amongst the Scottish Government, the NHS, the FBCA, Funeral Directors' Associations and some staff working in crematoria across the country.

The Investigation looked into what happened to any ashes that were not considered to meet the Federation of Burial and Cremation Authorities (FBCA) definition of skeletal remains, as well as to those ashes containing bone if their return had not been requested by families.

Explaining the process before 1995 in relation to those ashes in which no bones were identified, Harry Tosh, Craigton's Manager and Registrar, said,

> *"all remains were dispersed in the back of the crematorium, it's not in the paperwork but if anyone was to come in and ask me, I can tell them exactly where it was."*

[26] The online version of the Mortonhall Report can be found at http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

He was also confident that he could identify specific areas in which ashes containing bone were scattered. He explained,

> *"Recording in the register where the ashes have been dispersed is something we started doing from 2013. That said, the location of where all the remains have been dispersed has been recorded from way back. They're in the cremator register. We've got five areas G1, G2, G3, G4 and G5. That's how simple it is and we know exactly where those areas are so if the family can say we can let them know exactly where the ashes were dispersed."*

He later clarified that the location has been recorded since 2007. This was confirmed by the Investigation when undertaking examination of the Registers of Cremations.

More recently, Harry Tosh explained that the crematorium had developed an area specifically for children.

> *"We only started dispersing children's remains in the Children's Memorial Garden from January 2013."*

This area, he told the Investigation, is,

> *"specifically for all babies' remains, everything that's left after the cremation process is dispersed round the children's garden. Before that all cremated remains or anything left after the cremation process would be dispersed in whatever area the dispersals took place that week, be it G1, G2, G3, G4 or G5, unless the family specifically asked."*

The Cremator Operator confirmed,

> *"We've got five areas in the garden now where we scatter and we change it every week. We do that mainly so we don't have an accumulation of ashes in any one area. I think we've kept records since about 1994."*

Referring to ashes to be 'dispersed' (scattered) Harry Tosh told the Investigation that whereas ashes used to be scattered on the day following the cremation, a thirty days waiting period was introduced from March 2013,

> *"if it's dispersal we wait thirty days after the service, then disperse the remains."*

This provides families with time to re-consider and, where they wish to do so, to change the ashes instruction.

8.5 Administration and Record Keeping

Harry Tosh, the Manager and Registrar, is responsible for record keeping at Craigton Crematorium as well as for the day to day operation of the cremation facility. In relation to record-keeping he is assisted by an administrator.

The paperwork that is processed at the crematorium consists of the forms required for a cremation to take place and completion of Form G, the Register of Cremations. Maintaining a Register is a statutory obligation (except in the case of non-viable foetuses) and involves the recording of the cremation number, date of cremation, date and place of birth, age and gender of the baby, details of the applicant for cremation and disposal method for ashes. John Williamson suggested to the Investigation that the wording on the Form G is ambiguous and does not make it clear that the final resting place of the ashes is what is required to be entered on the form. Instead the wording of the form could be interpreted to mean the intended method of disposal. However, the Cremation (Scotland) Regulations 1935 makes it clear that the wording for the Form G Register of Cremations is 'How ashes were disposed of', and not the intended method of disposal. Therefore this section of the form is clearly intended to be completed after the event, not in anticipation of it.

Since 2009 the Co-Operative's computerised Epitaph system has been used at Craigton Crematorium for booking and recording adult and stillborn baby cremations. The Manager and Registrar, Harry Tosh, explained the process,

> *"The details from the Form A are normally entered into the electronic Register of Cremations, Epitaph, the day before the service and into the manual register on the day of the service. The reason it's entered into Epitaph the day before the service is because the information on that system is needed to fill in the cremation cards and the rest of it. It's not just a register, it's also an invoicing system so we do that on the day for the invoicing. This means that the instruction on the Form A is entered into Epitaph before the funeral.*

> *The information being entered into the manual register is done on the day of the funeral but it is possible that it will be entered into the register before the cremation has taken place. That's because if there are several funerals it might be the dinner time we're filling in the register so we've still got the afternoon funerals to be done. But what's on Epitaph and what's in the manual register should always be the same"*

Once the details are entered on the system, identification cards and labels for the remains are generated.

The paperwork and record keeping in relation to babies, whether born alive or stillborn, is the same for adults and uses the Epitaph system. Individual and shared cremations of non-viable foetuses are not recorded on Epitaph. While there is no legal requirement to keep a record of the cremation of non-viable foetuses the crematorium actually records all shared or individual foetal cremations manually. In one of the cases referred to the Investigation, the cremation of a non-viable foetus was in fact recorded in the main Register of Cremations in 1990. Since 1991 paperwork has been retained for all non-viable foetus cremations and, in the words of Harry Tosh, *"a register of sorts*" has been kept, separate from the main Register of Cremations. This is made up of two logs, one for individual cremations and the other for shared cremations. Since 2013 shared cremations have been recorded separately.

For shared cremations only, the decision was taken by the crematorium not to enter all the information from the accompanying paperwork onto the register, in order to protect the anonymity of the parent. On dealing with a recent query from the parent of a non-viable foetus Harry Tosh said he had contacted the hospital with the parent's details so they could provide the relevant information that enabled him to tell the parent when the cremation took place. In terms of future recording Harry Tosh added,

> *"We are currently looking into how we might add NVFs on to Epitaph because there is a place on that system for it. However, for shared cremations we can have about 250 in one day. You can't add every detail in but it is something to look at."*

Funeral bookings are made by Funeral Directors, or the hospital, directly with the crematorium.

i Findings on Record Keeping at Craigton

As with Mortonhall the Investigation found Form A, the statutory Application for Cremation, to be the most significant of the cremation paperwork[27]. However, in many of the cases looked at by the Investigation although the form was completed in the name of, and signed by, the next of kin, they could not remember signing any forms. This was the experience of the father of three babies who died between 2001 and 2003 shortly after being delivered at about twenty-four weeks' gestation. Two of the babies were cremated at Craigton Crematorium. On seeing the Form A for the baby who died in 2001 this father told the Investigation,

> *"There's a signature that's clearly mine. That's definitely my handwriting but I have no recollection of signing this form."*

In the same case the instructions for the ashes on the reverse of Form A (Section 5) was left blank and the section in the Register of Cremations, where the method of disposal of ashes is recorded, was simply scored through.

The speed with which forms were expected to be completed is a matter of concern to the Investigation. The mother in the same case told the Investigation,

> *"The forms had to be done right after the delivery."*

This situation was confirmed by other parents.

A mother whose daughter died in 2004, having lived for almost three months, firmly believed that the circumstances in which decisions are taken led her to make a decision that she came to regret.

> *"It's not the right time to be asking and making decisions when people are that distressed. I wasn't, obviously, in the right frame of mind to be dealing with it."*

[27] An online copy of the Mortonhall Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

She was even unsure as to how she reached the decision to cremate her daughter.

> *"I don't know when we had to make the decision that we did. We didn't even know where to start. To be honest we had to get guidance on what you do. And we didn't know where to go - Undertakers or anybody - because we had never ever thought we would have to organise a funeral. I don't know how we actually came about getting [our daughter] cremated. All my dad's family are buried so I don't know why cremation ever came about. As I say I'm totally oblivious to that."*

The mother recalled that shortly after the baby's cremation, she and her husband were told by crematorium staff that there were no ashes because babies are "*too small*". This was information she and her partner accepted until news of Mortonhall emerged. They were advised by their solicitor to report the matter and were subsequently informed by the police that records revealed there had been ashes, which were scattered at Craigton.

The mother told the Investigation,

> *"Nine years down the line they were able to tell us the plot where her ashes were scattered…"*

The Form A, signed by the baby's father and the Co-Operative Funeral Director included the instruction to 'disperse' the ashes. As with many other cases, the Form A has been completed by the Funeral Director rather than the father who is the named applicant. The Register of Cremations recorded the baby's ashes as having been 'scattered'. The mother could not remember any discussion about what she wanted to happen to the ashes, only being told that there were none.

In the belief that her daughter had no remains this mother purchased a rose tree and a plaque at the crematorium in memory of her daughter. Had this baby's ashes been returned to her mother immediately after the cremation, a great deal of distress could have been prevented.

Another mother described a similar experience after her daughter was stillborn in 2007. Having been told there would be no ashes she discovered later that the

Instruction for ashes on Form A was ‘stillborn baby disperse’. The Register entry read, ‘Scatter at Area G2’. She told the Investigation how she learned from the Funeral Director there would be no ashes.

> *“I noticed urns in the corner and I asked if they did smaller ones in a pink colour for a baby. That’s when she said, “‘No sorry, we don’t recover ashes from a baby so young’. I was really shocked but you take it that this person does this every day, that’s her profession, she knows what she’s talking about, so I just accepted that.”*

It is not clear to the Investigation why when Funeral Directors from Co-operative Funeralcare were routinely telling parents there would be no ashes, they would select the option “disperse” for the ashes disposal. This is illogical.

Following the Mortonhall revelations the same mother told the Investigation that she,

> *“asked someone from Sands (charity) to look into [her] case and it came back that there were ashes and they were dispersed and that’s when I started looking into stuff for myself. I felt numb, shocked, I’m devastated that my daughter had just been thrown away like a piece of rubbish. At the crematorium they pointed to a piece of grass where the ashes are scattered or dispersed … How do I know that they’re not just picking a piece of grass and saying, ‘oh that’s where it is?’ I can’t prove that. I can’t say that they are or not.”*

The parents of a stillborn baby cremated in 2004 also regretted their decision to have their daughter cremated. They told the Investigation there was no mention of ashes until after the cremation, when they were told by the Minister that the crematorium did not give out baby ashes. The mother explained to the Investigation,

> *“If somebody had said, ‘Have a few days to think about it and you won’t get any ashes back’, I wouldn’t have had her cremated.”*

In this case the ashes instruction section on the reverse of Form A was scored through and the ashes disposal section in the Register of Cremations was left blank, thereby shedding no light on the outcome of this baby’s cremation.

This Investigation been unable to discover what instruction was entered onto the Form A in some cases because all records (other than the Register of

Cremations) were retained for fifteen years only, in line with the statutory obligation at the time.

Mothers in this situation included one who delivered two stillborn babies at around twenty-seven weeks' gestation in 1990 and 1995. She told the Investigation that she was told by the Funeral Director, Co-operative Funeralcare, on both occasions that there were "*no ashes for babies*" and no forms remained other than the Register of Cremations. Entries revealed that the ashes of the first baby had in fact been 'Scattered'. Describing her reaction to the Investigation the mother said of the Funeral Director,

> *"I had no reason to question his response."*

She had not, however, entirely accepted what she was told. Following the media coverage about issues arising at Mortonhall Crematorium, she made enquiries and had a phone call from Harry Tosh, Manager and Registrar at Craigton. He informed her there had been ashes for the first of her stillborn sons and they had been scattered. She was invited to Craigton where Harry Tosh showed her the ledgers. On seeing the entry confirming the disposal she told the Investigation, "*I was devastated*". When asked to describe where the ashes would have been scattered Harry Tosh said they could be "*from the boundary, right up to near enough the railway*".

The same mother questioned why there were ashes for the first child and not the second for whom the relevant Register entry read, "*No identifiable remains*". Harry Tosh explained to her that this would have meant there were no visible bone fragments. Any residue would have been scattered.

Speaking to the Investigation, the mother said,

> *"I was thinking what was the difference? The same gestation and about the same weight, to me it should have been the same in both cases. Either both no identifiable remains or both identifiable remains and scattered… I should have been offered my children's ashes or remains even though it was maybe just coffin ash."*

Details from the Form A are entered in the daily diary (a list of all the day's cremations) and onto the individual identification card that accompanies each individual cremation. At the time of the Investigation identification cards were not retained but their retention was under consideration with the aim of providing an additional record, in particular of when and by whom ashes were collected, and to provide continuity. As well as the name of the deceased, the date and the cremation number, the card includes the instruction about ashes, whether they are to be retained or scattered. Sticky labels are used to identify remains and their method of disposal.

As is the case at some other crematoria the accuracy of Form G – the Register of Cremations – is questionable. The reason for this is that the disposal of ashes column in the Register is populated automatically at the time when the cremation is being arranged and details from Form A are being entered on Epitaph. This can lead to the situation described by the Cremator Operator when he told the Investigation,

> *"If there are no remains but the instruction was scatter, it would say scattered in the register."*

An examination of the Registers of Cremations by the Investigation did not find evidence of any ashes collected by families or Funeral Directors in 1990, 1999, 2001 or 2007. A small number of entries of 'retain' were found but as these did not relate to cases referred to the Investigation it was not possible to check if the ashes had in fact been returned to families. It is noteworthy that in 1990 every entry for a baby states 'scattered' and in 1999 every entry states 'no identifiable remains'. In 2001 and 2007 the entries are more varied and include 'retain', 'scatter' and 'N/A'.

It would appear that at Craigton, unlike at some other crematoria, an incomplete Form A did not delay the arrangement of a cremation. The Investigation found no evidence that the absence of Instructions for Ashes at section 5 was followed up by the crematorium with the Funeral Director.

8.6 COMMUNICATION

Many parents who provided evidence to the Investigation described the incorrect information that they received from hospital staff and Funeral Directors about the availability of babies' ashes. A mother who lost three babies on separate occasions between 2001 and 2003, each born alive at about twenty-four weeks' gestation, two of whom were cremated at Craigton, recalled being told on each occasion by hospital staff that there would be no ashes.

> *"I remember very clearly there was a discussion about ashes. They said that there's not going to be anything left because they're so little. That is what they said. I don't remember who told me that - whoever was around me."*

A father, informed by crematorium staff that there were no ashes when he went to collect them told the Investigation,

> *"You would never in a million years have thought to question a crematorium."*

The need for improved and accurate communication was identified by a mother who had in 1990 and again in 1995 given birth to a stillborn baby of around twenty seven weeks' gestation. She said,

> *"In surviving grief like this I'd have been much happier having the facts, having the proper information so I could make a proper judgment. I would have liked a bit more time to think about things… having to deal with it the same day that you've just given birth is not the ideal time…"*

Another mother who had delivered a stillborn twin at thirty weeks' gestation in 1999 told the Investigation that at some point when organising the funeral, she was told there would be no ashes to collect as the baby was so small. She described her response.

> *"We presumed that we had the correct information on this matter and trusted implicitly the integrity of the company dealing with our child at this time."*

She later discovered that the Form A instructions for ashes was blank and that Register of Cremations recorded there being 'no identifiable remains'.

Commenting on the situation she added,

> *"It would have helped healing and grieving to have had some ashes to scatter and a special place to think of [our daughter] throughout the years. We were deprived of this chance which is devastating. The thought of our child's ashes being discarded somewhere without our consent or knowledge is morally incomprehensible and extremely upsetting. We deserved the chance to have whatever little ashes there were, and the truth told to us, at this our most vulnerable and lowest point as a family."*

Contact with families was generally through Funeral Directors rather than directly with the crematorium.

The Cremator Operator described his contact with families as, '*none whatsoever*'. It was, he explained, mainly the office that would have contact "*and even that can be through the Undertaker rather than face to face with a client*". For many cremation staff the only time they would have contact with bereaved families was at the crematorium on the day of cremation. On such an occasion interaction is minimal and any conversation purely formal.

Referring to the situation where there was no specific instruction from the Funeral Director or family to retain the ashes the Cremator Operator explained,

> *"We've came across human remains lots of times when there wasn't an instruction to retain. If it wasn't retain then it would be down as a scatter and it would be scattered as an adult cremation… if the instruction was scatter we wouldn't have differentiated if the family wanted the ashes to be scattered - I would assume they meant whether there was human remains or not, they still wanted them scattered."*

The Cremator Operator confirms that the relationship between crematorium staff and bereaved families was normally an indirect one. He said,

> *"If there are no remains but the instruction was scatter, it would say scattered in the register. Whether there was remains or not, the instruction I have is to scatter and I must assume that the family discussed that themselves or with the midwife or the Undertaker and then I must follow the instructions which is the family have requested that the ashes be scattered. I would never have considered for a second it was my place to say, 'well wait a minute, those ashes do you want them?' That would be kind of presumptuous."*

John Williamson, Head of Operations Scotland and Northern Ireland, told the Investigation he felt there was still room for improvement in terms of communication between hospitals and Funeral Directors about the wishes of bereaved parents. He told the Investigation that the funeral industry had stepped in to assist when hospitals stopped incinerating foetuses as clinical waste.

It was accepted practice in the past for Funeral Directors to complete the Form A with information passed to them by the hospital rather than the family. The word 'disperse' is used to mean 'ashes not to be returned' and could be completed by the Funeral Director in the absence of a specific instruction from the hospital to return ashes to the families. Meetings are now taking place between the Funeral Directors and the hospital so that it is clearer in future that the hospital has actually asked the families for an instruction for ashes in those cases where they are arranging the funeral on the families' behalf.

8.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Rather than waiting for publication of the Mortonhall Investigation Report in April 2014 the crematorium changed its policy on ashes in January 2013 in relation to babies. This meant it ceased to return only those ashes which they believed contained human remains and instead returned everything left in the tray. In addition, steps were taken to record in the Register of Cremations, as well as manually, the location where ashes were dispersed at the crematorium.

Another change made by the crematorium, also in 2013, was the introduction of a waiting period of thirty days where 'dispersal' or 'scattering' of ashes was requested. This delay was designed to give families time to change their mind and request the return of ashes, before it was too late.

Harry Tosh told the Investigation that as a result of the Mortonhall Investigation Report and the recommendations of the Infant Cremation Commission, rather than disposing of its records after fifteen years Craigton Crematorium is now in the process of "*keeping everything as long as we can*."

8.8 Findings for Individual Cases

Out of the fourteen Craigton cases, ten had a Form A provided to the Investigation by the crematorium. Of those ten only five included clear Instructions for Ashes with three stating ‘disperse’, one stating ‘scattered’ and one stating ‘if any [ashes] return’. In the remaining five examples three were left blank, one was scored through, and one stated ‘no’. The most recent of these incomplete forms related to cremations in 2004.

8.9 Conclusions

1. It would be inappropriate to criticise Cremator Operators and their managers for following the FBCA guidance at the time, and determining the ultimate disposal of ashes according to whether or not they contained bones. In January 2013 the decision was taken by the senior management to change this policy and return everything remaining in the tray after cremation. This decision was taken in response to publicity surrounding Mortonhall Crematorium and prior to publication of the Mortonhall Investigation Report. The decision demonstrated a willingness to recognise, and react to, the need for change**.**
2. The situation in which families were told there would be no ashes when in fact there were ashes and these were scattered without the families’ knowledge or agreement has been a cause of profound distress to the families. Discovering the truth years later has caused parents deep sadness and renewed pain. The provision of inaccurate and misleading information highlights the need for improved communication between the relevant agencies and for training between crematorium staff, NHS staff and Funeral Directors to ensure consistent and accurate information is provided to families. NHS staff and Funeral Directors also require to have a fundamental understanding of the physiology of foetal bones that allows the bones to survive the cremation process. It is particularly unclear why Funeral Directors should tell parents there would be no ashes, yet they would select the option “disperse” for the ashes disposal. This is illogical.

3. The Investigation has been unable to establish all the facts in every case, because in some cases the fifteen years' document retention period has lapsed and in others forms are incomplete. There was also no legal requirement to maintain a register for non-viable foetuses. When a register was kept, unlike the statutory Register, it did not contain a column for recording the disposal of ashes.

4. The procedure whereby the disposal of ashes is recorded before the cremation has taken place results (as in some other crematoria) in a wholly unreliable record. Rather than being an accurate record of what has taken place, the Register entries are often a predicted outcome and not the actual outcome. Given that the Register is expected to be a permanent record, great care must be taken to ensure it is completed accurately. Otherwise there is a failure to comply with the crematorium's statutory obligations.

5. Since adopting the wider definition of ashes as being 'everything left in the cremator following the removal of any metals', Craigton Crematorium has recovered ashes in every case. It is a requirement since June 2015 for any crematorium in Scotland to report to the Inspector of Crematoria any incidence of non-recovery of ashes from infant or foetal cremation. No crematorium has reported such an incident in that time.

6. It is clear from some of the cases referred to the Investigation that Craigton Crematorium's policy of cremating in such a way as to maximise the retention of ashes was not always successful. One explanation for why there were no remains might be that the Cremator Operators lacked expertise in foetal development and failed to recognise skeletal remains. Summarising her findings Dr Julie Roberts, Forensic Anthropologist and Archaeologist Dr Roberts explained to the Investigation,

   "My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is

inconceivable that there would be nothing left of new born babies and infants aged up to two years following cremation. The "no ashes" or "no remains" policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognise burnt skeletal remains, and/or individual or corporate management decisions."

Daldowie and Linn Crematoria

9 Glasgow City Council Crematoria - Daldowie and Linn

9.1 INTRODUCTION

A total of 32 cremations of infants or babies conducted at Glasgow City Council Crematoria were referred to the Investigation. Of those, twenty-two related to cremations carried out at Daldowie and ten to cremations carried out at Linn. The earliest of those cremations took place at Daldowie in 1988 and the most recent in 2013. In relation to Linn the earliest cremation was in 1993 and the most recent was in 2009.

Glasgow City Council manages two crematoria. They are Daldowie Crematorium on Hamilton Road, Uddingston and Linn Crematorium in Lainshaw Drive, Castlemilk.

The Investigation was told that Daldowie and Linn Crematoria opened in 1955 and 1962 respectively, with responsibility for Daldowie transferring from North Lanarkshire to Glasgow City Council in or around 1959. Each crematorium has two chapels on site, an area in which Books of Remembrance are displayed and is surrounded by Gardens of Remembrance.

Daldowie is the busiest of the Glasgow crematoria and carried out 2,585 adult cremations in 2013. In the same year there were four child cremations, 133 cremations of stillborn babies and eight individual cremations of non-viable foetuses.

At Linn there were 1,869 adult cremations in 2013, one child cremation, forty cremations of stillborn babies and thirteen individual cremations of non-viable foetuses. There are no shared cremations where non-viable foetuses are cremated together at Linn or Daldowie. In relation to an allegation by an agency employed Cremator Operator that two non-viable foetuses were cremated in the same cremator on 4 June 2011 at Daldowie, David McGoldrick, a manager with Glasgow City Council appointed to investigate, concluded that there was no case to answer. This date did not correspond with any of the cases referred to the Investigation.

9.2 MANAGEMENT

Daldowie and Linn crematoria are managed by Bereavement Services, a division within Glasgow City Council that also manages the city's Council-owned cemeteries. Since a restructure in 2013 Bereavement Services is part of Public Health. Prior to 2013 it was part of the Parks and Environment department which, for a time, also included Transport.

The Investigation was provided with an organisational structure chart setting out the structure of the management team from 2004. In 2015 the Head of Sustainability, Alastair Brown (in post since 2012) reported to the Assistant Director, the Executive Director and the Chief Executive of the City Council. Alastair Brown's portfolio of responsibilities includes Public Health. Reporting to him is the Public Health Manager Nigel Kerr (in post 2013 - 2015).

Nigel Kerr line managed an Assistant Manager - Bereavement Services/ Public Health, David MacColl (appointed 2013). David MacColl (who is frequently referred to by other witnesses as Bereavement Services Manager) was line manager to the Bereavement and Environmental Services Operations Manager, John Downes (in post since 2010). This management team is responsible for both Daldowie and Linn Crematoria.

Under the senior managers are two separate teams, one based at Daldowie and the other at Linn, responsible for the day to day operation of the crematoria. Each is headed by a Bereavement and Environmental Supervisor (a position often designated Superintendent at other crematoria). They are Christopher O'Neill at Daldowie and John Wright at Linn. Both are assisted by a Bereavement and Environmental Assistant Supervisor.

Over the period spanned by the Investigation's cases the various management roles have, not surprisingly, been carried out by a number of different people. Some of the more senior management have very extensive and diverse areas of responsibility of which the operational side of Bereavement Services forms just one part. Current senior managers were open with the Investigation about their lack of experience of the cremation industry at the time they were

appointed. In particular, they claimed no specialist knowledge of infant cremation. Alastair Brown, the Head of Sustainability, told the Investigation,

> *"I thought the procedure for cremation was the same for adults and children."*

It was not the practice for more senior managers, above the level of the Bereavement Services Manager, to attend meetings held by the Federation of Burial and Cremation Authorities (FBCA) and the Institute of Cemetery and Cremation Management (ICCM).[28]

A picture emerged through interviews with Glasgow City Council managers of the crematoria having long operated in what Alastair Brown, Head of Service, described as a, "*historical isolated fashion*", where despite societal changes,

> *"the services just continued to operate in the same way and weren't adapting."*

There was evidence of a lack of awareness amongst managers of how practices in Daldowie and Linn differed from crematoria elsewhere in Scotland. The Bereavement Services Operations Manager between 2006 and 2010, Alexander Stewart, who started with the Council as a grave digger in 1978, told the Investigation that after his appointment in 2006,

> *"My attention was never drawn to the issue about cremation of babies or foetuses. I was aware that babies were being cremated. There were no baby trays then. I wasn't aware of there being different views in different parts of Scotland about ashes being only cremated remains of the bones … it was everything left after the cremation. This included not knowing about the use of steel trays within which an infant coffin or non-viable foetus is placed for cremation in other crematoria."*

Alastair Brown, the Head of Sustainability, told the Investigation,

> *"I was quite surprised at the level of inconsistency between different crematoria. Before December 2012 if you had asked me the question I would have expected that most crematoria would have operated in a similar fashion to ours."*

[28] Section 5.2, Key Organisations, explains more about the FBCA and the ICCM.

Likewise, John Wright, the Linn Crematorium Supervisor, admitted he,

> *"was not aware until after Mortonhall that in Seafield in Edinburgh they were able to recover remains by adjusting the heating and all sorts of things. Official sharing of information would be something that the managers would probably have."*

The Investigation was told that cremation of babies was not discussed at management meetings. Kenneth Boyle, Head of Parks 2004 – 2009, became aware of a general problem not specific to babies or non-viable foetuses involving the,

> *"totally unacceptable situation in regards to the timeous collection of ashes…My opinion was that a timescale should be set on the retention of remains on behalf of Undertakers. A range of actions would be triggered if remains were not collected at the end of the time allocated."*

The critical issue of the cremation of foetuses and babies and whether or not remains were recovered and returned to parents does not seem to have been discussed at all until after the revelations in the media about Mortonhall Crematorium in Edinburgh became public in December 2012. As Alastair Brown, Head of Service since 2012 explained,

> *"My experience is that people tend to deal with things when there's a problem. It's almost like we wait until there is a crisis and then we deal with it and this might be a good example…Bereavement Services operated within local authorities. They were working okay. They didn't seem to be causing any problems and therefore people just let them continue to work in the same way."*

9.3 POLICY, GUIDANCE AND TRAINING

Witnesses interviewed for the Investigation were able to speak to working practices at Daldowie and Linn going back to the mid 1990s. Therefore, this Report focuses on practices from that time to the present day and cannot comment on working practices employed at Daldowie and Linn before the 1990s. One of the cases referred to the Investigation dates back to 1988 and we were unable to speak to individuals who can tell us about to this period from an operations perspective.

Prior to changes introduced following publication of the Mortonhall Investigation Report in April 2014, Glasgow City Council relied upon the FBCA for guidance on what constituted cremated remains and therefore should be returned to families after the cremation process is complete. Alastair Brown, Head of Service since 2012, explained that accordingly only, '*skeletal remains*' or '*calcified bones*' and *'not any residue from the coffin or anything else*' would be returned. Any residual ashes considered not to contain skeletal remains, referred to in these crematoria as 'fly ash' or 'residue' was interred at Daldowie or scattered at Linn.

The Investigation was informed by Cremator Operators at both Daldowie and Linn that prior to the publication of the Mortonhall Investigation Report they were never issued with written procedures other than the manufacturers' manuals for the cremating equipment. John Wright, the Supervisor at Linn told the Investigation there were,

> *"No particular written guidelines or instructions in relation to any functioning of the crematorium."*

Stevie Scott, who was appointed Head of Parks in 2009, told the Investigation that based on the use of a typed sheet with checks in the form of tick boxes known as the 'Instructions to Cremate' cremation card, "*I would be confident that there was a procedure*". Nigel Kerr was also of the view that the absence of written guidance was not a problem, telling the Investigation that,

> *"whilst there might not have been any written procedures there was the Federation of Burial and Cremation Authorities guideline which they* [the Cremator Operators] *followed to the letter."*

Although the FBCA training materials that Operators follow in order to become qualified have, since 2004, referred specifically to 'Cremations of infants or of foetal remains', no Operator that spoke to the Investigation recalled it being mentioned during their in-house training[29].

[29] Section 5.3, Training, explains the training undertaken by Cremator Operators in more detail.

During the period with which this Investigation is concerned the longest serving member of Glasgow City Council's Bereavement Services management was Lucille Furie. She joined Cemeteries and Crematoria (later re-named Bereavement Services) in 1985 as the Office Supervisor and was promoted to Cemeteries and Crematoria Officer in 1997, later becoming Bereavement Services Manager, a post she held until she left Glasgow City Council in December 2012. She was subsequently appointed Manager at Glasgow Crematorium (Maryhill), referred to elsewhere in this Report.

The senior managers who spoke to the Investigation placed significant reliance upon Lucille Furie. According to Kenneth Boyle, Head of Parks (2004-2009), her position in Glasgow City Council meant,

> *"She had control of supervisory and administration staff, as well as staff at the crematoria and some burial grounds."*

The Group Manager for Public Health and Bereavement Services, Nigel Kerr, recalled holding a series of meetings with Lucille Furie and her team following his appointment in November 2012 until she left on 18 December 2012, with the aim of learning as much as possible before her expertise was lost to the Council.

Kenneth Boyle's successor, Stevie Scott, recalled that Lucille Furie represented Glasgow City Council on the 15 February 2011 at a meeting of the Scottish Parliament concerning disposal of non-viable foetal remains. He expressed the view that,

> *"Anything on the cremation of babies, how you would cremate a baby or any training or any knowledge about that, I would have expected to come from Lucille."*

According to Stevie Scott, Lucille Furie, as Bereavement Services Manager, had "*direct responsibility*" for the Supervisors from both Daldowie and Linn, although this was disputed by Lucille Furie herself who told the Investigation that the crematoria operational staff only reported directly to her until 1997, when a restructure resulted in their reporting to an Operations Manager.

Lucille Furie also disputed Stevie Scott's contention that she was an "*expert*" in her field. She explained,

> *"I've been involved in this since 1985. I've got a good oversight. I'm the Federation Secretary for Scotland and the longest standing chair for the ICCM, but that does not make me an expert."*

Asked about the level of involvement exercised by senior management, Alexander Stewart, the Bereavement Services Operations Manager (2006 - 2010) who reported to Lucille Furie, told the Investigation,

> *"As to seeing senior management around the crematoria, to be honest above Lucille, no. They wouldn't come in to visit unless there was a serious problem. Lucille was more or less it in terms of senior management."*

Despite his job title suggesting that he managed operations, and in particular cremations, Alexander Stewart's evidence was that his role bore little relation to the practicalities of cremating and more to managing the Operators carrying out the cremations. It might be expected that such a role would require knowledge of the tasks being carried out by staff, particularly since risk management was also included in his responsibilities. He told the Investigation,

> *"I didn't participate in any Federation matters… I was more operations, I was the eyes and ears outside. Lucille would have dealt with that sort of stuff… I wasn't certified and I've never done any cremations. I ended up dealing with the sickness levels, absence levels, risk assessments. My remit was that anything above that, the problem would have been Lucille's. She was the senior manager."*

Crematorium Supervisors are responsible for the day to day running of the crematoria, overseen by the Operations Manager. John Wright (the Supervisor at Linn) described being responsible for,

> *"the process here at this crematorium, from the families arriving at the door until they take their ashes away."*

The Supervisors are also responsible for managing the Cremator Operators, who are known as Bereavement and Environmental Technicians at Daldowie and Linn. For consistency these staff are referred to as Cremator Operators throughout this Report. In 2015, according to information provided to the

Investigation by Glasgow City Council, there were four Cremator Operators at Daldowie and three at Linn.

All of the Daldowie and Linn Cremator Operators interviewed by the Investigation referred to their training as being "*in house*" and "*on the job*". In order to qualify they had each undertaken the FBCA training programme, requiring them to keep a record of fifty cremations and to be assessed at work by a Federation representative. In all cases these assessments related to the cremation of adults and not infants. The Cremator Operators told the Investigation that once qualified they received no further training, including refresher training, and no personal appraisals to ensure they followed best practice.

When it came to the cremation of foetuses and babies, Cremator Operators learned from their more experienced peers or Supervisor rather than from formal training. Notions of policy and practice were derived by word of mouth. One of the Daldowie Cremator Operators recalled being trained by his Supervisor to use the baby tray when it was introduced in 2014.

Cremator Operators applied the Federation's definition of cremated remains being only 'skeletal remains' by sifting through what was left after the cremation process in order to establish the existence, or otherwise, of bones. This was confirmed by Christopher O'Neill, the Supervisor at Daldowie (and formerly a Cremator Operator at Linn). He described "*looking to see if there's any kind of bone fragments*" in what was left after non-viable foetus cremations. Commenting from personal experience, he told the Investigation, "*I've cremated NVFs and never found any bone fragments*".

There was a range of opinion among the Glasgow Cremator Operators interviewed by the Investigation about what remained after cremation. One Operator who has worked at Daldowie and Linn told the Investigation,

> *"Usually if it's an NVF there wouldn't be any ashes, there wouldn't be anything left at all."*

Another Cremator Operator who has cremated at Daldowie since the 1990s said that prior to the publication of the Mortonhall Investigation Report, and the resultant changes, his practice with non-viable foetuses was to,

> *"rake it down as usual and then once the ash cool was done I'd checked the ash-cool can and physically check it to see if there were any remains there or not. At that point I would hardly ever get remains from an NVF. That's because the remains you get back are bones and NVFs generally speaking don't have bones. After the cremation of NVFs I would always get the ash from the coffin."*

The same Operator described what used to happen when he could not detect bones,

> *"If I'd found no bones or saw no bones I've cremulated what was there and just scatter them if there were no remains. If there was something, even if it was coffin ash, it got cremulated. If there were bones I'd cremulate the bones and separately cremulate the coffin ash… When I got coffin ash it was just dispersed. I wouldn't have thought the families got a chance to get back that coffin ash."*

Another Cremator Operator, with considerable experience of cremating at Linn, Daldowie and Maryhill told the Investigation that his in-house training,

> *"didn't involve the distinction between remains and ashes."*

In his view this was a significant gap. Commenting on how the situation might be improved the same Cremator Operator suggested,

> *"There was no uniform opinion so maybe that's needed… not leaving it open to interpretation."*

This comment tends to suggest that at the time of the interview this Operator had not been briefed on the recommendation already made in the Mortonhall Investigation Report and also included in the Infant Cremation Commission Report[30] that specified that 'ashes' should be defined as,

[30] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commision Report can be found here: http://www.gov.scot/Publications/2014/06/8342

> *"all that is left in the cremator at the end of the cremation process and following the removal of any metal."*

Describing non-viable foetus cremations carried out on the hearth without a tray, the same Operator revealed,

> *"There is something to be found every time you pull that door up, even with an NVF. I'm not saying bones, I'm saying 'something'. At Daldowie I always got remains, same as at Linn. So I was always able to put something in a container to be taken away or to be scattered."*

Overall, however, the received wisdom at Daldowie and Linn was that there would be nothing recovered after cremation of a non-viable foetus. This conflicts with the evidence of Dr Julie Roberts, Forensic Anthropologist and expert witness to this and the earlier Mortonhall Investigation. Dr Roberts identified that skeletal elements are recognisable "*from as early as seventeen weeks' gestation*". Despite this being part of the Mortonhall Investigation Report this information does not appear to have been communicated by management to Cremator Operators in Glasgow or elsewhere.

The belief that there would be no ashes from a non-viable foetus was shared by Glasgow City Council's administrative staff, responsible for the crematoria's paperwork. The Administrative Officer told the Investigation,

> *"We were always told by Lucille [Furie], an NVF had no remains."*

A Clerical Assistant confirmed having been given the same information,

> *"With NVFs …as far as I was aware there wouldn't be any remains left after the cremation took place."*

The Cremator Operators and their Supervisors were asked by the Investigation whether they had ever cremated more than one body at a time in the cremators at Daldowie or Linn. One of the Daldowie Cremator Operators, with experience going back to 1997, replied,

> *"When I've cremated NVFs it has only ever been one at a time, except one occasion when it was twins in a box. I don't open the boxes so I only know what's in the box from what they tell me."*

All Daldowie and Linn staff maintained they had only ever carried out individual cremations. Although it would have been lawful to dispose of non-viable foetuses through shared cremation with other non-viable foetuses, this did not take place at Linn or Daldowie and there was no contract with the NHS for disposal of non-viable foetuses. Nor, the Investigation heard, had a non-viable foetus or baby ever been cremated with an unrelated adult.

9.4 CREMATION PROCESS AND EQUIPMENT

The Investigation explored the impact of working practices on the services delivered particularly in relation to the equipment, including the use of baby trays, and the policies applied.

Most of the cremations that take place at Daldowie and Linn crematoria are of adults and many of the features of an adult cremation are replicated during the course of a baby cremation[31].

i Cremators

At the time of the Investigation both Daldowie and Linn Crematoria were equipped with Facultatieve Technologies gas-fired cremators. At Daldowie three 300/2 cremators were installed in 1995 and a further two in 1997.

A software reporting upgrade was implemented in April 2013 and included for the first time 'infant mode'. Facultatieve described infant mode as,

> *"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years'.*

At Linn a 300 cremator was installed in 1989 followed by three 300/2 models in 1992, 1993 and 1997. An upgrade to the 300 machines in the early 1990s related to the secondary chamber. As at Daldowie the upgrade was implemented in April 2013 and included infant mode. There is a difference

[31] Section 5.12, Cremation Equipment, explains the difference between different types of cremator and section 5.14, Cremation Process explains how each type is used.

between the Daldowie cremators and those at Linn. At Linn the hearth is '*smooth and level*' while at Daldowie the cremators have a lip which is about five inches deep and, '*lets flame get underneath'*.

The cremators were primarily designed for adult cremations with the coffin charged (inserted) at one end through a large door. At Linn an automatic charging (coffin insertion) facility is available to transfer the coffin from the trolley and position it in the cremator. Coffins at Daldowie require manual charging and positioning in the cremator.

After the cremation the Operator places a rake through a much smaller door at the opposite end of the machine, where there is a spy-hole through which the Operator can observe the progress of the cremation. The ashes are raked into an ashes cooling pan underneath this rear door.

According to John Wright, Supervisor at Linn, the machines are '*very much automated*' with Operators having only limited discretion with regard to how they operate the cremator.

However David MacColl, Assistant Manager for Bereavement Services and Public Health, expressed the view that Operators have a wide discretion for manual intervention. He suggested,

> *"If an Operator using the machine correctly can control the air, can control the cremator, they can manage the cremation to ensure that the disturbance, and the issues that cause that scattering of remains inside the cremator, is controlled."*

Furthermore, information from the cremator manufacturer anticipated manual override of the system by experienced Operators. According to a report provided by Facultatieve Technologies Ltd to the Investigation,

> *"time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary*

> *care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

Such manual intervention was found to be very successful over many years at Seafield and Warriston crematoria where it was described to the Mortonhall Investigation.

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[32] explained in his evidence why manual intervention in the cremation process is beneficial saying,

> *"the usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

The Investigation was told by Managers and Cremator Operators that by 2015 the cremators at Daldowie and Linn were long overdue an update. Only two out of the four Linn cremators were in operation, and only three out of six at Daldowie. Stevie Scott told the Investigation he had been concerned at the age and condition of the cremators when he became Head of Parks back in 2009. How long this situation had existed is unclear. However, a Cremator Operator employed at Linn between 2004 and 2011 confirmed that all the Linn cremators were fully functional during his time there.

On a site visit in January 2016 the Investigation was shown that the installation of new machines at both Daldowie and Linn was well underway, with some of the new equipment already operational.

Nigel Kerr, Group Manager for Public Health and Bereavement Services 2013 – 2015, told the Investigation that the new cremators would be far more efficient

[32] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

than the old models and would improve the retention of ashes. While there is evidence from other crematoria that infants' ashes could be obtained without using a baby tray, David MacColl was of the view that this was partly explained by some crematoria, including South Lanarkshire where he worked previously, having better equipment.

> *"I can qualify some of Glasgow's position by saying that the cremators at South Lanarkshire were brand new FT3 cremators which were single enders which carry out the process. Because you've only got one aperture, which is a bigger aperture, you're not raking it from a small space, you have full door space and you can open the door properly. They're better."*

There are however examples of several crematoria in this Report returning ashes to next of kin for many decades both with and without baby trays and using older cremator equipment.

ii Baby Trays[33]

A baby's small coffin, or box containing a non-viable foetus, may be placed on a steel tray inside the cremator to better contain any ashes and prevent them being lost by being dispersed throughout the cremator by the force of the air jets.

The Report of the Infant Cremation Commission (June 2014) recommended that,

> *''The Cremation Authorities which have rejected the use of trays for baby cremations on health and safety grounds should urgently consider, in light of the experience of others, the introduction of a local protocol to allow trays to be used in a way that will expose no one to undue risk."*

The Investigation was interested in whether baby trays had been used for infant cremation at Daldowie and Linn crematoria. Lucille Furie, the Glasgow City Council Bereavement Services Manager until December 2012, informed the Investigation that she introduced baby trays to Glasgow City Council crematoria in 1997/98. She recalled that the successful retention of ashes which resulted

[33] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

from use of trays led to the introduction of special containers suitable for holding baby ashes. Lucille Furie was aware that at some stage the baby trays were withdrawn,

> *"probably not much after that, by the Operations Manager as he felt it was a health and safety risk. I don't know whether it was several months later or longer than that when I became aware that the tray had been withdrawn. I think it came filtering back through to me that it was removed on health and safety grounds, that although the tray had been made available, they didn't feel that there was a sufficient risk assessment and work practice and ethics for it."*

The Investigation accepts that the use of a baby tray is not without risk if it is removed through the large charging door while the cremator is still at a high temperature. Facultatieve Technologies have however been making trays for this purpose since the 1960s. The need for extreme care to minimise the risk to Cremator Operators of being burned, was accepted by Facultatieve in their operation and maintenance manual. This explained,

> *"Before withdrawal of the tray the cremator should be allowed to cool sufficiently to prevent the possibility of injury to the Operator, and it may be best to leave the cremated remains in the cremator until the following morning."*

Dr Clive Chamberlain, referred to above[34] identified the risks of using a tray. Describing the removal of the tray from the cremator at the end of the cremation he explained,

> *"If this has to be done with the cremator at working temperature… this is more difficult and more risky than the usual raking operation into the 'ashing chamber' of the cremator."*

The Investigation has not been provided with any Health and Safety or other records or reports relating to the use of the tray prior to the publication of the Mortonhall Investigation Report. Nor have any more definite dates during which the tray was in use been made available. Furthermore the Investigation was not

[34] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

told of any steps being taken by either the crematorium, or the professional associations, to find out how use of the tray could be made safer.

The use of a tray in Daldowie and Linn before the publication of the Mortonhall Investigation Report was not something of which all senior management was aware. Kenneth Boyle, Head of Parks 2004 - 2009, told the Investigation,

> *"I was not aware of an infant tray at Daldowie which was said to have buckled and been removed from service for a period…. I can say with 100% certainty I was not aware of this happening…. If there was talk about having an infant tray it would, should, have come to me to sign off at some point I'm sure. I would hate to think that such a change was, or could, have been made without management knowledge…"*

Nigel Kerr, Group Manager responsible for Bereavement Services from October 2012 to 2015 had heard about the tray and told the Investigation,

> *"I was aware of the historical discussions before my time. I believe that due to heat and it was stainless steel it did buckle. It was difficult to remove safely. I think that was one of the main reasons that it wasn't used."*

A Cremator Operator with experience of cremating at Daldowie and Linn referred to the use of a tray pre-2009, but commented it was "*dangerous*."

A Cremator Operator at Daldowie between 2007-2011 recalled,

> *"I'm sure there was a tray at Daldowie but I don't remember using it or it was warped, and I don't think it was ever replaced, certainly not when I was there."*

According to Christopher O'Neill, the Supervisor at Daldowie, who worked as a Cremator Operator at Linn between 1997 and 2011, a tray was used at Linn,

> *"for a short period … years ago. It was taken away for health and safety reasons… I can't remember anything about ashes or remains being recovered from the tray here."*

However, his colleague who worked at Linn from 2004 to 2011 clearly recalled that a tray,

> *"was there when I started and it continued for the time I was there. I learned to use the tray as part of my training."*

This evidence suggests a baby tray was physically present and available for use during this period.

The inconsistent evidence concerning the use of a baby tray at Daldowie and Linn is difficult to explain. An explanation for the conflicting accounts may simply be that the decision whether or not to use the tray was left to individual Operators. As the same Cremator Operator explained,

> *"The use of the tray stopped probably about a year and a half after I started. During the last five years before I left I didn't use the tray. I never used it at Daldowie… I couldn't say if there was a tray at Daldowie… I stopped using a tray because it was dangerous. It was a personal decision. I just felt as if the tray never helped. Basically it was just a matter for me to say I'm not using this any more and that's it. I would say that the others had stopped as well. The manager did not have a say in it… when we stopped using it the supervisor, John Wright, asked why we weren't using the tray. I said to him I think it's dangerous. He didn't say anything. Whether there was a conversation with the other cremation technicians I can't honestly say. We just stopped using it. I found it useless to tell you the truth."*

John Wright has no recollection of such a conversation.

A Cremator Operator with experience of working at Daldowie and Linn since about 2003 was critical of the quality of the baby trays provided by Glasgow City Council. They did not compare favourably with those he had used since moving to Maryhill in 2014.

> *"Going back to my time at Daldowie … there wasn't always a tray available… the reason why a tray might not be available was because the trays from the Council warped quite badly and so I think health and safety put a stop to them. There was not replacements brought in…The norm [at Daldowie and Linn], was there were trays in the building and they would be used up to the point where they would be unsafe. That was during my time, and I would say going back to when I first moved into the Linn [2002/2003] that the tray was already in the building, so that was the practice. That practice stopped through health and safety or through the fact that they warped and they weren't replaced…They didn't try different types of trays at Daldowie and Linn. It was kind of left."*

The same Cremator Operator recalled his use of trays at Linn. He told the Investigation,

> *"Back when I was at the Linn, when the tray was in operation, I cremated babies and stillbirths in the tray but I don't really think the tray was used all that much. It might have been a year and then you were back to manually entering the babies… At the Linn we manually put the trays in, I don't think we used the automatic charger. I don't think the trays were that bad, warped wise, but as soon as something tried to push it in it would spin because it was wobbly."*

On the reintroduction of the baby tray the same Cremator Operator told the Investigation,

> *"The tray came back into use when I was at Daldowie roughly the same time Mortonhall was in the newspapers…The trays they introduced were slightly different from the old ones, a bit heavier but basically the same."*

Following the publication of the Mortonhall Investigation Report trays were re-introduced in both of the Glasgow City Council crematoria in October 2014. Christopher O'Neill, the Supervisor at Daldowie since 2011 told the Investigation that there had been difficulties with the trays, leading to a need to test different types. He was however able to comment on current usage and confirmed,

> *"At Daldowie we now use the tray at all times for NVFs and babies as long as the size can fit into the actual tray. Families just want to get something. We're told to brush everything in and cremulate it and it's disposed of in accordance with whatever the instructions might be."*

David MacColl the Bereavement Services Manager with extensive experience of cremating outside Glasgow told the Investigation,

> *"I had a process in South Lanarkshire where we would do the cremation last thing at night … and then the remains are taken out and left on a trolley overnight and nobody would be on the premises because these trays would pop and crack and, nothing to do with remains, but because of the steel used."*

On a site visit in January 2016 the Investigation was shown the new trolley purchased by Glasgow City Council for use with trays. David MacColl explained that the trolley was designed to operate in conjunction with the new cremators in order to reduce the risk of harm to Operators charging the tray, and to provide a safe place for the tray to cool after its removal from the cremator.

iii Dispersal of Ashes

As explained in the Mortonhall Investigation Report there is overwhelming evidence that foetal bones do survive cremation, at least from seventeen weeks' gestation. Yet, as the Mortonhall Investigation Report also identified, a belief that non-viable foetuses did not have bones sufficiently developed and calcified to survive cremation was prevalent among the Scottish Government, the NHS, the FBCA, Funeral Directors' Associations and crematoria staff.

As stated above, Glasgow City Council adhered to FBCA guidance whereby only those ashes that contained skeletal remains were considered cremated remains. Based on this understanding only those remains that contained identifiable skeletal remains were returned by the Council to families following cremation.

The Supervisor at Linn, John Wright, explained the process that Cremator Operators followed. He said that when cremating non-viable foetuses, before the introduction of infant mode,

> *"the boys were trained to reduce the airs to as small as possible and after the cremation was finished they would rake out and look for cremated remains… It would be bones we were looking for. Now and again we found what we would distinguish as bones and if there were any bones then they would have been cremulated and it would just have been given back to the family… The rest of the residue would be brick ash and metals from the coffin which we would still bury in the cemetery. If there's nothing left then that would be 'no remains' and I would fill in the Register that there were no remains in that cremation."*

In her evidence to the Investigation Lucille Furie, who had started as the Office Supervisor with Glasgow City Council in 1985 and rose to the position of Bereavement Services Manager, was adamant that she had been willing to return to parents whatever was left following cremation. She explained,

> *"My understanding in the early days was there would be no resulting ashes from babies potentially up to a year."*

She reported that she had,

"felt it was actually important, that if there was ash material there it could be recovered if the family were asking for it… I felt it was important to try to recover what they [Cremator Operators] could."

Lucille Furie emphasised to the Investigation that the absence of bone did not prevent families in Glasgow receiving ashes, explaining,

"If anything was recovered then I made it clear at the point in time, I don't care whether it's fly ash, brick ash, coffin ash, if the families want something then we should make every effort to try to recover something. I know that previous Federation standards wanted a distinction between bone ash and obviously other material that could be collected. Some people stuck specifically to Federation standards and that was absolutely fine, that's what their training entailed."

Lucille Furie explained to the Investigation that the environment in which crematoria operate today is very different from when she joined the industry.

"Going back to the late 1980s and early 1990s we were participating in something that wasn't regulated. We had asked for regulation. It wasn't forthcoming and we also took the advice from a Chief Medical Officer to give us a determination on the availability of ash post cremation. Not forensic scientists and so forth, we didn't have access to that back in the 1980s and 1990s. And up until that time infant remains were being consigned to hospital incinerators, so anything that we did had to be better than simply consigning an infant in a hospital incinerator."

Lucille Furie disapproved of Cremator Operators physically handling babies' ashes searching for bones. She explained,

"At that point they didn't know that there may well be bones in there because they couldn't recognise them and I'd have been horrified if I'd seen any of the staff sifting by hand to try and recover infant remains. We're not supposed to violate the body and that to me is just ridiculous. It's whatever's in the container would be transferred over for the compaction element."

Lucille Furie also made it clear that she made a "*distinction*" between those families requesting remains and those that did not.

"If they weren't asking then it'd make a different scenario."

The Investigation took this to mean that only those families who specifically requested remains would receive any. Those parents who had been informed, usually by Funeral Directors or NHS staff that there would be no ashes and

therefore on that basis had not given an instruction to retain them, would not have the ashes returned to them because of the absence of the necessary request.

While it is possible that Lucille Furie did not know what NHS staff and Funeral Directors were telling families, the Investigation found that NHS staff and Funeral Directors were telling families in a significant number of cases that there would be no ashes. Through this misinformation, families were deprived of the opportunity to obtain ashes because of the reliance of the crematoria on the instruction information contained on the Form A. The instruction section of the form was often completed by the Funeral Director without the knowledge of the family.

Lucille Furie's introduction of trays for baby cremation in 1997/98 confirms her willingness to return ashes whether or not they contained bone. While she did not expect skeletal remains to result from the cremation of a non-viable foetus she nevertheless expected there might be something to return and therefore introduced baby urns, bags and other containers suitable for storing the small amounts that resulted.

It is clear from the evidence that Lucille Furie's stated position on the return to families of babies' ashes regardless of the presence of bone, was not shared or understood by many of the Cremator Operators and their Supervisors. She recalled instructing staff to,

> *"deal with infants here on an individual basis",* before adding by way of a caveat *"as much as I could instruct staff that don't report to me."*

Lucille Furie denied that she had direct management responsibility for the Cremator Operators and their Supervisors. As mentioned above, she told the Investigation,

> *"From 1997 the crematoria operational staff didn't directly report to me. They reported to their own Operations Manager."*

However, as also reported above, the Operations Manager Alexander Stewart did not consider that his remit included the practicalities of cremating.

The Investigation enquired what happened to ashes in which no bone was identified. Asked about residue that was not thought to contain bones, if there was no instruction to return to the family, Lucille Furie told the Investigation,

> *"What they did was to dispose of that in the Garden of Remembrance. Nothing was thrown out. It would be scattered…"*

The Cremator Operators and their managers were asked to describe the procedure where there was a specific instruction to 'scatter' ashes which they considered contained skeletal remains. One recalled that at Daldowie, before publication of the Mortonhall Investigation Report, scattering usually took place in the grounds of the crematorium on the morning following the cremation. The exception was when the cremation was on a Saturday when it would be done on the following Monday. He explained how the grounds resembled a thistle with tree lines for the bristles at the top. A different tree line was used each week,

> *"so you can actually pinpoint a glade or a tree line for a certain week and you can do that historically, right back to when they started doing that scheme."*

The Investigation also asked what happened to any 'residue' or 'fly ash' that was considered not to meet the FBCA definition of 'skeletal remains'. The Supervisor at Daldowie, Christopher O'Neill remembered in the absence of evidence of bone any non-viable foetus,

> *"residue that was left I put with the containers we put metal joints and things like that in and we interred it in the place for collection of metal pins and hip joints and things."*

This is very similar to the arrangements referred to in the Mortonhall Investigation Report and is a matter of concern.

A Cremator Operator from Daldowie, recalling the practice preceding the publication of the Mortonhall Investigation Report in 2014, told the Investigation,

> *"Ashes are just whatever is left over, and remains are human remains - the bones."*

According to him, in the absence of obvious bones, the procedure was to "*just scatter*" the residue.

On a site visit to Daldowie by the Investigation in January 2016 the relevant area where metals and 'fly ash' were interred was identified by David MacColl as being the edge of Glade 10.

The Investigation enquired about the equivalent practices at Linn. A former Cremator Operator, who worked at Linn from 2002/3 to 2009 told the Investigation that an instruction to 'scatter' would be carried out in,

> *"a particular place, the Garden of Remembrance at the Linn, such that every morning you would go out. Any ashes to be scattered, it was done the next day after the cremation… If somebody said, 'where's my baby's ashes?' You could say pretty much 'there'."*

John Wright, the Supervisor at Linn, told the Investigation that before baby trays were introduced following the publication of the Mortonhall Investigation Report in 2014, in the absence of any identifiable bones, everything left at the end of the baby cremation was buried in the cemetery. When asked to describe where, he said,

> *"I would struggle to pinpoint… it's quite a large area. It's in the crematorium where the cemetery and the crematorium are joined together."*

On a site visit to Linn in January 2016 the Investigation was told by David MacColl that according to his staff the relevant area where metals and 'fly ash' had been interred was in section D4 of the Garden of Remembrance.

In an email to the Investigation David MacColl confirmed that practices at Daldowie and Linn differed. He understood from those who had been there at the time that at Linn metals were interred and 'fly ash' scattered, while at Daldowie metals and 'fly ash' were interred.

Cremator Operators routinely decided whether or not bones were present following a cremation, without any training on the recognition of bones in the early stages of gestation. Given the evidence of the expert witness Dr Julie

Roberts, Forensic Anthropologist, about the presence of bone in cremated remains of foetuses from seventeen weeks' gestation, this is a concern. Furthermore, as the above evidence shows, their accounts of how residue was disposed of are inconsistent, giving rise to continuing uncertainty for families.

'Dispersal' is recorded as the outcome for many of the cases at Daldowie and Linn. Where there is a specific date alongside the word 'dispersal' this refers to a dispersal of what was considered by crematorium staff to be cremated remains. Where however there is no date, records are not reliable enough to know whether that is because the record was not updated or because the ashes were considered 'fly ash' and treated accordingly as described above. For those cases registered with the Investigation and where only the word 'dispersal' appears on the Register of Cremations, the records are not accurate enough to provide any certainty. This is described further below.

9.5 Administration and Record Keeping

It is the role of the Bereavement Service's administrative team to receive and process the necessary forms before a cremation takes place at Daldowie and Linn Crematoria and to complete Form G, the Register of Cremations. Maintaining a Register is a statutory obligation (apart from for non-viable foetuses) involving the recording of the cremation number, date of cremation, date and place of birth, age and gender of the baby, applicant for cremation and disposal method/final resting place. Previously typed manually, the Register of Cremations has been computerised since July 1995.

At the relevant dates of the cases referred to the Investigation there was no legal requirement to keep a record of cremations of non-viable foetuses. However, a non-statutory Register has been kept at Daldowie and Linn since before 1996.

Funeral bookings are made by Funeral Directors, or the hospital, directly with the administrative team. Previously based at offices at 20 Trongate the team moved to an office at Daldowie Crematorium in 2014. It is led by an Administrative Officer who, under a previous structure, reported to the then

Bereavement Services Manager. Since a restructure, she is no longer line managed within Bereavement Services but reports to Customer Business Support.

The administration and booking database is the Gower system, Epilog.

i Findings on Record Keeping by Glasgow City Council

As with Mortonhall the Investigation found Form A, the statutory Application for Cremation, to be the most significant of the cremation paperwork in informing all other records and as the basis for all action taken[35]. However, in many of the cases investigated the form was completed in the name of, and signed by, the next of kin although they explained that they had not in fact completed the form and were unaware of its contents. Many parents could not remember signing any forms. They included a father whose son was stillborn in 1997 who said,

> *"It's my signature at the bottom, to the right of the date. I don't remember signing it. I don't remember being present when any part of it was filled in."*

A mother who had undergone a medical termination of pregnancy in 2004 acknowledged that,

> *"On the day of the [medical] procedure I signed forms regarding her cremation. I do not remember signing them."*

Many parents felt they had not been in a fit state to decide funeral arrangements so soon after the trauma of losing a baby. The mother of a baby who died at one day old in 2006 described the impact of losing a child.

> *"I don't think your cognitive skills are working at that point. I remember when we went to the Registry Office we were asked in hours and minutes how long our son was alive for. Now we're both relatively intelligent people who can count and we sat there for twenty minutes in floods of tears and we could not work out that he was alive for 33 hours and 9 minutes."*

[35] Section 5.9, Forms and Records, explains the different types of forms in use by Scottish crematoria

A couple whose daughter was cremated at Daldowie in 2006 noted that they had both signed Form A, the Application for Cremation, one day after their daughter was stillborn and when the mother was still recovering from a Caesarean Section. The mother recalled,

> *"I was lying in bed at the time. The nurse went through it with us. She wrote in the various bits and pieces in the form. There's no mention in there at all about ashes or what's to happen to them. There was no discussion about that. Page 2 is headed up Particulars to be Supplied by the Funeral Director. None of that page was completed at the hospital by us or by the nurse in our presence."*

The baby's father described his feelings the first time he saw the reverse of the form at a meeting with Glasgow City Council.

> *"When I turned over that piece of paper at the Council Chambers and seen all the detail on the back I was in shock because we had never seen it before. Under Part 5 it says that ashes are to be interred or dispersed in the Garden of Remembrance at the crematorium."*

The couple were also shown the Register of Cremations which revealed that without their knowledge the ashes were dispersed at Daldowie Crematorium the day after the cremation. The father explained,

> *"If we had seen question 5 on the back of Form A and were told we were getting ashes we could have had something. We would have had a chance to deal with it, but the fact is that we never got a chance to deal with it. If we had been given the option we would have wanted the ashes back, of course, even if what had been left was coffin ash. Because you've at least got something whereas now we have nothing and that choice was taken away. You might not be able to get proper ashes from your baby but you'll have some remembrance – something to keep."*

This family has been unable to find out where their daughter's ashes were dispersed. "*They've never told us*." In October 2015, the Investigation was able to inform this family where their daughter's ashes had been scattered.

The Investigation interviewed Evelyn Frame, the Chief Midwife for Glasgow and Clyde since 2013. She was asked how soon a discussion about cremation or burial might take place and whether it sometimes happened before the baby's delivery. She said,

"The subject may be raised before the delivery but it's predominantly because women once they've delivered, and they're fine, they want to go home. The majority of them would have normal deliveries, and pretty quickly actually, and they just wanted to go home as soon as possible. So we were really keen that everything was agreed. I suppose on reflection they didn't get a lot of time to consider… I think probably going forward we should allow them more time. Because you were sitting in with a woman who was in labour so you could be sitting in with them for hours and hours so we did raise it. That's how we were taught to do it."

A Labour Ward Sister, who qualified as a midwife in the early 1980s, told the Investigation,

"you start to talk about these things with a mum before the baby had actually been delivered to try and give them a bit of warning to think about it and maybe even discuss it with other family members."

A couple whose son died in 2001 within a few days of his birth opted to make their own funeral arrangements rather than relying on the hospital. They were critical of the speed with which decisions needed to be made and told the Investigation,

"If we'd had a bit longer we might have had a chance to talk to each other more and work out for ourselves what we wanted to do."

With more time and information they believed they might have decided against cremation. Like others these parents were unaware of the crucial Instructions for Ashes on the back of Form A. They described how the Funeral Director had completed the form,

"upside down to us and turned it round for us to sign. We didn't know there was a second page that deals with the ashes."

The positioning of the instructions for ashes on the back of Form A and the requirement for the section to be signed only by the Funeral Director, and not by the next of kin, was a matter of deep regret to another family whose daughter was stillborn in 2009. They explained,

"As the bereaved your power over the individual to be cremated is removed because you don't get to fill in the second side of the form. There's no requirement for you to sign it."

Having been advised by a woman in the Funeral Directors' office that there were no ashes "*in these cases*", subsequent enquiries revealed that there had been ashes, which were scattered at Linn Crematorium. At a meeting with Glasgow City Council the parents were shown the back of Form A signed by the Funeral Director. 'Disperse' had been entered by option (ii) 'dispersed in garden of remembrance without family attending*'.*

The parents told the Investigation,

> *"We were absolutely devastated because we were told there wouldn't be any ashes and that instruction was not ours."*

Following this revelation,

> ***"****We went along imagining some nice rose garden, something that would be fitting. But she'd been scattered … in this expanse of grass that forms the driveway to the Linn. So, for us to go and visit her is to stand on a patch of grass with cars coming and going."*

In an email the Lead Midwife assured the mother that the instruction to scatter did not come from the hospital. She said,

> *"It was our understanding from the Funeral Directors that no ashes were available with a stillborn baby…No ashes has been in our common domain for all of my practising career which is over 35 years… No midwife wrote on the back of the A form. It was made clear from the Undertakers that if there was no instruction on the back of the form re the ashes then the default was to scatter in the memorial garden."*

Describing her feelings about who was responsible, the mother told the Investigation,

> *"It's the Co-Op that I probably lay the greatest blame with.* [Regional Manager] *has repeatedly said, 'My staff are trained to say there may be ashes, there may not be ashes depending on the heat in the crematoria and the size of the baby', which is fine but their person didn't do this… The Co-Op misrepresenting our directions on the form and their ability to do so led to that situation from our perspective… A phone call at any stage would have essentially prevented it."*

The Investigation spoke to the Funeral Director whose name appeared on the reverse of the Form A in this case. The instruction for the ashes to be dispersed was in his handwriting. He explained that it was his usual practice when

completing an instruction for a family that wanted ashes to write ‘return, if any’. However, in this case although he had collected the baby from the hospital he had not had any contact with the family and had not taken their instructions. When completing the reverse of Form A he relied upon the Co-op’s internal funeral arrangements form, which included the instruction for ashes, that had previously been completed by a colleague who had spoken to the family on the telephone to arrange the date and time of the cremation. The front of Form A had been completed at the hospital.

Examination of this case during this Investigation revealed that the arrangements for cremation involved three separate sections of the Co-op. The Funeral Director who organised the funeral on the phone with the parents and completed the funeral arrangements form was based at one branch. The Funeral Director who relied upon the information already obtained to complete the reverse of Form A was based elsewhere. The family’s only face to face contact had been with a third person at a branch local to them which they visited to hand in the Certificate of Stillbirth. It was there that they recalled asking how they would get the ashes back and being told that there would be none.

The Investigation requested a copy of the funeral arrangements form, but was told it was no longer available. The complexity of the Co-Op’s internal processes and the lack of continuity of service to this family has resulted in the family being deprived of their baby’s ashes and the consequent trauma of learning this so many years later.

This family was not unique in directing blame at the Funeral Director. The parents of a baby who died soon after birth in 2006, told the Investigation they had been informed by the Funeral Director there would be no ashes only to discover by chance that there had been, and they were scattered. The mother told the Investigation,

> *“My issue was with the Undertaker, it’s not particularly with Daldowie. They were faced with a pretty clear instruction which says, ‘dispersal’. There should have been safeguarding in place that somebody could*

have contacted us and said, 'can we just make sure?' but obviously with a very clear instruction that's why it was done the day after the funeral."

The Investigation contacted the Funeral Director in this case. Asked about his expectation of infants' ashes being recovered at Daldowie, he informed the Investigation in a written response that it was the crematorium staff who dictated whether there were ashes or not. In the 2006 case he said he would have explained that Daldowie Crematorium would not guarantee that there would be any ashes because of the gestation of the baby.

More generally, details from the Form A were used to populate the daily running order (a list of all the day's cremations) and on to the individual detail card, which is an A4 sheet that accompanies each individual cremation throughout the cremation process. It is headed 'Instructions to Cremate' and is called a 'details card' or a 'cremation card' in Glasgow.

Glasgow City Council administrative staff are trained to double check every form to ensure there are no errors, especially in relation to spelling of names and other personal details. Despite this the Investigation found several examples of names being spelt incorrectly, which added to the distress of families examining the paperwork in the course of the Investigation.

It is clearly essential that the Instructions for Ashes are passed to the crematorium by the administrative team so they can be carried out. The Investigation asked what would happen if this particular section on the Form A was incomplete. The Glasgow Bereavement Services Administrative Officer explained that if the disposal section was blank they would phone the Funeral Director and request that the instruction be faxed over.

Inspection of the official Register of Cremation entries revealed, as at Mortonhall, that the outcomes of cremations had been entered on the Register prior to the cremations taking place, meaning that the Register commonly consisted of a predicted outcome rather than a record of the outcome. In other words, it is not a record at all. The situation is further confused by the inclusion in the same column of the Daldowie Register of the date of registration of death.

In one example from 2003 involving a stillborn baby the Register entry ‘taken away’ included a date twelve days before the cremation took place. During this Investigation, when families saw the words ‘dispersal’ or ‘taken away’ in the same column as a date which precedes the date of cremation it has caused them great confusion and concern. The Investigation has provided families with a detailed explanation for this, as it relates to their baby, in individual reports.

Glasgow City Council staff explained that when they input the Form A details onto the computer system, the Register of Cremations is automatically populated with those details and the Form A ashes instruction becomes the recorded outcome.

Following the cremation process, and after the ashes have been disposed of, the system described to the Investigation was that the individual detail card is returned to the administrative team from the crematorium, with the actual disposal method recorded on it by the crematorium staff, confirmed with a signature. The administrative team then have the opportunity to update the database using the information on the detail card. The Investigation heard that while it had been routine for register entries to be checked weekly by a member of the administrative team, this process was stopped due to financial pressures. In any event the purpose of the check was said mainly to be aimed at identifying and correcting typing errors rather than to ensuring that the ashes disposal column was correct.

The Investigation learned that no-one checked that all the detail cards are returned to the office, nor that the predicted outcome relating to the ashes disposal on the Register of Cremation matches the actual outcome. This means the Registers for Daldowie and Linn are a wholly unreliable record in relation to the cremation of babies.

This is illustrated in the case of a stillborn baby from 2009. The words ‘Infant return to CWS [Funeral Directors]’ had been added to Section 5, the Instruction for Ashes on Form A. This was apparently interpreted as a request for any ashes to be returned to the Funeral Directors and was summarised as ‘taken

away' on the computer booking system. This in turn populated the Form G – Register of Cremations – with the identical entry. The Investigation was able to inspect the baby's Cremation Card from Daldowie on which the entry 'taken away' had been scored out and replaced with the handwritten entry 'no remains'. No corresponding amendment to the Register of Cremations was made, meaning the record did not reflect the actual outcome. This would infer either the detail card in this case was not returned to the administrative staff or that it was returned but the disposal outcome was not corrected by them.

Nor was this an isolated example. In an earlier case from 2005 'Taken away' was entered on the Daldowie Register of Cremations, suggesting that there had been ashes and they had been collected from the crematorium. However, on the baby's Cremation Card the printed instruction 'Taken away' was scored out and replaced with a handwritten 'no remains' and the date. This correction had also not been made to the Register.

In a case from 2003 'Taken away' was entered on the Daldowie Register of Cremations, suggesting that there had been ashes and they had been collected from the crematorium. However, no Cremation Card was made available to the Investigation so unlike the two cases mentioned above the Investigation was not initially able to rule out that there had in fact been ashes collected from this baby. The parents had already told the Investigation that they did not have the ashes and that the crematorium had warned them that there may not be ashes. However, in this case the Investigation subsequently discovered that the ashes were still with the Funeral Director, Jonathan Harvey Ltd. The Investigation informed the family in this case and arranged for the ashes to be returned to them the same day.

The Investigation asked both the Funeral Director and NHS Greater Glasgow & Clyde for an explanation. Evelyn Frame, the current Chief Midwife for Greater Glasgow & Clyde, informed the Investigation that at the relevant time the contractual arrangement with the Funeral Director meant that all communication with bereaved families would go through the hospital. The Funeral Director would have no direct contact with the family. Neither the NHS nor Jonathan

Harvey Ltd were able to provide the Investigation with documentary evidence to explain the chain of events that resulted in this wholly unacceptable and, for the parents, deeply distressing situation.

Due to the absence of such documentary evidence, it is not possible to identify precisely how this situation arose, but it is clear that this family was badly let down by a lack of communication between the agencies entrusted with the sensitive handling of their baby. In particular, it can only be assumed that there was no follow up by either the NHS or the Funeral Director to ensure the satisfactory completion of this important task which should have been carried out with professionalism and in a manner that provided the family with support in such difficult circumstances.

As a result of this case, and very shortly before publication of this Report, this Investigation asked Jonathan Harvey Ltd to check their storage facility for any other baby ashes being held on their premises. The Funeral Director has reported eleven sets of ashes of babies who are not part of this Investigation, dating as far back as 1999, still being held on their premises. These cremations were similarly organised by hospitals. The Investigation has referred these cases to the Inspector of Crematoria for further investigation.

As the Register for Cremations was completed in advance, entries in a number of cases referred to the Investigation were found to be wholly inaccurate and misleading.

Prior to the publication of the Mortonhall Investigation Report in 2014 Glasgow City Council record-keeping and administrative staff accepted the entry ‘no remains’ on the Form A in the instructions for ashes section. This meant that the Register was populated with the same entry before the cremation had even taken place. This practice was criticised by Cremator Operators. As one explained to the Investigation,

> *“whether there are remains was a grey area because how does somebody in an office or the person in charge know that there would be no remains?”*

Following the Mortonhall Investigation Report, the entry ‘no remains’ is no longer available as a disposal option at Daldowie and Linn Crematoria.

The Investigation found that, unlike Mortonhall, there was no systematic change of recording of disposal outcomes with the introduction of an electronic Register rather than a manual system. At Daldowie Crematorium in the 1980s the Registers suggest that ashes were obtained more often than not with entries in the Register most likely to be ‘dispersed in garden’ with a date of dispersal also recorded. This started to change in the 1990s with ‘no remains’ featuring in both the manual Register and the computerised Register.

At Linn, entries in the manual Register varied between ‘no ashes’, ‘no remains’ and ‘dispersed in the garden’ in the 1990s.

9.6 COMMUNICATION

Many parents who provided evidence to the Investigation described the misleading information that they received from hospital staff and Funeral Directors about the availability of ashes. For many the impact of misleading information was devastating. The following is an example provided by a family whose baby was stillborn in 2001. They were told by a member of staff at the Funeral Directors that,

> *“With a baby’s cremation there won’t be any ashes because the bones are so soft the cremation process would basically just obliterate anything that was there.”*

Yet in relation to the same baby the instructions for disposal of the ashes on a hospital form assumes there will be ashes and states, ‘please dispose of as Undertaker sees fit’, a request about which the parents were not consulted. In the official Register of Cremations ‘dispersal’ is recorded as the final method of disposal and an email from Glasgow City Council to the family explains the ashes were strewn in the crematorium grounds after being held for one month at Daldowie.

Responding to this the baby’s father told the Investigation,

"That really, really upset me just knowing that unceremoniously his remains were dumped up there… I dare say they will say it was quite dignified … but I'm not going to take their word for it, after all we have been lied to once telling me there would be no remains. If they tell me it was dignified, no, once bitten twice shy."

The same baby's mother expressed her frustration at the difficulty in identifying who exactly was responsible for the misleading and inaccurate information.

"It just seems to be that if you asked the Undertakers they seemed to say they were getting it from the hospital, the hospital were saying they were getting it from the crematoria, the crematoria were saying, 'Oh it was the hospital' so it's a vicious circle and nobody will put their hands up."

Families enduring the loss of a baby have no option but to put their trust in those they perceive as professionals, in particular the Funeral Directors. This is hardly surprising given the pressures to which families are subject, and their vulnerability at such a difficult time. In one such case the family of a twin who died a day after birth at twenty-six weeks' gestation in 2011 told the Investigation that they were informed by an employee of the Funeral Directors that there would be almost certainly nothing of their son following the cremation. They said she told them,

"even if there was something, they couldn't guarantee it would be him. The proposal was put to us that if there was anything left it would be scattered in the garden of remembrance. You trust these people as the experts. We were not in a position to query it. So it was agreed if there was anything left it would be scattered."

In this case the Register of Cremation disposal section says,

"dispersal if any, family do not wish to have them."

The Investigation interviewed the Funeral Director who met the family and signed the Form A in this case. She said,

"That conversation definitely does not sound familiar to me. I would never ever say to a family that the ashes they would get would not be their loved one because we've witnessed through the training in a cremation and I can guarantee that any ashes that a family do get back are their beloved member of their family."

In relation to the part about there almost certainly being nothing of the baby following the cremation the Funeral Director said,

> *"I would just say normally there might not be because the baby's so small but I would ask if there was any, would they like them returned."*

It is not possible to reconcile the very different accounts provided by the parents and the Funeral Director in this case. Although the meeting took place several years ago, it was clearly a very dramatic event in the lives of the parents. The same cannot be said for the Funeral Director who was asked by the Investigation to recollect one of many cases some five years later. Accordingly, the very explicit and detailed recollection given by the parents is more likely to be reliable after this passage of time.

Andrew Brown, the Regional Manager of Co-op Funeral Care, explained,

> *"It's never been our position that we would categorically tell a family that there will be no ashes. Looking back… there was always a bit of uncertainty about the possibility of ashes following the cremation of a NVF or a baby… there were some crematoria where we more frequently had the ashes returned, and others where there were occasions where we were told literally that there are no cremated remains."*

Comparing the availability of ashes at Daldowie and Linn with other crematoria he said it was,

> *"a bit more hit and miss - with Daldowie probably …the least likely for us to get ashes returned."*

Gerard Boyle, the Regional Manager for Dignity Funerals Ltd in Scotland, had a similar view.

> *"We wouldn't speak to the Cremator Operators as a matter of course. Our dealings were with the staff who took bookings. So where they* [the staff] *got their information, or whether that was what they were told to say, I'm not sure… I don't think we ever questioned that information."*

Referring to Glasgow City Council, he recalled,

> *"Daldowie and Linn it was almost a matter of course* [to be told] *'remember there won't be any ashes' and that was the information that we passed on to the family… I do remember them saying if it was a*

particularly young child, 'Oh the bones wouldn't have formed properly' and the bones would have been more cartilaginous tissue so that there wouldn't be anything."

The father of a son who died at one day old in 2006 described the pressure he was under at the time. As well as trying to support his wife and look after their other child,

"You've got these people coming in and out the house, you've got folk phoning you and you're thinking, 'Right, I need to get down the Undertakers.' You needed to get it done. It wasn't, 'I wonder how this goes, I wonder what I do'. It's just, 'I need to get this done, I'll go down and do it'. The Undertaker's the person who deals with all that, he tells you what to do. You sign something and off you go."

He thought it highly probable he would have signed forms without reading them. Explaining that the Funeral Directors were a local firm that their family had used in the past, his wife told the Investigation,

"That's why we chose them. I wish we were stronger to ask more questions. I wish we had got more involved. I wish all these things but at the time we didn't, we trusted the professionals."

An issue that the Glasgow City Council Public Health Manager Nigel Kerr identified soon after his appointment in 2012 was the lack of any meaningful communication between the crematoria, NHS maternity staff, the Funeral Directors and families. The role of the crematoria was simply to,

"get all the paperwork from them and follow instructions."

A Funeral Director who had started in 1999 told the Investigation,

"Earlier in my career we were always told by the manager at the time there was no ashes for a baby under the age of two."

On later developments she said,

"We were never told officially from management that that policy changed over the years, but speaking to other crematorium staff about ashes, they would maybe say that they could get a small amount. That's why you started putting down on your form 'if any please return to family' and always explained to the family that they may not get any. So that's what we always do."

The Investigation interviewed a Funeral Director who was involved in the case involving a family whose baby died in 2001. She recounted the advice she gave,

> *"I explained that there wasn't any ashes for a baby that was four days old. The lady had asked why that was and I had said the bones are too soft in a wee baby and that was the end of the conversation really. That was my understanding, that there weren't ashes for babies. The cut-off point in terms of the age or gestation was usually up to two year old. There were no ashes because the cremators at that time were very hot. They've reduced the temperatures now. That was at Daldowie."*

Asked where this information came from the Funeral Director, who had twenty-five years in the industry, said,

> *"That information come from the* [Co-op] *Manager at that time … and the Funeral Director who was training me ... One's dead and the other's retired a while ago. They explained that the bones were too soft for ashes because when they went into the cremator when the bones came out they were put into a cremulator and crushed down and that's what families get, the crushed bone. There wasn't any from a wee baby.*
>
> *I never heard of other crematoria where they were getting ashes for babies. Nor did I ever hear it challenged that you might get ashes. So that belief was carried on for really quite a long time."*

A Midwife who qualified in the early 1980s, and had been a Labour Ward Sister for twenty years, told the Investigation,

> *"Looking back, from the 1990's and the 2000's we were always told that there weren't any ashes. If the parents chose to have their baby cremated then we passed on to them that there wouldn't be any ashes. There wouldn't be any remains and you used to discuss that with them to help them make the decision regarding burial or cremation but that was one of the things that you told them."*

She told the Investigation she had never thought to question this information until the news from Mortonhall Crematorium became public knowledge.

Kenneth Boyle, Head of Parks between 2004 and 2009 was adamant that,

> *"No declaration where parents were told they would not be provided with their child's ashes, was authorised by me during my tenure as Head of Parks."*

On a site visit to Daldowie with Lucille Furie, Kenneth Boyle's successor Stevie Scott specifically asked about babies' ashes.

> *"The response I got was that there was basically nothing in terms of remains…If there was anything left and if it was requested they would return it back to the Undertaker but... they were quite specific, in that nine times out of ten because of the size of it there was actually nothing in terms of remains…If the ashes were not requested the normal procedure would be, whether it be a child or an adult, to scatter within the Memorial Gardens within both crematoria. They're the only two options - return or scatter."*

David Eagle, Regional Operations Manager for Glasgow Co-operative Funeral Care and previously Funeral Home Hub Manager for Bellshill told the Investigation that he had questioned the failure of Daldowie and Linn to provide ashes.

> *"With the two Glasgow City Council Crematoria in Daldowie and Linn it was a blanket 'No' when I started within the business. 'There won't be any available'. So we would ask, 'could there be any?' and there were occasions where we would say, 'Well if we can get them at Maryhill or at Craigton, why can we not get them there?' But generally the rule of thumb was there would be none. There were occasions where a family may wish to go to the Linn or Daldowie but if they wished ashes back we would then suggest that they go to one of these other crematoria as an alternative, to have a better opportunity to get ashes back. So this was the situation round about September '99 from memory, when I started within the business."*

This is the only instance in which the Investigation heard that Funeral Directors would suggest a different choice of crematorium to bereaved families seeking ashes.

Explaining to whom his questions were addressed David Eagle told the Investigation,

> *"My questions for Cremator Technicians or Operators would have taken place in individual cases where we were asking about ashes. You'd be asking if they could obtain ashes or you would be asking, generally, the booking office probably or the Crematorium Registrar. So it may well have been a 'phone call to the Linn directly. The way their booking system works and worked in the past was there'd be one office that they would book everything through, a diary so to speak, but the crematorium would be a different location. So maybe you would contact Daldowie or*

the Linn's Registrar directly to ask them the question as opposed to the booking office but it could have been either to be perfectly honest.

The situation I've described carried on really until after the Mortonhall report I would say pretty much… Prior to being in this role I was in Bellshill so I was in South Lanarkshire and Lanarkshire. So it was probably more apparent, when I went into that role, that the likes of South Lanarkshire crematorium would offer baby ashes all the time. And that's when it really started coming to light, probably prior to the Mortonhall."

David Eagle's experience did not correspond with Lucille Furie's. She told the Investigation,

"If the Undertakers listened to me over the years then they should have understood the position for Daldowie and Linn that there was an effort to get some form of ashes."

A Cremator Operator with experience of cremating at Daldowie and Linn (from approximately 2002 – 2014) told the Investigation,

"I have heard of the suggestion that you would never get remains from a child under eighteen months. This is going back to when I was in the office. There was a distinct difference between what the people in the office thought, and was told was right, and what is the reality…That idea grew arms and legs. What you know is that it was allowed to continue by certain folk… who knows when myths start but certainly it was allowed to be a myth."

The same Operator was of the view that the message developed from a failure in communication between the Council, Funeral Directors and the hospitals.

"So it would be the three things that has broke down there. It's come from them all but you can't actually point the finger at someone and go, that's your fault."

Lucille Furie's opinion on communication between the different organisations was that there was, '*a vacuum of information*'. Although the clerical staff could see that a particular Funeral Director kept inserting '*no remains*' on Applications for Cremation Forms, they would only know it was wrong if crematoria staff were to inform them that ashes were produced. She believed that there was no deliberate intention to misinform and both sides were simply following their own process. However,

> *"at some point in time the grey matter hasn't actually connected in between.*
>
> *What was actually happening I think was that the funeral industry was saying to midwives, there will be no ashes in young babies. Black and white, just like that."*

David Eagle was also of the view that there was no deliberate intention to mislead families. He told the Investigation,

> *"One of the things, having been a manager in the business for a number of years and knowing the various people across the business, both from a Co-Op perspective and outwith, I don't think there's ever been any malice towards any client in terms of not receiving ashes. It's not a case of, 'Ah well tough, you're not going to get any ashes because I don't want you to'. I don't think it's in anyone's makeup within this industry to go down that route. It's very much whatever we can do we want to do for every single client."*

While the Investigation found no evidence of malice, it remains the case that over many years mythology about the non-availability of ashes and wholesale inaccuracy of record keeping continued without appropriate training and auditing. This led to misinformation and in a number of cases families being misled and deprived of the opportunity to choose their baby's final resting place. This was a collective failure to address the issue by all the responsible agencies including hospital staff, Funeral Directors and Glasgow City Council senior managers.

Lucille Furie informed the Investigation that, in order to resolve the issue,

> *"A couple of years before I left Glasgow, I introduced training for the admin persons in the cremation process, to make sure they understand it."*

One family, whose son was stillborn in 1994, was informed by the Funeral Director,

> *"It's really unusual to cremate a baby and you never get any ashes back, they are too small."*

The family told the Investigation that being given this information the day before the cremation added another layer of grief to something that was already

impossible to bear. Their experience left them with suspicions about the activities of the funeral industry.

> *"I feel our Undertaker told the crematorium staff no remains were expected and so they didn't check for any. I believe this because how else could our Undertaker state categorically on two separate occasions there would be no remains unless he knew for sure there would be none because there was an unwritten agreement not to look for any ashes in babies' cremations."*

The same parents questioned the role of Funeral Directors, telling the Investigation,

> *"We feel the Undertaker's role in this scandal needs to be closely looked at as in our experience paperwork was dispensed with to lessen workloads leaving parents like us with no say in major aspects of our child's funeral."*

Other families also speculated that Funeral Directors withheld information out of the misguided notion that they were somehow protecting the parents from additional distress. One father who lost a new born baby in 2006 explained,

> *"I think looking back on it with hindsight that the whole profession wants to make it as painless as possible and makes so many assumptions and actually, it hasn't worked in our favour. Maybe they should get you to take this form away, have a read of it, make sure you're happy with everything and come back tomorrow or the next day. I know you can't leave it sitting there for a fortnight, but if they'd maybe said something like that, yes you might have gone away and said, ok, I'd better have a look at what's going on."*

This may not be a solution for all bereaved families as some rely on the Funeral Directors to provide them with accurate information about options, complete forms for them and comply with their wishes.

A bereaved mother criticised the lack of regulation surrounding the funeral industry noting,

> *"My issue with Undertakers is that they are their own bosses. They're not answerable to anybody."*

This family questioned whether commercial competition between crematoria prevented them sharing information which might have led to more consistent

and positive outcomes in relation to ashes. The father who, following publication of the two Reports[36] addressing these issues, had volunteered on a working group exploring questions around ashes told the Investigation,

> *"we've got people there from two or three different crematoria and we were talking about whether we could get some sort of combined database, but they don't talk to each other and that's really about competition, because they don't want to be in contact with each other. They'll pay each other the professional courtesy of 'hi' and whatever but they were saying, no, we have our own way of doing things."*

Drawing on his own experience the father commented that,

> *"There has to be transparency too and at every level, from the hospitals to the ministers, to the priests, to the Undertakers. The post of the Inspector for Cremations will be welcomed, but I think there should be something similar for Undertakers because I don't think they're answerable and I think some of them think they're infallible."*

The Linn Supervisor and others reported that their contact with families was generally through Funeral Directors. For many crematorium staff the only time they would have contact with bereaved families was at the funeral service. On such an occasion interaction is minimal and any conversation of a largely formal nature.

In a letter dated 25 March 2013 Glasgow City Council's then Chief Executive, George Black, responded to Nicola Sturgeon MSP concerning two of her constituents whose baby had been stillborn in 2009. In this letter George Black explained the position in Glasgow as follows,

> *"You will be aware that no one from the Council deals directly with the applicant for a cremation. In this case the form was countersigned by the midwife at the hospital and the instructions for how the cremation is to be carried out are given by the Funeral Director.*
>
> *Council staff are therefore not able to explain directly to bereaved parents that there might not be any remains after cremation, or to ask*

[36] The Mortonhall Inquiry Report (an online copy can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2) and the Infant Cremation Commission Report (an online copy can be found here: http://www.gov.scot/Publications/2014/06/8342)

them directly whether they want to collect any remains we are able to recover. I think it is reasonable that it continues to be the responsibility of the hospital or the Funeral Director."

Despite the changes following the Mortonhall Investigation Report which mean that ashes are always returned following cremation, the Investigation was told by Glasgow City Council administrative staff of a form still in circulation and from the main Glasgow hospitals that included a declaration signed by parents stating,

"I understand there will be no identifiable remains."

The Chief Midwife confirmed to the Investigation in May 2016 that this form had been withdrawn.

Although the Investigation heard repeatedly that if families requested their baby's ashes they would get them, the fact that NHS professionals and Funeral Directors believed none would be available and said as much to families led to few requests being made. Meanwhile the embedded and unquestioned procedures at the crematoria simply continued and crematorium staff disposed of the ashes or residue by scattering or interring them without questioning whether they were genuinely unwanted.

The family who was told by the Funeral Director in 2001 that there would be no ashes because,

"babies' bones are too soft",

subsequently discovered from the Register of Cremations that there was a dispersal of their baby's remains in January 2002. Nobody informed them afterwards and instead the remains were kept for a month and then dispersed. In their view,

"We should absolutely have been told that there was something left. It would have made life a lot easier… even if it was only coffin ash we would have wanted that because it's the essence of your child, their last resting place, there could be fragments. It's important."

The Investigation was told of an occasion when ashes were recovered following a predicted outcome of 'no remains'. The Assistant Supervisor at Linn described what happened saying,

> *"one occasion that I've seen John Wright actually change* [the ashes disposal on the individual details card] *from 'no remains' to 'there was remains' and he got in touch with, I think the Co-op head office at Castlemilk and notified them that there was remains."*

When asked whether he recalled the incident John Wright said,

> *"I do seem to recall that there was a time I changed the detail card from no remains to remains recovered. I can't recall the service details but would have contacted the Funeral Director, most likely being CWS head office or Castlemilk."*

This would seem to be an isolated incident and Glasgow City Council was unable to determine the identity of the baby.

Although the requirement for crematorium staff to repeatedly check details was engrained in the way they performed their roles, there was no corresponding requirement to double check, when ashes were obtained, whether the family would welcome their return. Instead the prevailing attitude, expressed by one Cremator Operator to the Investigation, was,

> *"It's not up to us to chase people up and say, 'do you want to change your mind?'."*

If there is a clear instruction on the Form A to disperse there would be no reason for crematorium staff to doubt that.

9.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Glasgow City Council's Chief Executive responded to the Mortonhall media coverage in December 2012, and to its inability to respond to a Freedom of Information request from the BBC, by asking the Council's Internal Audit to provide assurances on the practices the Council had adopted. The undated document, headed 'Internal Audit - Review of Cremation Records for non-viable foetuses, stillborn babies and infants under twenty-four months' looked at 2,385

records going back fifteen years, checking the families' ashes instructions against what the Council did in each case. The audit published a number of 'Observations'. These included the need for Application Forms to be clearer as to who is signing them and in what capacity and for the ashes instructions to be properly completed. Responsibility for this, the audit declared, rests with Funeral Directors.

The audit identified one letter issued to a family after the ashes had been disposed of explaining that the remains were dispersed because there were no clear instructions on the Application Form and no other instructions had been received from the family or the Funeral Director. In this case the remains had been retained for 55 days before dispersal without reference to the family.

In relation to non-viable foetuses the audit found,

> *"there has been a general presumption conveyed in the wording of the Application for Cremation form completed by registered qualified medical practitioners and the parent(s) that there will be no remains recovered following cremation. This presumption is not supported by the findings of the review which indicates remains are recovered in a small percentage of cases."*

The audit declared,

> *"The probability of recovering remains from still-born babies and infants up to twenty-four months is greater than 75%",*

and recommended that,

> *"the wording on the Application for Cremation of Non-Viable Foetuses should be changed immediately to provide a more accurate reflection of position including replacing the statement of understanding that there will be no identifiable remains resulting from the cremation."*

In May 2013 the audit was forwarded to the Infant Cremation Commission. The findings of the audit are diminished however as this Investigation found that the system of record keeping rendered the records they were examining unreliable as described above.

Following the publication of the Mortonhall Investigation Report, written Cremation Operational Processes were published by Glasgow City Council in December 2014. These require that,

> *"where the cremation is of a non-viable foetus, stillborn child or baby of up to one year old, the steel baby tray must be used."*

The same document also provides guidance on the disposal of 'fly ash' (defined here as '*ash arising from the cremulation process and accumulating in the transfer station'*). This must be,

> *"strewn in the garden of remembrance in the glade in current use",* this activity *"to be carried out with the same dignity applied when scattering identified remains."*

Guidance on the Scattering of Remains, whether Attended or Unattended is also included in this document. The return of remains to families is, however, not addressed.

Another response to the publicity generated by the Mortonhall Investigation Report and the Infant Cremation Commission Report[37] was the undertaking of a comprehensive Risk Assessment of the role of Daldowie and Linn Crematoria Technicians. This is a standard Risk Assessment form and is not specifically tailored to the subject of infant and foetal cremation. The Subject Area of Assessment entered on the form is Daldowie and Linn Crematoria Technicians. The risk assessment was published by Glasgow City Council Land and Environmental Services on 24 February 2015 and includes a number of 'Actions to be Taken' including the upgrading of cremators and consideration of the use of more personal protection equipment.

For families who have opted for cremation following the loss of a baby or non-viable foetus, the most significant impact of the Mortonhall Investigation Report

[37] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commission Report can be found here: http://www.gov.scot/Publications/2014/06/8342

and of the Infant Cremation Commission is that they now have a far greater chance of receiving ashes than previously. Since June 2015 no crematorium in Scotland has reported to the Inspector that they failed to retrieve ashes from an infant or foetal cremation.

Even before the re-introduction of baby trays in October 2014, publicity surrounding the Mortonhall Investigation Report raised awareness amongst managers that bones from non-viable foetuses and babies survive cremation. John Wright, the Superintendent of Linn Crematorium, told the Investigation,

> *"After the Mortonhall I started going down and double-checked [for bones] … they all insist that I come down and double check for their own protection…… once the Mortonhall Report came out…… that's when I started going down and double-checking."*

However, since the Mortonhall Investigation Report recommended that everything left after cremation other than metals be returned to families, it is unclear why Operators would start to look for bones at that stage. This is particularly so given the expert evidence of the Forensic Anthropologist Dr Julie Roberts that it may be difficult for untrained eyes to recognize small bones within the ash material.

On the re-introduction of baby trays in October 2014 David MacColl, the Bereavement Services Manager, told the Investigation that,

> *"in relation to the guidance about the tray, and the emotion side of it, staff have now been through a training process. There's an information sheet and an operation process that they go through. Now we always get remains, and we are duty bound to report to Bert Swanson* [Inspector of Crematoria] *if we don't. We haven't reported anything to date to say we haven't received remains."*

This was confirmed by the Inspector.

As Alastair Brown (currently the Head of Sustainability but with responsibility for Bereavement Services since 2012) explained to the Investigation,

> *"Our record of returning ashes is probably fairly consistent over fifteen, twenty years and when the Mortonhall Report came out we changed our practice so we started to say okay we will use the trays because quite*

> *clearly the report thought that's what we should do. So we changed it and now we get not quite 100% but we do return ashes almost in all cases."*

Alastair Brown was also confident that staff were "*more switched on now*."

Nigel Kerr attributed the introduction and use of baby trays at Daldowie and Linn since October 2014 to the recommendations of the Infant Cremation Commission. As a result,

> *"everything from the cremation process is being collected and that's being fed back to the Funeral Directors and so I'm hoping that they are giving a message to families."*

The Investigation considers it vital for Council managers to engage with Funeral Directors to ensure this is happening.

The Daldowie Supervisor, Christopher O'Neill, told the Investigation,

> *"Families just want to get something. We're told to brush everything in and cremulate it and it's disposed of in accordance with whatever the instructions might be."*

The Linn Assistant Supervisor explained another significant change in relation to the available options for disposal of ashes resulting from the Mortonhall Investigation Report,

> *"Overnight it changed from 'no remains' to 'dispersal' or 'take away' which we always followed for adults for all the time I've been there."*

Yet another change in procedure relates to the cremation of non-viable foetuses as explained by the Bereavement Services Administrative Officer to the Investigation.

> *"Now if there are no ashes instructions for an NVF we phone the Funeral Director. In the past we would not…"*

Since publication of the Mortonhall Investigation Report and the Infant Cremation Commission Report there has been an increase in the sharing of information between Glasgow City Council and its partners. Evelyn Frame, the

Chief Midwife for Glasgow and Clyde since 2013 described attending meetings with David MacColl, Bereavement Services Manager for Glasgow City Council.

> *"I've obviously had discussions with the midwives in Glasgow and their understanding was that there would be no ashes and that that discussion would have been had by the Funeral Director. We have subsequently changed our patient information leaflet to include the part about ashes. The midwives now have that discussion, saying there could be ashes but they can't say whether or not there will be and that that has to be a question for the Funeral Directors."*

9.8 FINDINGS FOR INDIVIDUAL CASES

Of the twenty-two cases registered from Daldowie, eleven were recorded as 'no remains'.

Three were recorded as 'taken away' but only one of these was actually taken away. In the other two cases the Register of Cremations had not been updated following the cremation to reflect the amended outcome of 'no remains' on the cremation card.

One case from 1997 was left entirely blank.

Five cases were recorded as 'dispersal' with no date of dispersal added.

Two cases were recorded as 'dispersal' with a date of dispersal added.

Of the ten cases registered from Linn Crematorium, four cases were recorded as 'no remains'. Four were recorded as 'dispersal' with no date added to the Register. Two were recorded as 'dispersal' with a date added.

As discussed in the section on Record Keeping, the Investigation found that where a date of dispersal had been added to the Register this was evidence that the initial instruction for ashes had been updated and the ashes had been dispersed. However, the absence of a date could mean either that the original instruction had not been updated or that the ashes had been categorised by the Cremator Operator as 'residue' and scattered or interred along with other residue and metals.

9.9 CONCLUSIONS

1. The Investigation noted the absence of consistent information emanating from the crematoria, Funeral Directors and NHS staff concerning the availability of ashes. Many parents were told by the NHS staff and Funeral Directors, on whom they relied, that there would be no ashes. To discover subsequently, sometimes after many years, that there were ashes and that they were scattered or interred in the crematorium grounds without the parents' knowledge or consent has caused deep distress.

   The absence of any effective communication about the cremation of non-viable foetuses, stillborn babies and infants between Glasgow City Council, NHS professionals, Funeral Directors and families resulted in an inconsistency of approach and understanding of the actual position. This has significantly contributed to a state of affairs in which families have been deprived over many years of the opportunity to have ashes returned.

2. It is of serious concern that the mothers of the babies referred to this Investigation were unable to give informed consent to the cremation of their child, in some cases because of the persistent effects of sedating medication or strong pain relief. Some were recovering from surgery and all were suffering considerable grief. Steps should be taken to ensure that any form to be completed by any patient after a foetal loss, stillbirth or infant death is explained to the mother at a time when they are fully able to understand that to which they are consenting. Likewise, those suffering the unexpected loss of a non-viable foetus or baby must be given adequate time and consideration to make a decision about the cremation of their child.

3. With the FBCA guidance at the time advising that cremated remains consisted only of skeletal remains it is understandable that Cremator Operators and their managers determined the ultimate disposal of babies' ashes according to whether or not they believed they contained

bones. Conflicting messages from the FBCA and ICCM contributed to different crematoria following inconsistent practices. Lucille Furie was adamant in her evidence that she was willing to adopt a wider definition of ashes than that of the FBCA and return to families whatever was left after cremation regardless of whether it contained identifiable human remains. Yet the evidence from the Cremator Operators and their Supervisors suggested that this message was not understood by all, let alone acted upon. This apparent breakdown in communication between the crematorium's management structure and its workforce was further exacerbated by the absence of local written policy and guidance. As a result, Cremator Operators apparently decided for themselves whether they would, for example, use a tray when cremating babies, based on their personal opinion of the risks involved. Furthermore, while Lucille Furie expressed distaste at the idea of Cremator Operators sifting through babies' ashes to identify bone, this procedure was one which they themselves regarded as normal.

4. The Investigation into individual cases has been significantly hampered by the inaccuracy of the Register of Cremations at Glasgow City Council as it relates to these cases. The procedure of recording the outcome of the process before the cremation actually takes place resulted in the Register being unreliable in many cases. Rather than being an accurate record, entries often consist simply of an instruction or predicted outcome. Given that the completion and maintenance of the Register is a statutory obligation, except in relation to non-viable foetuses, steps must be taken to ensure it is an accurate and reliable source of information.

5. Like Mortonhall Crematorium, Glasgow City Council's Bereavement Services worked in almost complete isolation from the rest of the Council and from other crematoria. In the words of one Cremator Operator, who in nearly twenty years of cremation work had no contact with Operators from elsewhere,

   "We're kept like mushrooms here. I don't even know what is happening with the Council never mind anything else."

The Investigation is concerned at the lack of knowledge about the working practices of other crematoria and the absence of any willingness to share good practice. This was illustrated by the reluctance, even after publication of the Mortonhall Investigation Report, to consult other crematoria concerning their use of baby trays. As John Downes, the Bereavement and Environmental Operations Manager explained,

"I don't think we've spoken to any other crematoria that were using trays to see what they were using. We wouldn't have done that at that time. You go, 'let's not be getting out and chapping on their doors and asking this'. We've worked independently."

This isolation contributed not only to a failure to resolve issues such as the satisfactory use of the tray but also to recognise and adapt to societal changes relating to bereavement, including most importantly the obligation to address the needs of parents which have been neglected and ignored over many years in these cases.

6. The absence of any local written procedures and the reliance on learning 'on the job', without any appraisal system or quality assurance of the methods adopted, meant there was no identified best practice against which to measure performance. The Investigation notes the absence of any refresher training for Cremator Operators and their Supervisors, following initial FBCA certification, and is concerned that this contributed to ongoing practices being embedded as the norm without any recognition of the need to improve and develop. However, this situation was not unique to Glasgow and was identified in a number of other crematoria investigated. While the introduction of specialist training in this area by the FBCA and the ICCM is to be warmly welcomed it is not a substitute for local training and reinforcement of appropriate working practices. Glasgow City Council must take responsibility for taking this forward and securing a change in culture at its crematoria.

7. The absence from Glasgow City Council's senior management's agenda of cremation of non-viable foetuses and babies until the situation at Mortonhall became public knowledge is also a cause for concern. The

evidence in this Report suggests that senior managers were remote and uninformed about the operation of the crematoria as it relates to babies and infants. Furthermore, there was no strategic direction or development of the service in relation to babies and infants. The absence of any local written working practices for the cremation process for non-viable foetuses and babies is an additional significant barrier to this Investigation's ability to establish what was happening at the crematoria during the relevant time period. Likewise, the absence of any management record of the introduction of a tray and its abandonment is a significant gap.

8. The Investigation is concerned that in Glasgow and elsewhere the use of the baby tray was not monitored. As a result, reliance has had to be placed on the memories of Cremator Operators and their Supervisors after the passage of some time. While the evidence suggests that a baby tray was available from the late 1990s until as late as 2011, because its use was apparently left to individual Cremator Operator's discretion, it is impossible to identify with certainty those cremations where a tray was used.

9. It is of concern, too, that following publication of the Mortonhall Investigation Report, staff were not briefed about the expert evidence of Forensic Anthropologist Dr Julie Roberts' findings about the existence of bones in non-viable foetuses. During the interviews with Cremator Operators it was clear that they still had no understanding of the physiological development of foetuses and the existence of bones following cremation from seventeen weeks' gestation onwards. The expert report by Dr Roberts states,

"My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is inconceivable that there would be nothing left of newborn babies and infants aged up to two years following cremation. The 'no ashes' or 'no remains' policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt

skeletal remains, and/or individual or corporate management decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together."

Dundee Crematorium

10 DUNDEE CREMATORIUM

10.1 INTRODUCTION

A total of two cremations of infants or babies conducted at Dundee Crematorium were referred to the Investigation. The earlier of those cremations took place in 1975 and the more recent in 2009.

Dundee Crematorium was opened in 1936. It is situated on McAlpine Road, Dundee in a woodland setting. It has a chapel and is surrounded by Gardens of Remembrance. The Crematorium carried out 1,453 adult cremations in 2013. In the same year there was one child cremation, two cremations of stillborn babies and two individual cremations of non-viable foetuses. There are no shared cremations of non-viable foetuses cremated with other non-viable foetuses carried out at Dundee Crematorium. Any non-viable foetus cremated at Dundee is received from the Funeral Director who has a contract with the hospital. The crematorium does not have a contract for baby cremations with either the hospital or any Funeral Director.

The crematorium has a dedicated baby memorial area with private gardens, plaques and rose beds.

10.2 MANAGEMENT

Dundee Crematorium is managed by Dignity Funerals Ltd.

The Investigation was provided with a chart setting out the structure of the management team as of January 2006. At the head of the organisation was the Chief Executive, Mike McCollum and reporting to him, the Crematoria General Manager, Steve Gant. Immediately below him was the Regional Manager for Scotland and the North of England, David Baxter, the line manager to the Dundee Crematorium Manager, Geoff Dickerson. David Baxter told the Investigation he has been Regional Manager for 12 years, one of four Regional Managers who report to Steve Gant. Prior to taking up this role David Baxter

was Area Manager. He started as a Cremator Operator at a different crematorium some 33 years previously.

The operational team consisted of one Cremator Operator, a Handyman who also works as a relief Cremator Operator, carrying out three or four cremations a week, and two office staff.

10.3 Policy, Guidance and Training

Witnesses interviewed for the Investigation were able to speak to policies and practices at Dundee Crematorium going back to the mid 1980s. Therefore, the Report focuses on practices from that time to the present day and cannot comment on working practices employed before then. One of the cases referred to the Investigation dates back to 1975 and there are no staff who can speak to this period from an operations perspective. Furthermore, cremation records are only kept for 15 years, in line with statutory requirements, meaning only limited records are available.

Crematorium staff explained that it has always been usual for there to be remains following infant cremations at Dundee Crematorium. Although they do not guarantee the return of ashes, the crematorium's policy is for the Cremator Operator to do his very best to recover remains from foetal or infant cremations whenever possible.

David Baxter, Dignity's Regional Manager for Scotland and the North of England, told the Investigation that his understanding was that with the older cremators it was harder to retrieve remains from non-viable foetus cremations. However, since new cremators were installed in the late 1990s, he understood the crematorium was able to obtain remains from the majority of non-viable foetuses. He also confirmed that in the 15 years he has been based in Dundee he has always understood that there would be remains for stillborn babies and infants. These remains would be disposed of in accordance with the instructions of the family, as communicated to the crematorium by the Funeral Director.

His understanding that there were always remains for stillborn babies and infants is not evident from samples of the Registers of Cremation for Dundee from 1975, 2008 and 2009 examined by the Investigation. These showed that the number of occasions when the crematorium did not return ashes from stillborn babies and infants was greater than the number when ashes were returned. Moreover, there were examples where the entry on the register specifically recorded there being 'no remains' for stillborn babies and infants.

According to the crematorium staff, they have always informed Funeral Directors that they should let the family know that ashes cannot be guaranteed, just in case there are none in a particular case. However, a local Funeral Director from Robert Samson Ltd who was interviewed by the Investigation disagreed. He told the Investigation,

> *"The understanding and what we were told, many years ago to be fair, was we should not ever expect any cremated remains from Dundee Crematorium."*

David Baxter, Dignity's Regional Manager, told the Investigation that the crematorium did not pass this message to Funeral Directors.

Asked whether Dundee Crematorium has written guidance on cremation procedures a Cremator Operator told the Investigation there is a,

> *"general guide that we're to follow. That's a Code of Practice and that's just one page."*

According to the other Cremator Operator there is guidance in the cremator room, especially about cremation temperatures.

David Baxter, Dignity's Regional Manager, told the Investigation that the crematorium has a specific written procedure for the cremation of non-viable foetuses as well as one for all other cremations. They follow also FBCA and ICCM guidance.

On the procedure for carrying out the cremation of babies or non-viable foetuses one of the Cremator Operators said,

"it's word of mouth really and it's just a case of picking the right profile."

The other Cremator Operator explained that a lot of the ashes come from the wooden coffin but that there are small bones to be found. Commenting from personal experience he told the Investigation,

"I've seen the small bones in the ash with the stillborns."

Asked what is returned to families one of the Cremator Operators said that regardless of the presence of visible skeletal remains,

"They get the whole lot. It's the same with adult cremation. They get whatever comes through the cremulator.[38] *I was taught that when we do get ashes we put them in the wee urns."*

This was confirmed by his colleague who said his understanding of ashes was all "*the remains that come out the cremator.*."

10.4 CREMATION PROCESS AND EQUIPMENT

Geoff Dickerson, who has been the Crematorium Manager at Dundee since December 2005, described his role as,

"Running the site and everything that goes on there and making sure everything in the office runs smoothly… also over in the chapel making sure the services run smoothly, that everything is fine; and the same with the cremating side of it… making sure that it is run smoothly and the cremator is working ... Really I oversee every person's job",

As well as being the manager, Geoff Dickerson is a Cremator Operator. He told the Investigation that he cremates at least once a week. As is common practice, Geoff Dickerson's cremation training was conducted in-house and resulted in his obtaining FBCA certification.

One of the two Cremator Operators, who is also FBCA qualified, said he received his certificate in 1994. Since then his only further training had been when there was a new machine, at which time the commissioning engineer

[38] Section 5.14, Cremation Process, explains more about cremulators.

would take Operators through "*the basics*". Describing his role, he told the Investigation,

> *"My job essentially is doing the cremation; getting the ashes back to the office; and then the office deals with getting them to the Funeral Director or to the family. Once I've left the ashes, and signed them in, I'm done with them unless they're coming back to me to be scattered in the grounds or something like that. So if the ashes are to be scattered then they either come back to me or the other Cremator Operator. We do both the cremation and the scattering."*

The second Cremator Operator, who is also the crematorium's gardener and handyman, passed the FBCA test in May 2007. He too said he had received no further training other than updates on any procedural changes. His role involves taking over from his colleague when he goes home at night and taking his place when he's on holiday. He said he had some limited experience of cremating non-viable foetuses, "*maybe half a dozen*".

He explained that there has been a profile for a baby (infant mode) since 2013 that slows down the cremation process. The cremation is completed before the Cremator Operator leaves for the night and the tray is left in the cremator overnight to cool.

The Investigation was told that some boxes containing non-viable foetuses are only the size of a matchbox. Speaking of his experience cremating non-viable foetuses the full time Cremator Operator said,

> *"I have been in a situation where I've not managed to recover ashes from NVFs. It's hard to say how often that happens, I've done that many over the years. I'd say it depends on the size of them I think. When there's nothing left there is absolutely nothing left in the tray."*

The crematorium staff were asked by the Investigation whether they had ever cremated more than one body at a time in the cremators at Dundee. Although it is lawful to cremate non-viable foetuses with other non-viable foetuses through shared cremation, this did not take place at Dundee and there was no contract with the NHS for cremation of non-viable foetuses. The Investigation was told that no non-viable foetus or baby had ever been cremated with an unrelated

adult. The only shared cremation of which anyone was aware had been for a mother and her baby.

At Dundee, unlike in other crematoria visited by this Investigation, the Cremator Operators do not rotate duties and work in the chapel. Instead the chapel work is done by the Verger and one of the administrative officers is trained to be a relief Verger. Across Dignity-run crematoria there is uniformity of practice and policy in both the cremation and the administration so that staff can move around to other crematoria if required.

i Impact of Cremation Equipment

The Investigation explored the impact working practices and policies had on the services delivered at Dundee, particularly in relation to equipment including the use of baby trays.

Most of the cremations that take place at Dundee Crematorium are of adults and many of the features of an adult cremation are replicated during the course of a baby cremation[39].

ii Cremators

At the time of the Investigation Dundee Crematorium was equipped with two Joule Furnace Construction single-ended gas-fired cremators with a spyhole through which Operators can see into the chamber. The cremators were installed in 1997 and 1998 respectively and replaced two single-ended Dowson and Mason models. David Baxter told the Investigation that although the current cremators are Furnace Construction, their operating system is software provided by Facultatieve and the cremators are to be replaced in the next two years by new Facultatieve cremators. Infant mode[40] would have been added in

[39] Section 5.12, Cremation Equipment, explains the different types of cremators and Section 5.15, Cremation Process for Infants and Babies explains how each different type of cremator is used in baby cremation.

[40] Section 5.15, Cremation Process for Infants and Babies explains more about ‘Infant Mode’infant mode’.

2013 as part of the same upgrade for emissions reporting as elsewhere in Scotland.

The cremators were primarily designed for adult cremations with the coffin charged (inserted) at one end through a large door. After the cremation the ashes are raked into a cooling chamber. However, in relation to non-viable foetuses and babies,

> *"The infants and the NVFs are in a tray. They just come out in the tray so there is no risk of them going into the cooling chamber or into the ash pan."*

iii Baby Trays[41]

A baby's small coffin, or box containing a non-viable foetus, may be placed on a steel tray inside the cremator to contain any ashes and prevent them being dispersed throughout the cremator by the force of the air jets and lost. At Dundee Crematorium baby trays have been in used for non-viable foetus and baby cremations since at least 1997. A tray is used for every infant cremation, unless the coffin is too large to fit inside it.

The use of a tray is not without risk if it is removed while still at a very high temperature through the charging door. Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[42] identified the risks of using a tray. Describing its removal at the end of the cremation he explained,

> *"If this has to be done with the cremator at working temperature… this is more difficult and more risky than the usual raking operation into the 'ashing chamber' of the cremator."*

At Dundee the risk is managed by conducting infant cremations at the end of the day's cremation schedule. The full time Cremator Operator described how he would cremate a non-viable foetus or stillborn baby,

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[41] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

[42] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

"last thing at night. We've got a metal tray and you put the baby tray in the cremator. I did used to take the trays out but we were finding …. It was too dangerous because of where we are. We are in basement and it's all wood… it spits metal out as it's cooling down so we thought we leave it in the cremator as it is safer till the morning."

The Investigation was not informed of any operational difficulties in the use of the baby tray.

iv Dispersal of Ashes

At Dundee Crematorium the options for disposal of ashes are: scattering the ashes un-witnessed (without family present) in the Garden of Remembrance; scattering of the ashes witnessed (with the family present); allowing the ashes to be collected by a Funeral Director; or holding them indefinitely pending a decision.

The Cremator Operators explained to the Investigation that where there is an instruction to scatter with no family in attendance, they scatter the remains in the woodland area and don't record the exact location.

David Baxter, Dignity's Regional Manager, further explained that baby ashes are scattered at the baby memorial next to the woodland area and confirmed that the exact location is not recorded. This practice is the same whether or not the scattering is witnessed by family members. Explaining that the baby memorial has been in place for at least 20 years, David Baxter confirmed that a family may request a different location where, for example, they wish to use a location used previously by another family member. Where a family selects a specific area such as a family plot or plaque to scatter the ashes, that would be recorded.

One Cremator Operator said he had no experience of scattering a child's ashes because the families always want to collect them.

A member of the office staff also confirmed that the precise location is not recorded. She said that if families want to know where ashes were scattered in their absence,

“I can take them to the area but I can't take them to a certain spot because it's not marked.”

The same administrator told the Investigation the list of ashes for scattering is always double checked to make sure instructions have not changed. She would also, where the ashes were those of an adult, phone the applicant to make sure the instructions are correct and inform the family when the Funeral Director has collected the ashes. She would not however make a phone call to the bereaved family if the cremation was that of a child or baby. This is because crematorium staff are not permitted by their management to contact bereaved families of children, including babies, for reasons of sensitivity.

10.5 Administration and Record Keeping

It is the role of the office staff to receive and process the forms required for a cremation to take place at Dundee Crematorium and to complete Form G, the Register of Cremations. Maintaining a Register is a statutory obligation involving the recording of the cremation number, date of cremation, date and place of birth, age and gender of the baby, applicant for cremation and disposal method/ final resting place. There is, however no statutory requirement to maintain a Register of non-viable foetus cremations.

From 1936 until 1996 all records were kept in manual Registers. This changed in 1996 with the introduction of the computerised Gower system. In 2002 the present Compass System was installed. This system permits the location of the dispersal of ashes to be recorded. The system is updated when ashes have been collected or dispersed.

Funeral bookings are made by Funeral Directors, or the hospital, directly with the office staff. The crematorium deals with all the local Funeral Directors as well as some from outside the area. Ninewells Hospital is the main hospital that Dundee Crematorium deals with for babies and non-viable foetuses. The crematorium has no formal contracts with any Funeral Director or hospital.

A member of the crematorium office staff, who has been in post for 12 years, told the Investigation she had received a variety of on-site training including

updates on handling the paperwork. Usually Geoff Dickerson, the manager, would go on a training course and, on his return, he would go through this with the staff.

i Findings on Record Keeping

As with Mortonhall, the Investigation found Form A, the statutory Application for Cremation, to be the most significant of the cremation paperwork in informing all other records and as the basis for all arrangements made.

A Dundee Funeral Director from Robert Samson Ltd told the Investigation how he would complete the section on the back of Form A that sets out the Instructions for Ashes. This,

> *"would be done in conjunction with the parents either over the phone – they would have had to have signed both sides of it in the hospital - or in the office."*

He would, he said, put 'N/A' because the instructions for ashes are 'not applicable'. He had always understood that Dundee did not return cremated remains from babies. He also said he had never encountered a situation where the crematorium had phoned to say they had remains and to ask what was to be done with them.

The Funeral Director's understanding that Dundee Crematorium did not obtain ashes from babies was contradicted by the Crematorium Manager, Geoff Dickerson. He considered the Funeral Director to be,

> *"one of those we would have said to, when the cremation was booked, that there's no guarantee but we'll do our best."*

However, referring to the same firm, Geoff Dickerson told the Investigation,

> *"I know that between 2003-06 that Funeral Director had a contract with the hospital to deal with NVFs and brought them here, and according to the paperwork there were no remains ever given out to the Funeral Director. They always put on the Form A there was no remains between*

those dates for those NVFs, and that was for their contract with the hospitals. I couldn't tell you if there were actually ashes or not."

This suggests that while the crematorium staff maintained they were successful at retaining ashes, there appears to have been no policy of querying with Funeral Directors any ashes instructions that assumed there would not be ashes.

One of the Cremator Operators confirmed that in his experience there are occasions when ashes are not requested. He said,

"I was taught that when we do get ashes we put them in the wee urns. The paperwork tells me what's to happen to the ashes once they've been retrieved. But 9 times out of 10 anything like that gets delivered back to the family. You get the odd occasion that they don't ask for them. Some people just don't want to know. I'll get instructions to say disperse, scatter or return but 9 times out of 10 it's normally return."

An Administrator with responsibility for maintaining the crematorium records told the Investigation,

"when I'm adding the information from the Form A to the computer, if the Form A says to scatter then I always put down a message - there may not be any remains. I call the Funeral Director to advise that if this is for a child there may not be any and then if there wasn't I'd go back in and update the record. If the unfortunate position comes about that there are no ashes then I put down 'no remains' on the system. There is an option on it that says 'no remains' and I just go into there and put in a note that says I have spoken to [the Cremator Operator] and unfortunately in this case there weren't any remains for the baby.

Under no circumstances would our records show that ashes had been scattered in the Garden of Remembrance if in fact there were no ashes to scatter. This is because our records also show when we scattered; who scattered; what time they were scattered; what day they were scattered etc.

Until I know that we've got ashes from the child the instructions for the return of ashes is not completed. I can't guarantee that I'm going to have them so it's only completed when we've got ashes."

In common with crematoria in other parts of Scotland the entry 'no remains' does not appear in Dundee Crematorium's manual register. For example, the manual register dating from 1975 showed there were twenty-two infant

cremations, of which nineteen were ‘dispersed in garden’ and three ‘delivered to applicant’.

However, David Baxter’s understanding (shared by other crematorium staff) that there had always been ashes from infants and stillborn babies was not evident from this Investigation’s review of the computerised Register of Cremations. This revealed that in 2008 and 2009 there were nine infant cremations of which six were recorded as having ‘no remains’, two were ‘collected’ or ‘removed by the Funeral Director’ and one was ‘scattered not witnessed’. Of those described as having ‘no remains’, only one cremation was specifically described as being a non-viable foetus. Of the other five, four were stillborn and a fifth, though not recorded as stillborn, was specifically referred to as being ‘40 weeks’ gestation’.

The earlier of the two Dundee cases referred to the Investigation, from 1975, involved a baby girl who was stillborn at 40 weeks’ gestation. The mother recalled,

> *“Nobody at the hospital talked to me at all about what would happen to her. [The baby’s father] was told that she would be incinerated. Over the years I have never known where she was or had a place to go to remember her. I heard stories about stillborn babies being buried in corners of churchyards and wondered if she was there but I didn’t know anything until three years ago.*
>
> *When the story about baby ashes came out in the news, I contacted Dundee Crematorium to ask if they had any record of my daughter. They were able to find a copy of the Register of Cremations which showed she had been cremated there all those years ago without our knowledge.*
>
> *Nobody from [Ninewells] Hospital or Dundee Crematorium ever told us what happened to our daughter. We were not informed of the date or location of the cremation and nobody contacted us afterwards about ashes.”*

According to the Register of Cremations, this baby’s ashes were ‘dispersed in the garden’ at Dundee. There is also a Certificate for Burial of the Ashes, which incorrectly gives the father’s name and not that of his daughter.

On discovering this information almost 40 years after the loss of her child the mother said,

> *"I cannot understand why we were not informed of this or offered these ashes. I am grateful to the crematorium for providing me with the Register of Cremations so now I know where she is and in the future I might go there."*

The second Dundee case referred to the Investigation involved a baby who was stillborn in 2009 at about 27 weeks' gestation, the cremation took place in early 2010. The mother was told by the midwife at Ninewells Hospital,

> *"if you have a cremation with a stillborn you won't get any ashes back."*

When she queried this with the Funeral Director referred to above, he agreed with the Midwife. Speaking of her experience the mother said,

> *"The midwives were really good with us. They spoke to me before I'd given birth, when I was in labour, about funerals, if it was going to be a cremation, if it was going to be burial. That was the midwives that done that."*

Asked about the circumstances in which the discussion took place, the mother thought she was fit enough to respond. However, she could not remember signing the Form A even though,

> *"I signed it on the day I gave birth and it was the hospital that gave me the form not the Undertaker."*

In the Instructions for Ashes section, 'N/A' had been recorded. Commenting on this page the mother said it,

> *"doesn't look like my signature on the second page and I can't remember signing this."*

When the news of Mortonhall came to light the mother phoned Dundee Crematorium in case there had been ashes from her baby's cremation. She was told,

> *"yes, we've got the ashes and they're scattered."*

The entry on the Register of Cremations was 'scatter (not witnessed)' and a date. This was not an outcome to which the mother had agreed.

Dundee Crematorium has suggested that the instruction for the ashes to be scattered came from the Funeral Director. The Funeral Director doubted this suggestion. He told the Investigation,

> *"If such a phone call had been made* [requesting instructions for the ashes] *or such contacts have been made from the crematorium, my first port of call would have been to the parents to say, 'unbeknown to me there are cremated remains. What would you like done with them?'."*

David Baxter, Dignity's Regional Manager, declined to comment because there has been a legal agreement between Dignity and the mother and both parties have signed a confidentiality agreement. The absence of a continuous audit trail in this case means it is not possible for the Investigation to determine who was responsible for the instruction to scatter this baby's ashes.

10.6 COMMUNICATION

In the Dundee case referred to immediately above, the mother was told by both NHS staff and the Funeral Director that Dundee Crematorium would not return ashes from a baby.

The Funeral Director from Robert Samson Ltd was adamant that at some time his firm was told,

> *"we should not ever expect any cremated remains from Dundee Crematorium."*

Nor, according to him, had this message ever been withdrawn or updated.

> *"I have never been officially or unofficially told to ever expect cremated remains…Nobody's ever come back to me when filling in a cremation form for a baby and said you might get cremated remains."*

As a result, until recently, this Funeral Director considered it his duty to tell families that in respect of babies cremated at Dundee there were no remains. Nor was he aware that elsewhere some crematoria did obtain remains.

He described communication with the crematorium as "*not great*." This is supported by the Investigation's finding that the information given to the parents by Midwives and Funeral Directors was at odds with the crematorium staff's account of the availability of ashes. There is no obvious explanation for this.

Contact between the crematorium staff and outside agencies was limited. Neither the Crematorium Manager nor the Cremator Operators had much if any contact with NHS staff. One of the Cremator Operators said of Health professionals,

> *"They come here sometimes for educational purposes, you get a doctor. It just gives them a wee insight into what actually goes on at a crematorium."*

The Crematorium Manager was surprised at the inaccurate information that had come from a hospital and Funeral Director. On learning, in the specific case referred to that,

> *"the hospital had said that Dundee Crematorium does not supply ashes, I said that I find that very hard to believe when we have never had any contact with them. I have never spoken to the hospital and said that there are never any remains or anything and I was a bit amazed that they had said that. I don't know where they got their information from but it was not from us."*

Nor did the Crematorium Manager,

> *"actually know what* [Funeral Directors] *say to families about ashes."*

He had, he said, explained to Funeral Directors if they had phoned the crematorium that whether there are ashes depends on the cremator but that they would do their best to recover ashes. He was certain that when Funeral Directors book cremations they are always reminded that there might not be any ashes and they need to let the family know that.

In relation to communication with other crematoria, it seems that some contact took place. The Manager, Geoff Dickerson, helped out at another crematorium (Moray) and the Administrator sometimes provided cover at other Dignity managed crematoria. They included Holytown, Moray and Holmsford Bridge.

Contact between the crematorium and the families of non-viable foetuses, stillborn babies and infants prior to the cremation was very limited and did not tend to involve any discussion about ashes. After the cremation it would be a matter for the families whether they made contact.

10.7 Impact of Mortonhall Investigation and the Infant Cremation Commission

The Cremator Operators did not give the impression that they had been briefed on the evidence of Dr Julie Roberts, Forensic Anthropologist and expert witness to this and the Mortonhall Investigation[43] who identified that skeletal elements are recognisable "*from as early as 17 weeks' gestation*".

10.8 Conclusions

1. The Cremator Operators told the Investigation that very few non-viable foetuses or babies are cremated at Dundee Crematorium. This was confirmed by the figures quoted at the start of this section which show that in 2013 only two stillborn babies and two non-viable foetuses were cremated. When cremating babies and non-viable foetuses the policy of the crematorium was to give back to families everything that came out of the cremator. No distinction was made between any ash from the coffin and skeletal remains. Unlike some other crematoria in Scotland there was no suggestion that the FBCA Guidance, which distinguished between skeletal remains and other ashes, influenced the crematorium's policy.

[43] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

2. The Investigation revealed an absence of meaningful communication between the crematorium, hospital staff and Funeral Directors about the availability of ashes for non-viable foetuses, stillborn babies and infants cremated at Dundee Crematorium. Given that the hospital and Funeral Directors were advising families that ashes would not be available at Dundee many parents may have failed to request ashes based on this misinformation. There is a clear need for vastly improved communication among these three agencies and for clear protocols to prevent such misunderstanding in the future.

3. Only two cases were referred to the Investigation from Dundee Crematorium and one of those dated back to 1975, making it difficult to investigate fully due to the passage of time and the absence of witnesses who could speak with any authority on the practices then. The records suggest there were ashes from the earlier cremation which were dispersed in the Garden of Remembrance.

4. The later case is comparatively recent, referring to a cremation in 2010. In this case the Investigation was struck by the conflicting information emanating from the crematorium, Funeral Director and NHS staff in relation to the availability of ashes. For a parent to discover that there were ashes and that they were scattered or interred in the crematorium grounds without her knowledge or consent has caused deep distress.

5. An examination of Dundee's Register of Cremations entries revealed that the return of ashes following cremation did not happen to the extent that staff suggested. Despite a tray being used for the cremation of non-viable foetuses, stillborn babies and infants the register entry 'no remains' was not uncommon. One possible explanation for this is a failure to control the cremator so as to maximise ashes retention. As Dr Julie Roberts, Forensic Anthropologist and Archaeologist explained,

"My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is

inconceivable that there would be nothing left of new born babies and infants aged up to two years following cremation. The "no ashes" or "no remains" policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognise burnt skeletal remains, and / or individual or corporate management decisions."

6. Since June 2015, all crematoria in Scotland have been obliged to report any incidence of failure to recover ashes from an infant or non-viable foetus to the Inspector of Crematoria. No such incidence has been reported from Dundee or any other crematorium in Scotland.

Dunfermline Crematorium

11.1 INTRODUCTION

A total of five cremations of infants or babies conducted at Dunfermline Crematorium were referred to the Investigation. The earliest of those cremations was 1973 and the most recent in 1989. None of these families had ashes returned to them following cremation of their baby.

Dunfermline Crematorium was opened in 1973. It is one of two crematoria managed by Fife Council. The Crematorium is set within mature woodland. A large chapel of modern design has views over the woodland grounds. In addition to the Gardens of Remembrance there are commemorative granite walls. An area of the gardens is provided for the scattering of ashes for babies. There is a large memorial provided in the baby area in conjunction with the charity Sands and a separate wall plaque in the baby area of the gardens. While the adult areas of the garden are divided into discrete sections the baby area is not. There is a Baby Book of Remembrance.

Generally, cremated remains can be either collected by next of kin or Funeral Directors on their behalf or they are scattered at the wall in the baby area in the Garden of Remembrance. They are scattered one month after the cremation takes place. The crematorium has a relatively small number of infant, stillborn and non-viable foetus cremations. One infant, two stillborn babies and seventeen non-viable foetuses were cremated at Dunfermline Crematorium in 2013.

Two other Crematoria are situated in the area; Kirkcaldy Crematorium which is also managed by Fife Council and Perth Crematorium which is managed by Perth and Kinross Council. Perth Crematorium is situated approximately 28 miles from Dunfermline.

Dunfermline Crematorium is equipped with two Evans Footnote Universal 300/2 double-ended, gas-fired cremators. The Evans Universal cremators were installed in 1998.

11.2 MANAGEMENT

i Structure

Since 2010 Dunfermline Crematorium has been part of Fife Council's Directorate of Communities. The Director of Communities manages a Head of Service. A Bereavement Services Manager reports to the Head of Service.

The post of Bereavement Services Manager has overall responsibility for management of the administration and operation of all the crematoria and cemeteries in Fife, Kirkcaldy and Dunfermline. A Bereavement Services Officer reported to the Bereavement Services Manager. That role had been supported by a Support and Development Officer since 2011. The Bereavement Services Officer left in 2015 and has not been replaced.

ii Approach

Senior management receive information through Service Plans or stand-alone reports which are compiled by Heads of Service. The Chief Executive of Fife Council, Steve Grimmond, told the Investigation,

> *"In the pre-Mortonhall Inquiry period I had no specific information around the kind of technical operation of the crematoria and nor would I have sought that."*

The Head of Service, Grant Ward, said,

> *"My contact with the crematoria has largely been through Liz (Murphy) (Bereavement Services Manager), so I wouldn't profess to have an intimate detailed technical knowledge of the crematoria or their operation.*
>
> *It's obviously become an area of much greater focus for us but I wouldn't want to profess that it was a sort of hands-on day to day involvement. I've got a range of responsibilities and I very much rely on Liz and I have every confidence in Liz"*

Liz Murphy is Bereavement Services Manager and has direct responsibility for the running of Dunfermline and Kirkcaldy crematoria. She said,

> *"My job is at a strategic level. It's ensuring the day to day operation and helping and developing processes. It's my job to make sure the processes are in place and staff know what they are doing as far as day*

to day administration and that they have the training to do the job. I also oversee the maintenance of cemeteries. I deal with any issues that arise within overall administration in the work we do – the cemeteries and the crematoria and also the strategic side of identifying our capacities in the cemeteries and looking forward – what do we need and ensuring everything's running smoothly"

Until 2015, she was assisted in this role by a Bereavement Services Officer, William Greig, who was based mainly at Dunfermline.

When asked why issues in relation to ashes were not raised with management, one Cremator Operator said,

"It was not that type of management."

11.3 Response to Mortonhall Investigation and Infant Cremation Commission

On 1 May 2013 after the issues at Mortonhall Crematorium came to light, a Briefing Note was produced by Liz Murphy, Bereavement Services Manager, for senior management and elected members. The note set out the Council's procedures for dealing with the cremation of babies. It stated that,

"Any ashes present after a cremation will always be offered back to a family via the Funeral Director...If cremation is chosen instead of burial, bereaved families are advised that more often than not there will be no ashes/cremated remains left for return. This reflects the national guidance via the Federation of Burial and Cremation Authorities (FBCA[44])"

This is contradicted by a Cremator Operator who told the Investigation that there were ashes but they were not wanted by Funeral Directors. The Briefing Note goes on to say,

"The Bereavement Services Manager is also actively involved in discussion at a national level with both local authority and private crematoria Operators via the FBCA. Establishing a common policy/approach to the issue of baby ashes is a key area of focus."

[44] Section 5.2, Key Organisations, explains who the FBCA are.

Despite this position there was no recognition that other crematoria were returning remains with the use of a baby tray[45]. Fife Council's former Bereavement Services Officer, William Greig, who now works at Perth Crematorium, approximately 28 miles away informed the Investigation,

> *"In Perth...they've always used a tray there"*

The Chief Executive told the Investigation that after the Briefing Note was received,

> *"From recollection there was no internal audit undertaken at the time. Effectively we acted in response to the information that was emerging. We immediately took action to amend the practice. One of those amendments was by the use of a tray (baby tray)."*

At the time of the briefing the baby tray had been taken out of circulation and was not re-introduced until May 2014.

11.4 POLICY, GUIDANCE AND TRAINING

i Written Policy

Cremator Operators said that there was very little other than the Operators' manuals produced by manufacturers and the FBCA Code of Cremation Practice committed to writing. One Cremator Operator said,

> *"We have a Facultatieve Operator's manual. We don't refer to it much because we are just doing them on a regular basis."*

After media coverage of the issues at Mortonhall Crematorium flow charts documenting the processes at the crematorium were produced. John Swan, Corporate Development Lead Officer told the Investigation,

> *"I was asked to go to a meeting I remember a few years back and discuss the issues at Mortonhall and the babies' ashes. I produced various flowcharts based on what the staff should be doing and since the guys on the ground are the technicians and the managers are in charge my role was co-ordinating it more than anything else and then I think we got a few various issues."*

[45] Section 5.13, Baby Tray, explains in more detail what a baby tray is used for.

He also referred to older written procedures,

> *"The old written procedures probably don't even exist anymore as documents are kept for five years and we have had the flow charts for a bit more than five years."*

The Flowcharts shown to the Investigation that were issued in March 2010 do not set out any specific steps for non-viable foetus, stillborn or infant cremations. A draft flowchart for Baby Cremations was provided dated December 2014 which shows the use of a baby tray.

Liz Murphy, Bereavement Services Manager, referred to a folder of FBCA training notes.[46] However, she confirmed,

> *"There are not specifically local instructions on the cremation process. It's not written down to the level of detail of how each individual does the cremation."*

A Cremator Operator told the Investigation,

> *"There was stuff in the Operator's manual about cremating infants. Cremating infants you take care always – at that time we were actually using a metal tray. Everything was put on a metal tray, if we got instructions to return ashes."*

He provided the Investigation with an extract from a Facultatieve manual which stated,

> *"Where Infants are to be cremated a special purpose Infant Tray should be used and is available from Facultatieve Technologies Ltd."*

Facultatieve advised the Investigation that this recommendation has been in their manual since 1987.

The BSI (the British Standards Institution) carries out annual assessments of Dunfermline to determine the effectiveness of its quality management system. The assessments provided to the Investigation did not raise any issue in relation to infant or non-viable foetus cremations until the November 2014 assessment which stated,

[46] Section 5.3, Training, explains more about how Cremator Operators are trained.

"The recent improvements to the system regarding cremation of babies was explained and a clear understanding of this was demonstrated by the cremator operatives."

The Bereavement Services Manager has confirmed that there is no further reference to infant cremation in any other BSI Assessment Reports.

A report by the FBCA dated 6 November 2012 after an inspection visit does not mention infant cremations or baby trays. That was at a time when there was no baby tray in use in Dunfermline. John Swan, Corporate Development Lead Officer, confirmed that a flowchart was drawn up for the process of using the baby tray purchased in December 2012 after it was reintroduced in May 2014 having been removed from use in April 2013 following health and safety concerns.

ii Training

One Cremator Operator at Dunfermline had been trained in Linn Crematorium in Glasgow. He had obtained a Scotvec (Scottish Vocational) certificate. He also took the FBCA examination. Another Cremator Operator had been trained by a Cremator Operator who worked and carried out training at Kirkcaldy. There was no specific training for cremation of infants, stillborn babies or non-viable foetuses.

When the machines were installed in 1998 Facultatieve provided a five day training course. A Cremator Operator said,

"When the new machines were installed we got training on their use from Facultatieve. It was a 5 days' course when the boys were installing the machines. It's the full intensive course where they train you on the air burners and everything on the machine you have to know. They show you how to do the cremations, raking out and the process, computer, the whole process... The Facultatieve training did not cover things like different types of cremation. The only cremations you got was the 'standard', 'cancerous' and 'large'. We never got trained on babies or anything like that."

He went on to say,

"We didn't have to do any further training to keep our certificates up to date."

The Cremator Operators confirmed that they had, unusually, visited other crematoria at Perth, Seafield and Warriston but that these visits did not involve consideration of infant cremations. Seafield and Warriston obtain and have always obtained ashes for infants, stillborn babies and non-viable foetuses. The Investigation was advised that Perth Crematorium used a baby tray and retrieved ashes also.

11.5 CREMATION EQUIPMENT

i Equipment

The two Evans Universal 300 cremators used in Dunfermline Crematorium were upgraded in 2010 with mercury abatement software and then with software designed to improve monitoring and reporting of emissions in 2013. This upgrade also provided a new programme called infant mode. Facultatieve described infant mode as:

> *"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years."*

Prior to the Evans Universal 300 cremators in 1998, Dunfermline Crematorium had 2 double-ended Dowson and Mason Cremators with honeycomb hearths.

A baby tray was first introduced in 1991. In response to the questionnaire issued by the Investigation Dunfermline Crematorium stated,

> *"The tray was first introduced by the crematorium manager in 1991 to be used at the request of families where ashes were to be returned."*

The tray was used up to the mid 2000s when it was sent to Kirkcaldy Crematorium, from where it was never returned. A new tray was purchased in December 2012 but was withdrawn from use in April 2013 following health and safety concerns and re-introduced in May 2014 following the development of a Risk Assessment.

One Cremator Operator told the Investigation,

> *"We always used to have a tray at Dunfermline and it was taken away from us. When I started full time there was a baby tray (1991). We did not have infant mode back then. There was no air modes or anything like that – you put the flame on, put the baby in and left it – that was it. There was always some remains because the temperatures and the air force wasn't as hard as it is now."*

The date when the original baby tray was removed is subject to some disagreement. The information in response to the questionnaire issued by the Investigation states that it was removed in 2005. The Cremator Operators indicate that it was in 2008. A Cremator Operator advised that they continued to use the tray for a period after they had been advised by management to stop.

A Cremator Operator said that when he started in 2003,

> *"I think we had a tray and we had it up until I think it was 2008/9 and then our tray was taken to Kirkcaldy for some reason. They were needing a tray so they took our one and we kept asking for the tray back because although we don't do a lot of babies it was something we needed here."*

ii Cremation Process

Non-viable foetuses were described as being cremated individually. These babies were brought to the crematorium by Funeral Directors.

When Dunfermline Crematorium opened in 1973 ashes were not returned to next of kin for non-viable foetuses, stillborn babies or very young babies. It is notable however that one of the cases referred to the Investigation is dated 1973 and the register records the ashes as having been dispersed. A Cremator Operator spoke of the original twin flux cremators and said,

> *"At the very start it was, unless the baby was a year old say, full term, you didn't give ashes back, that was the rules. In the early days we wouldn't use a tray unless the baby was full term. NVFs were just cremated on the hearth. In those days it was a honeycombed hearth and you just put the baby in, cremated it and when you came back in the morning there was nothing there, because if it there was anything there it'd fall through to the secondary chamber."*

Cremator Operators believed that until the machines were replaced in 1998 ashes were not expected and therefore staff did not look for them. The Cremator Operator confirmed,

> *"In those days with NVFs, you would not check for any ash or any remains because you did not expect there to be any. That all changed when the new machines came in around 1997/98 because of flat hearths."*

When the machines were replaced ashes were not retrieved unless a tray was used. It became clear to the Investigation that although a tray was available it was only used where there was a specific instruction from the Funeral Directors to retrieve ashes. A Cremator Operator said,

> *"Even with the new machines (1998) though, you did not get remains because you didn't have infant mode. If you put on say standard mode it'd hit in at say 45% air and the air can go right up and it is quite a powerful draught that comes through."*

However, information from the cremator manufacturer anticipated manual override of the system by experienced Operators. According to a report provided by Facultatieve Technologies Ltd to the Investigation,

> *"Time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

Such manual intervention was found to be very successful over many years at Seafield and Warriston crematoria, whose Superintendent Jane Darby described the technique to the Mortonhall Investigation.

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall

Investigation[47] explained in his evidence why manual intervention in the cremation process is beneficial saying,

> *"the usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

A Cremator Operator also said,

> *"NVFs were done last thing at night. When we check the hearth first thing in the morning there might be just a bit of ash lying as if you've burnt paper or something like that – nothing skeletal. You would see something. If there was anything in it we'd rake it out as a normal human being as normal into the ash cool. If there was anything, put it in the cremulator[48] and just disperse it because in that day we'd disperse it the next day, the following day after cremation. We'd never return it to the Undertaker. You were just not expected to return anything then. We might use the tray for stillbirths if requested."*

It is difficult to understand how a parent would know to request the use of the tray if this information was not given to them by Funeral Directors or the hospital staff. A Cremator Operator explained that,

> *"If the family were adamant they wanted ashes back the Undertakers they'd come and say, 'look will you try and get ashes back for this nice family'. We would try but could not guarantee because at that time, we didn't have infant mode. If the Undertaker didn't come and say, 'we're needing ashes' then there was no ashes. If the Undertaker said nothing at all and just said 'it's a cremation, there's been no request for ashes' the baby would go onto the hearth. If there was something there it would be raked out depending on what it is. There's very, very little and by the time you rake it out it disperses itself anyway as you rake it out. If there's anything that goes into the ash can (where ashes cool) it'll go through maybe the cremulator and then just dispersed, there's hardly anything. If we did find something it would get dispersed. We wouldn't go back to the Undertaker in those days and say 'we've got something'."*

[47] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

[48] Section 5.14, Cremation Process, explains more about what a cremulator does.

The Investigation was given the impression that Funeral Directors made more effort for some families than others. This Cremator Operator explained that the same approach was adopted for babies,

> *"If they want ashes back we got the ashes back...This is if ashes were requested but 9 times out of 10 the Undertakers didn't want you to return anything. They didn't want us to return ashes because it's a service they provide for free that they don't want to do."*

The Investigation put this assertion to the Director of Crosbie Matthew, Sheila Matthew, who said,

> *"I suppose it does give Funeral Directors a bit more work but we've not changed the pricing as a result of it. How we price for all the baby work is really to cover our costs and yes maybe it's another couple of phone calls but we're up and down to the crematorium anyway so it's not really that much more added. We're going there. It's maybe more significant for an Undertaker who isn't going up as often. So no it really hasn't made any difference in terms of the costing. It's more just a case of making sure that you've got it right and that all the paperwork's in place and making sure that it's all tracked through."*

The Cremator Operator said the attitude of the Funeral Directors was,

> *"Bringing baby through, no ashes, family not interested and that was it. They would put on the forms no ashes no remains."*

The Cremator Operator described a culture where trying to obtain ashes for infants, stillborns and non-viable foetuses was the exception. While this in some way may have been underwritten by a belief that there were no ashes, the illogicality of it was borne out by the fact that when required and the tray was used ashes could be obtained,

> *"I've always got ashes from an infant using the tray. It might be coffin ash but it is something."*

However, the Cremator Operators thought they were instructed by Funeral Directors not to obtain ashes,

> *"We got no remains because that's what we've been told there will be no remains. If you were told there would be no remains but there actually was something you would not return it. 'No remains' was an instruction"*

When this was put to Sheila Matthew of Crosbie Matthew she responded,

> *"The background is that we were informed by Fife Council crematoria that there would be no remains. All our procedures were based on this assumption. If the Form A said 'No Remains' – I think this would mean that the family had understood that there would be no remains based on the information given to us and explained to them...If the form was completed incorrectly, then I'm sure that the crematorium office would have followed this up for clarification. We do not issue instructions to the crematorium as to how to perform their job. We deal with cremated remains all the time, by passing them onto the family or carrying out their wishes, it is an integral part of our job. If there were remains, then...are there records as to what happened to these alleged remains? Surely the crematorium would have to act according to their own regulations should this have happened. More recently, since the crematorium have changed their procedure and told us that they can obtain cremated remains, we ask every family at least twice for their instructions, just in case they have changed their minds, especially if their original written instruction was to disperse at the crematorium. We double check that this is still the case before it is carried out."*

William Greig, Bereavement Services Officer, told the Investigation,

> *"We did not speak to those parents about whether there was or wasn't going to be ashes because they seemed to be under the impression from the Funeral Director that there wouldn't be any remains particularly foetuses at the time and I think the Funeral Directors were actually saying to the family there wouldn't be any remains. We just raked out whatever was in there and put that out in the gardens."*

The decision about what would happen to remains was at that time taken at the crematorium without any consultation with the families. The Cremator Operator said,

> *"The form's got 'no remains' so if there was any remains you went 'oh alright they don't want them' and dispersed them because sometimes you thought it'd be better for the family not to have remains. They weren't given the choice. There isn't any way of working out what cases there were remains but we've actually put in 'no remains' because that was the practice."*

The Cremator Operator indicated that he was not happy with that approach,

> *"I would have been much happier saying, 'there's ashes, what do the family want?' But you have to remember then the Undertakers have to drive through here, pick the ashes up, take them back to the family that*

they've told there'll be no ashes. When we got remains but the Undertaker did not want them, we dispersed them but in the records we put 'No remains'. This means there were remains that were dispersed but the record would tend to suggest there weren't any remains and I feel bad but that was the practice."

When the tray had been removed from Dunfermline crematorium ashes were not recovered. It is clear that the tray was removed from Dunfermline and taken to Kirkcaldy and never returned.

"They took the original tray off us 2008, 2009 maybe. We were without a tray for four or five years. They took the tray to Kirkcaldy, I asked for it back but they said they'd lost it. So without a tray you're just cremating NVFs, stillborns and infants on the hearth. As for remains if it's not in the tray, when the airs come on it scatters everything round about."

The tray in Dunfermline was seen as a tool that allowed retrieval of ashes in some cases but was not used unless ashes were specifically requested. After the removal of the tray the Cremator Operator said,

"We were quite upset here when they took our tray away. We had a perfectly good system before they took our tray away that allowed you to get remains maybe not always but often."

Without the tray the prospect of getting ashes was reduced at Dunfermline unless they adopted manual intervention to carefully control the temperatures and air flow as was done in a number of other crematoria. Another Cremator Operator said,

"Cremating in that way (no tray) we got remains on very few occasions. I think there was maybe a couple of occasions where I can remember and one lady she had actually insisted that she got a proper size baby casket and we got some ashes. With a casket you have a better chance but with a cardboard box and no tray, no."

The likelihood of obtaining ashes was further reduced by the cremulation process used.[49] A Cremator Operator acknowledged,

"I always raked whether I saw something or not in the hope I might get something. I went through the process but putting baby ashes into the

[49] Section 5.14, Cremation Process, explains more about what a cremulator is used for.

cremulator as we once did meant there wasn't any remains at the end that you could visibly see...In the time before infant mode and without a tray whatever I recovered went into the cremulator."

The inability to retrieve ashes when not using a baby tray affected non-viable foetuses to a greater extent than stillborn babies or infants. A Cremator Operator told the Investigation,

"While I might not get remains from an NVF then I pretty much always got something from a stillborn. With infants who have breathed, without a tray I would say I got ashes most of the time."

Facultatieve state that,

"Facultatieve Technology guidance manual has been giving advice on how to cremate infants since the 1990s if not before and recommends the use of a tray and not using the main burner, well before the notion of infant mode"

iii Baby Trays[50]

The original tray which was used when Cremator Operators considered they were instructed to retrieve ashes by Funeral Directors was sent to Kirkcaldy on a date between 2005 and 2009. From then until 2012 there was no tray. William Greig who was Bereavement Services Officer for Kirkcaldy and Dunfermline said of the tray,

"I remember it being left at Kirkcaldy. That was the last we seen of it. We actually tried to get it back to Dunfermline and to be fair all of the staff were advocating the use of the trays in 2006."

The Bereavement Services Officer, William Greig, purchased a tray in December 2012 which was put into immediate use. However a meeting took place on 13 February 2013 which was attended by Kirkcaldy Cremator Operators, the Bereavement Services Officer, a Health and Safety Officer, a Quality Control officer and others. It was decided at the meeting that the baby tray was very unsafe, despite the guidance and advice on its use in the

[50] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

Facultatieve operating manual and it was agreed that it was not to be used at Dunfermline and Kirkcaldy until further notice.

However, the Bereavement Services Officer confirmed to the Investigation *"No-one ever got hurt by a tray*."

There is an entry on the minutes of the meeting on 13 February 2013 attributed to the Bereavement Services Officer, William Greig, which states,

> *"Advised that if recent media issue had not arisen we would have continued advising that there were no remains for anything, however now this would need to be tightened up."*

He is also attributed as saying,

> *"Concerned that where we had been stating no remains that we would be open to criticism if we now started having remains."*

There was discussion about obtaining a bespoke tray and everyone agreed that the way forward would be to purchase a baby cremator. The costs of this were to be investigated. No further notes or minutes have been supplied in relation to this.

Risk registers provided to the Investigation do not refer to the baby tray until May 2014 when the risk of injury to Cremator Operators from use of the baby tray is noted. However it is worth noting that personal protection equipment had always been available at the crematorium. Thomas Graham, Support and Development Officer, told the Investigation,

> *"They had PPE before they were using baby trays – you've still got to wear PPE when you open the chamber door for the heat that comes out."*

iv Definition of Remains

None of the Cremator Operators had a defined age under which they understood ashes were not available.

William Greig, former Bereavement Services Officer, explained that what was seen as ash and not remains was dispersed without the knowledge of the family,

> *"I think in the cremation register that it says dispersed and then (No family) in the most occasions. It was dispersed without family – probably without the family being aware that it was taking place – it was recovered and it was dispersed in the gardens. I think they had been told that there would be no recovery of remains. I think they had been told that and just because of the guy's nature who in these positions, if there was anything there whether it was cardboard or bits of remains of teddy bears or whatever, they thought it right to be dispersed in the garden."*

This was also what was explained to the NHS staff who attended study days at the crematorium after the issues at Mortonhall Crematorium came to light.

In all of the media coverage the Council's position was that where a baby had died the crematorium staff would do their best to meet the wishes of parents. The likelihood of obtaining ashes described by the Cremator Operators is at variance with this media line. A media statement on 10 January 2013 stated,

> *"However in line with national guidance, we advise parents that on most occasions with a cremation of this nature (infant cremation) there won't be any remains because a skeleton isn't formed until late in a baby's development. It's obviously a really distressing time for parents but we give them this information because we want them to know what to expect."*

In an article entitled 'We take the best possible care of your baby' printed in the press on 29 May 2014 Liz Murphy, Bereavement Services Manager is quoted as saying,

> *"We will explain the various options which are open to them in such circumstances from leaving it to ourselves to scatter any ashes in our special Garden of Remembrance at Kirkcaldy Crematorium to having a small private ceremony here or a full service if that is what they wish."*

This is in contrast to the information given to the Investigation that arrangements were made through the hospital or Funeral Directors.

This article came out after the publication, and in apparent ignorance of, the Mortonhall Investigation Report which confirmed the physiology of baby bones and the ability to obtain remains from foetuses as early as 17 weeks' gestation. The Council insisted in the article that in the majority of cases, no cremated

remains are obtained from an early stage foetus as they claimed remains are essentially soft tissue.

Liz Murphy, Bereavement Services Manager, told the Investigation,

> *"The advice that we always got was that there wouldn't always be ashes in every case because of the nature of the development of a baby. I have a letter from Duncan McCallum from the Federation (FBCA) from 2007 I think it was."*

In fact, the letter is dated 17 December 2008 and states,

> *"In cases where bereaved parents desire the cremation of an infant or of foetal remains, they should be warned that there are occasions when no tangible remains are left after the cremation process has been completed. This is due to the cartilaginous nature of the bone structure. If the warning is not given the parents may have been denied the choice of an earth burial and thereby subjected to understandable distress."*

However, under the heading 'Cremation of Infants and Foetal Remains', it also states,

> *"Cremation trays should be used when cremating stillborn or infants in order to establish if any 'tangible' remains exist after cremation."*

Duncan McCallum declined to make any comment on the contents of this letter.

The FBCA carry out periodic audit visits to their member crematoria. A report of such a visit dated 1 August 2007 makes no mention of infant cremations or trays. The covering letter to that report confirms that,

> *"The Federation provides for all its Members a comprehensive Technical Advisory Service which is based on experience and knowledge accumulated over many years on all matters relating to the cremation service."*

Liz Murphy confirmed that the subject of ashes never came up at FBCA or ICCM[51] meetings prior to the issues arising about Mortonhall.

Liz Murphy said of the issue of ashes,

[51] Section 5.2, Key Organisations, explains more about the FBCA and the ICCM.

> *"It was a grey area and that was the general thinking throughout from those guiding voices. It was also the medical profession to be fair. Even the discussions we had at meetings everybody was of the belief that a full term baby didn't have properly developed bones and that was an issue, perhaps a reason why sometimes there were remains and sometimes there weren't. Another issue, which I know is something that has come out through reports, was people's sufficient understanding of what cremated remains were. I suppose ours was that we were looking for skeletal remains rather than everything that was left after cremation."*

She goes on to say,

> *"We would look for them – if there was something there we would definitely give something back."*

This position is clearly contradicted by the Cremator Operators at both Dunfermline and Kirkcaldy crematoria.

Thomas Graham, Support and Development Officer, told the Investigation that Cremator Operators are quite concerned that what is left after cremation is coffin ash. Despite the publication of the Mortonhall Investigation Report and the Infant Cremation Commission Report[52], staff members had clearly not been briefed on the findings of the Forensic Anthropologist and witness to this and the Mortonhall Investigation, Dr Julie Roberts, to enable them to understand fully the physiology of baby cremation.

11.6 ADMINISTRATION AND RECORD KEEPING

i Bereavement Services

Official administration and record keeping for Dunfermline Crematorium is handled by the clerical officers based at an office situated at the gates of the crematorium. Dunfermline staff tried where possible to refer to non-viable foetuses by a name rather than just a number.

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[52] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commission Report can be found here: http://www.gov.scot/Publications/2014/06/8342

There is a small team of Bereavement Services Clerks in charge of the processes. They are now line managed by the Business Support section of Fife Council but rely on the Bereavement Services Manager, Liz Murphy, for immediate guidance.

Funeral bookings are made by Funeral Directors and booked into the diary system on the BACAS system (the computer record keeping system) which was introduced in 2001. The office gives confirmation of the date and time of the funeral service and the name of the deceased to the Funeral Director.

When all of the paperwork is checked the information in relation to the cremation, to include what is to happen to the ashes, is added on to the BACAS system and the paperwork is printed off for the Cremator Operators including sticky labels for the ashes container. The crematorium staff now has access to BACAS. After the cremation the Bereavement Services Clerk would only get involved if the ashes were being collected by family. If the ashes are being collected by Funeral Directors, they go directly from the Crematorium. The clerk confirmed that if there were ashes from a non-viable foetus she would be informed. However, when she started working at the crematorium in 2000 she understood, incorrectly, that there were no ashes for NVFs because different cremators were in use,

> *"When I started it was understood that there'd be no ashes from an NVF because it was different machines they were using in those days. So far as I'm aware that had also been the understanding of Funeral Directors. I don't know what understanding local hospitals might have had."*

When this clerk began working there was a baby tray in use at Dunfermline. The clerk confirmed that,

> *"When a cremation is complete the only paperwork that would come back to me from the technicians would be if ashes were taken away.*
>
> *If there were ashes from an NVF I would get told. There's a bit in BACAS that you could complete to show that there had been recovery of ashes and we would need to say what happened to those ashes, whether they were returned or whether they were dispersed.*

I sometimes got told and sometimes the boys would update it along there when they had access to BACAS. Before they got access (to BACAS) the ashes bit of BACAS would stay blank until they came back and told me. I relied on them coming back and telling me. If they didn't it might stay blank."

Liz Murphy Bereavement Services Manager, said,

"In all likelihood any other cases would have been left blank by staff as we were not good at feeding back the information unless they had been collected."

The instruction for the ashes has already been put into the BACAS system before the cremation and the Clerk confirmed that,

"There could be a set of circumstances where I would record in advance what the disposal of ashes was to be if I entered say, dispersed, but that was changed and nobody told me or there were in fact no ashes to disperse and nobody told me. If the technicians don't tell me about ashes or it got missed somehow the BACAS record would not be accurate."

The Register of Cremations which is the official statutory record of the cremation is created automatically from BACAS. The practice of inserting the disposal outcome of the remains of the baby on the Register before the actual cremation had taken place has rendered the records wholly unreliable and meaningless as a statutory record of the actual outcome of the cremation.

Since 2001 there has also been a separate register kept for the cremation of non-viable foetuses which is also generated by the BACAS system.

ii Records kept at the crematorium

There was not always an option for 'no ashes' or 'no remains' in the BACAS recording system. A clerical officer was asked what she would do if there were no ashes before that option became available and she replied,

"If there was not a box in BACAS that said 'no ashes' I would not be able to update BACAS properly. There might or might not have been a box – I can't remember. It might have been that the ashes box was left blank"

This issue was never raised with the supplier of BACAS. This was despite the fact that another issue was raised in an internal report prepared about the

Mortonhall Investigation Report by Liz Murphy Bereavement Services Manager in 2014. The report stated,

> *"Issue with BACAS which has automatically populated 'no Remains' into sections that were left blank for remains when system was upgraded. Only solution to redress is to go back through records and manually input correct record."*

Liz Murphy, Bereavement Services Manager told the Investigation,

> *"There also appear to be issues with BACAS self-populating blank entries into the older system when they moved over to the newer system."*

It is surprising that these issues were never raised with the supplier of BACAS by Fife Council. The Investigation contacted this supplier. Martin Caxton, General Manager of Clear Skies Software which provides the BACAS system to Fife Council told the Investigation,

> *"The disposal terminology in the original BACAS system was fixed (i.e. the users could not alter the wording. In the current version of BACAS the users can define their own disposal wording. In the conversion between the old and current versions of BACAS the default wording was changed to 'Strewn by Staff' which for most users was interchangeable with 'Disperse'. A small program, however, can be run to return the wording to its original text... although the system has a number of programming checks...the final check is provided by the users as they use the system and discrepancies are identified and rectified if possible."*

Nonetheless these records had been left blank which allowed this automatic insertion of information to happen. It was raised by this Investigation as an issue with the supplier rather than by Fife Council. It would appear that staff at Fife Council had not checked for any anomalies after the BACAS system was upgraded.

An Internal Audit report dated 28 March 2014 has been provided. Neither it nor the BSI assessments made reference to any difficulty with the computer recording system. It did however find that entries on the record for dispersals were not countersigned.

11.7 COMMUNICATION

i Communication between the NHS and the crematorium

Liz Murphy told the Investigation,

> *"I think there might have been a mixed message with midwives at the hospitals (because that has been an issue over the years) with the completion of the application forms for foetuses. We use a different form for them and I think it is only recently I've become aware that there's maybe been mixed messages coming from the Funeral Directors as well. I think some Funeral Directors have in their head that there definitely weren't going to be ashes for any foetuses. It's not always the same member of staff that would be filling the applications and dealing with the families"*

Cath Cummings, Head Midwife (retired in 2016) told the Investigation that in Fife women were offered cremation for non-viable foetuses after sixteen weeks' gestation much earlier than in other places. She states that they were always told there would be no ashes for non-viable foetuses,

> *"We were always informed there would be no ashes from cremation here in Kirkcaldy. If we were asked that is what we would have told parents."*

This is despite the existence of a Bereavement Services Group in place since the 1980s with representatives from Crosbie Matthews Funeral Directors and Liz Murphy from Fife Council.

An NHS booklet was developed by this Group which advised that there was no guarantee of any cremated remains and it was very unlikely any would be recovered. This booklet was in circulation in 2010 and 2011. A 2008 version stated this more starkly,

> *"You must bear in mind that cremated remains are not available afterwards."*

An updated version of the booklet, dated April 2013 states,

> *"Unfortunately due to the age of your baby it is very unlikely that there will be any ashes /cremated remains available following a cremation. On the very rare occasions where there are ashes/cremated remains, you will be notified by the Funeral Director or by staff from the Crematorium.*

Following such notification you can decide what you would like done with the ashes/cremated remains."

This was the position of the Scottish Government at the time and was confirmed by the Chief Medical Officer in 2012. This information has still not been updated at the time of writing despite the fact that Fife Council crematoria have been returning ashes from every cremation since at least June 2015 (the date from which they were required to report any instance of non-recovery of ashes)

The information given to NHS staff changed as the Mortonhall issues emerged. The Head Midwife told the Investigation,

"After we were told that it was possible some families might get ashes we did some study days at the crematorium (this was after Mortonhall came to light). It was explained that it depended on temperatures and how ashes were recovered whether there would be any or not. I understand that anything that was swept out after the cremation that was not considered at that time to be ashes was scattered in the baby garden."

In relation to the timing of completion of the Application for Cremation (Form A) Cath Cummings said,

"We find that most families want to know what will happen to their baby and want to discuss it soon after delivery. However if they are not ready they do not have to rush it."

Dr Tydeman, Consultant Obstetrician, NHS Fife said in relation to a particular case,

"I would have told [Kirkcaldy parent] that there would be no ashes following cremation of the baby. This is something we were always told was the case. We believed that any baby right up to term and in the early neo-natal period vaporized during cremation, although I found this very hard to accept. We were told there was inadequate mineral content in the bones to withstand the process. This was a widely held belief. This was the culture in which I was trained."

Dr Tydeman continued,

"Several years before, we had challenged whether you could get ashes. During 2006 two specialist midwives and I became aware of inconsistencies on whether ashes were available or not. The two midwives visited the crematorium to satisfy themselves about what we were being told by the Undertakers and to challenge the information with

which we were being provided. They had a discussion with the Crematorium staff who confirmed that there were no ashes because of the ferocity of the process."

The foetal midwives who visited Kirkcaldy and Dunfermline crematoria in April 2006 told the Investigation,

"We were shown the facilities in full and at both locations we raised the question of whether ashes were available, both sites informed us that due to the efficiency of the cremators there was no possibility of ashes for foetuses."

A Cremator Operator who had regularly obtained ashes using the tray advised the Investigation that he was not present for that visit. The information given to parents by NHS Fife is still that ashes cannot be guaranteed despite a one hundred per cent success rate in retaining ashes at Dunfermline since the re-introduction of the baby tray. The Foetal Midwives told the Investigation,

"When the concerns were released regarding Mortonhall in the media we checked again with Crosbie Matthew and were told that rarely ashes were available and if the parents wanted to be informed we were to give them that option, this was not a guarantee only occasionally an option. This has remained our current practice."

The current checklists used by midwives with bereaved families state

"There is now a possibility that ashes will be available from cremation, The Funeral Director/ Crematorium staff will contact you. You can then decide what you would like done with the ashes."

Crosbie Matthew Funeral Directors confirmed to the Investigation that they do contact families after retrieving the ashes, unless the family has chosen not to be involved at all in the cremation arrangements for their baby. Sheila Matthew said

"In order to allow for any change of mind on their wishes, we find it is better practice to double check that we are doing exactly what they want to happen. We think that sometimes at the time of loss, the next of kin are not really taking in all the information and may need a bit more time to be certain of the right decision for them. We then arrange to carry out their instructions."

At a time of deep distress and often shock parents interviewed for the Investigation stated that they felt that they had little time to make decisions about the final act of care for their baby before leaving the hospital.

A local Funeral Director confirmed that the Form A was normally done at the hospital but went on to say,

> *"We don't rush anything too fast just in case they'd had a change of heart about what they want to do. They might decide they don't want cremation, they want burial. So there's quite a bit of time and also if the baby is away for post-mortem then you've automatically got time – a week or two weeks."*

ii Funeral Directors

Crosbie Matthew are the main Funeral Director dealing with Dunfermline Crematorium and their representative told the Investigation that until publication of the Mortonhall Investigation Report they did not expect to get ashes from non-viable foetuses or very young babies. They had two people working with them who had previously been Cremator Operators so they did not query this. Sheila Matthew, a Director of Crosbie Matthew told the Investigation,

> *"Prior to the publication of the Mortonhall report, I think my understanding of ashes would have come through Liz Murphy who I've obviously worked closely with for a number of years. The understanding was that ashes would not be the coffin per se but the infant, which is obviously impossible to differentiate between the two. We were always told that there aren't any recoverable ashes because of the temperatures of the ovens and the size of the baby, especially if they were very tiny. If they were slightly older you might have had some ashes."*

Most Cremator Operators told the Investigation that they had no contact with families.

One Cremator Operator told the Investigation,

> *"If the Undertaker hasn't asked for ashes we phone and we tell them 'we have ashes' and they (the Undertaker) might well suggest that we do not."*

The Cremator Operator said when interviewed in April 2015 he recently telephoned the Funeral Director to advise that there were three sets of ashes

and that the Funeral Directors telephoned back and instructed him to disperse them. He confirmed however that they would not be dispersed until there was a written authority. This Cremator Operator told the Investigation,

> *"We will not say in future there were no ashes when in fact there were and we're going to keep them. We will say to the Undertaker tell us in writing what you want done with them"*

A Funeral Director told the Investigation,

> *"I think we were really clear that the crematorium procedure was that there were no ashes. So we had to make sure that they knew that and if they weren't happy with that well would they prefer a burial?"*

There was no evidence of families being directed to Perth crematorium which the Investigation has been advised was providing ashes or indeed any knowledge that it was doing so. When asked about this Sheila Matthew, Director of Crosbie Matthew, said,

> *"We would give them the option of Dunfermline or Kirkcaldy to choose. I wouldn't have known if another one gave ashes so I wouldn't have offered that."*

A Funeral Director who had been a Cremator Operator told the Investigation,

> *"In 2005, I became a Funeral Director. I would have said that from NVF that the likelihood of there being any cremated remains would be none. If the baby is older I would have said there's a bit more chance that there might be something and I would have also told families that we would say to the crematorium technicians that if there was anything there for them to let us know regardless of what we've put down on any forms. We fill in the forms. Technically it should be the parents that do it but it's filled in – you've got to appreciate that they're very upset. So we try and do as much as we can for them but they are done and they are read over and they're given to the family for them to check and then the family sign them."*

He went on to say,

> *"I am asked when Mortonhall came out did I change what I told the families. No Mortonhall had nothing to do with me. There's no way that anything that I ever did in my whole time resembles Mortonhall. I would tell them that there might be a chance that there might be nothing left after cremation. That is what we've always been told and not only from my experience from being a cremation technician but since I've left and*

we've been told that by the cremation authorities that that's what we've to tell people.

If a family told us that they're very keen to get ashes, we would only say to them we would check with the crematorium if there were any ashes at the end and let them know. The crematorium would have let us know if there were any but we could phone them and check. There have been one or two that were a little bit older."

Sheila Matthews Director Crosbie Matthew said that a follow-up letter confirming all arrangements was sent out to next of kin. Copies of the current template letters were shown to the Investigation. A Cremator Operator told the Investigation,

"Some of the letters (to families) from the Funeral Directors are saying 'on the rare occasions that there is remains the Funeral Director would come and collect them.

It is rare not to get ashes now but in the last few weeks (April 2015 interview) a member of a family showed me a letter from an Undertaker, it would have been Crosbies saying that it is rare to get ashes from a baby. But they must have known that we get ashes most of the time. We're phoning them often enough to tell them we have ashes for them to collect."

The letter shown to the Investigation by Crosbie Matthew about non-viable foetuses states,

"We take advice from Fife Bereavement Services, Fife Council, to find out whether there are any cremated remains available following a cremation. On the rare occasions where there are remains, parents will be notified and asked what they wish to do with them."

A Funeral Director employed by Co-op Funeralcare in Fife since 1998 told the Investigation,

"From the age of about a year and a half and under, from what I'm led to believe going back over these years, there was never the possibility to give ashes back to a family. The crematorium won't be able to get anything back because there's no trace of human remains."

He went on to say,

"All I can remember being told in training is for a child you can't get ashes back. I can't really remember who told me. It would be the crematorium because they're the only people that would say something

like that. I don't think we got training on that aspect but it was mentioned about the bones I can recall from some books I read, but it didn't state anything about ashes..."

It is clear that Funeral Directors working in Fife did not expect to be able to return ashes from non-viable foetuses and young babies to families. It is much less clear why, that being the case, they often completed Applications for Cremation with an instruction that the ashes should be dispersed. Nor did there appear to be any curiosity about whether ashes could be retrieved from a different crematorium or willingness to explore such an option for families who were distraught at the idea of having nothing left of their baby.

iii Communication between Partner organisations

An interdisciplinary group made up of midwives, Sands representatives, hospital managers, lay people and Funeral Directors interested in the whole process had been meeting on and off for 19 years.

Grant Ward, Head of Services spoke of a good working relationship with Crosbie Matthew, Sands and NHS Fife but said,

"... I am not trying to be overly defensive about that. It's partly back to the overall process – our role versus the role of the Funeral Director and I think that might be something to look at in your report. I wouldn't be surprised if some of those communication issues and process issues were something that emerged from your investigation and how those could perhaps be improved and tightened."

iv Bereavement Services Group

In addition, the Bereavement Services Group meets from time to time to look at various issues. Sub groups take on responsibility for different projects. This group was responsible for arranging a special room in the hospital, called the 'Butterfly Room' where babies can be kept rather than in the mortuary before leaving the hospital and Snowdrop gardens at the Crematorium.

A report presented to this Bereavement Services Group meeting on 3 Dec 2008 set out the services provided by the Funeral Directors, Crosbie Matthew. In relation to each category; stillborn/neonatal, under 24 weeks' gestation it stated, 'There are no cremated remains available'

However, the Bereavement Services Group had Process flowcharts drawn up (in 2013). The flowcharts for non-viable foetuses refer to the cremated remains being collected or scattered in the Garden of Remembrance. The flowcharts for stillborn babies or neonates refer to the cremated remains being collected or scattered in the Garden of Remembrance if there are any cremated remains.

11.8 Impact of Mortonhall Investigation Report and the Infant Cremation Commission

A further Briefing Note to Senior Management and the Council was issued by the Bereavement Services Manager, Liz Murphy, dated 15 May 2014. It refers to regular dialogue between Bereavement Services (Kirkcaldy and Dunfermline Crematoria), Fife NHS and Funeral Directors and, states that,

> *"The wording of information provided to parents now advises that is very unlikely that there will be any ashes following cremation."*

It goes on to say that,

> *"The cremation process continues to be closely monitored and the use of a special cremation tray for foetal and infant remains has recently been re-introduced to try and help improve the chances of ashes being retrieved."*

The Investigation was advised that when the baby tray was fully re-introduced in May 2014 the system changed so that the cremator was set to infant mode, which had been introduced in the 2013 upgrade. The box or coffin of the non-viable foetus was placed on to the baby tray which was then pushed just inside the charge door. The details of the cremation are entered into the computer. A visual check through a specially designed spy hole is carried out and when there is no longer the flicker of a flame the Operator puts on personal protection equipment and removes the tray through the same door through which it was charged (placed into the cremator) on to a trolley. When the tray has cooled the remains are brushed into the cremulator tray and crushed by hand using a pestle and mortar. The ashes are put into baby urns if they are to be collected and into individual high density plastic bags if they are to be dispersed.

This new system has ensured that remains are retrieved on every occasion.

A Cremator Operator said,

> *"Ever since we've started using the tray there's always some kind of remains there."*

Another said,

> *"Prior to using the baby tray it was pretty rare to get remains on NVFs. But if they ask me now I could pretty much guarantee there will be something there."*

A Safe Working Practices guide dated 2014 has been introduced for the Cremation of Foetuses and Babies at Kirkcaldy and Dunfermline crematoria.

Since the reintroduction of the tray at Dunfermline Crematorium staff have successfully recovered ashes in all cases from around 13 weeks' gestation onwards. One Cremator Operator said,

> *"We use the tray on every baby and every baby we cremate we get ashes from."*

The cremulation process has also changed to enhance the possibility of having ashes to return although the Cremator Operators described feeling some discomfort with crushing bones by hand,

> *"We use the mortar and pestle. I don't like doing that because it's not that easy, you try to blank it out. Sometimes you can actually see and identify bones."*

i Staff Reaction

Cremator Operators were upset by the fact that they were not getting ashes and could have been. Liz Murphy told the Investigation,

> *"Staff have found it really hard, the fact they weren't looking for ashes as per the new agreed definition i.e. they were only looking for skeletal remains of which in some cases there were none and the fact that they're now getting ashes as per the now agreed definition, where before they thought they couldn't get them. They find that quite upsetting."*

This does not reflect the position at Dunfermline as clearly the Cremator Operators there were aware that ashes could be retrieved with the use of a tray.

Working practices and the failure to modify those were the cause of the failure rather than any understanding of the definition of ashes.

A long-serving Cremator Operator who felt that it was often easier for everyone if there were no ashes said,

> *"We maximised the opportunity using the tray but it all depended on what the Undertaker wanted or told you he wanted and it wasn't until we lost the tray and got it back again and all the Mortonhall stuff came out that we got an instruction from management that the Undertakers were not to be told any more lies but it's what they wanted to hear."*

The Chief Executive, Steve Grimmond said,

> *"I think my reflection would be that there is recognition of the sensitivity, that staff feel that there is an anxiety that they believed genuinely that they were acting and following the practice that was informed by professional advice that was around. They now know with the benefit of hindsight that there is different advice and so there is a sensitivity around that and probably a kind of morale issue that flows from that into feeling exposed by that."*

Grant Ward, Head of Services acknowledged that,

> *"Given all the media coverage, I think there's probably a morale issue and a sense from Liz and Willie (before he left) and the guys – and I think witch hunt is putting it too strongly – of a sort of perceived grievance from those operating within the crematorium."*

11.9 Summary of Findings for Individual Cases

One family of a baby who died in 1973 told the Investigation that the Funeral Directors (Co-op) did not mention ashes to them. A certified copy of the Cremation Register states 'disperse (no family)'. The original handwritten Register of Cremations says 'dispersed', as does every other entry for a baby that year at Dunfermline. The words 'no family' have caused much extra distress to a family who were unaware that ashes had been obtained for their baby. The Investigation understands that this option 'disperse (no family)' was available on the BACAS system and chosen when transferring entries from the original Register to the computerised version. The family has been provided

with a copy of the original handwritten Register of Cremations by the Investigation.

The mother of a four month old baby who died in 1988 told the Investigation that she was advised by the Funeral Directors (Co-op) that there would not be any ashes. This was before a baby tray was used in Dunfermline. The mother told the Investigation that she telephoned the crematorium several times to ask whether there had been ashes of her son, but her calls were not returned. She found out through participation in a BBC documentary that the Register of Cremations records that her son's ashes had been dispersed. This mother was further upset to learn from this Investigation that it was possible to receive a copy of the Register of Cremations for her son as she recalled being told by Fife Council that there was nothing they could provide. In fact the records were the same as those in the aforementioned case from 1973 and the Certified Copy of the Register records 'disperse (no family)'. This mother told the Investigation "*it should say family weren't given the chance*". Again, the original Register stated that the ashes had been dispersed as did the entries for every other baby cremated at Dunfermline in 1988.

A family of twins born in 1989 did not receive ashes. One of the twins was a non-viable foetus and the other died at one day old. A certified copy of the Register of Cremations was available for the twin who had lived for one day. It stated that the ashes had been strewn by staff. However this may mean that the disposal column had in fact been left blank when the entry was added to the BACAS computer system as 'strewn by staff' was not a term used at Dunfermline but was a term used when the new computer recording system automatically populated a blank column. The original manual Register records that the ashes were dispersed. The Bereavement Services Manager told the Investigation that she understood the twins had been cremated together but that there was no record of the non-viable twin as at that time there was no requirement to register details for non-viable babies.

Another family in 1980 did not receive ashes. The Register of Cremations records that they were 'dispersed'.

All of these families told the Investigation that they had used the Co-op Funeral Directors. Unfortunately, due to the passage of time, none of the individual Funeral Directors involved in these cases was available for interview. However a representative of Co-operative Funeralcare working in Fife when asked about the Co-operative's policy on ashes from infant cremations said,

> *"I'm just trying to work out if the Co-operative had a policy on what we told families. I don't know. I know for a fact that the crematorium policy is you can't get children's ashes back. So I've obviously developed these thoughts in my own way. I don't think the Co-operative has actually put anything in place anywhere."*

It was not only in Fife that families were informed by Funeral Directors that there would be no ashes following the cremation of their baby. In Fife, as in other places, the Registers of Cremation contain uniform entries of 'dispersed' in the time period when they were recorded manually. This prevents the Investigation from ascertaining with any certainty the exact location of the ashes though there is no evidence to suggest they are anywhere other than in the Garden of Remembrance.

11.10 CONCLUSIONS

1. Like Mortonhall this was a section of the City Council working in isolation without any strategic direction, development or quality control of the service, so far as it related to babies, infants and non-viable foetuses. There was little knowledge by Senior Management of the service provided to the families of these babies. There was insufficient interest taken or leadership shown by management. As with Mortonhall, much of what was learned by Cremator Operators at Dunfermline was received wisdom from more experienced peers. The belief that there would be no recovered ashes from infants, stillborn babies and infants was contradicted by what was known to be recovered in many other crematoria including Perth, only 28 miles away, as well as in Dunfermline itself when a tray had been used in earlier years. It is also clearly contradicted by the evidence of the Forensic Anthropologist, Dr Julie

Roberts, who states that bones in cremated foetuses from as young as 17 weeks' gestation can and do survive the cremation process.

2. Reliance on a definition of skeletal remains means that families were not given the opportunity to have ashes back. Dr Julie Roberts stated in her report,

   "My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is inconceivable that there would be nothing left of newborn babies and infants aged up to two years following cremation. The 'no ashes' or 'no remains' policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt skeletal remains, and/or individual or corporate management decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together."

3. The removal of the baby tray despite the discontent of the Cremator Operators and the delay of over a year in allowing its use after it was re-introduced highlight a lack of insight or appreciation of the importance of this issue.

4. Training was largely carried out in-house and there was no appetite to look beyond and seek best practice from other crematoria, professional organisations or manufacturers of equipment. The inter agency Bereavement Services Group did not address the issues of baby cremation until after the Mortonhall Investigation. It is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate joint training and joint understanding of their obligations to the parents of these babies. This inertia allowed unacceptable practices to develop across all of the relevant agencies in Dunfermline.

5. The most senior level of management at Dunfermline must provide strong leadership and now take full responsibility for the effective management of the crematorium. It must also ensure that immediate

and appropriate training takes place and that effective and ethical practices are maintained. This relates not only to a change of working practices but to an assurance that the culture of the organisation and the knowledge and understanding is such as to prevent any future failure of the trust of those families who have placed the remains of their loved ones in their care.

6. As with other crematoria there was an absence of any local written instruction or guidance. This meant that the actual practices employed in the crematoria were not documented and available for inspection by normal quality assurance procedures. Had such written guidance been shared between the two crematoria for which Fife Council was responsible, the effectiveness of using a tray may have been recognised and maintained in Dunfermline and implemented in Kirkcaldy.

7. Methods of safely using a baby tray could and should have been implemented in a more timely manner given that trays were already in use in many crematoria throughout Scotland and indeed had been used in Dunfermline in the past. Personal protection equipment was already available and no injuries had occurred, making the delay in dealing with health and safety issues difficult to comprehend.

8. It is important that those suffering the unexpected loss of an infant or baby must be given adequate time and information to make a decision about the cremation of their child.

9. NHS maternity staff (Forth Park and then Victoria) and Funeral Directors understood there to be no ashes from non-viable foetuses and young babies and advised families to this effect. Funeral Directors completed the Form A instruction to scatter in these cases although they advised families there would be no ashes following the cremation of their baby. As a result of this understanding many parents were deprived of the opportunity to seek the return of their baby's ashes. Crematorium staff at Dunfermline have admitted that on occasion following cremations that

there was ‘something’ left and that these were scattered without recourse to or the knowledge of the families concerned.

At the time of writing, bereaved parents are still advised by the NHS Fife leaflet that it is very unlikely that there will be any ashes following infant cremation. This is despite the Mortonhall Investigation Report, the Infant Cremation Commission Report, all of the publicity surrounding this issue and indeed the fact that some of those responsible for its publication have been interviewed by this Investigation. It is astonishing that the booklet which is the only written document and the leaflet bereaved parents take home with them has not been revised. The Investigation recommends it is updated with immediate effect.

10. Funeral Directors interviewed for the Investigation still referred to the “*rare occasion we might get ashes*” in 2015 despite the conclusion of the Mortonhall Investigation Report and the Infant Cremation Commission. This is difficult to understand as Cremator Operators have advised that they always obtain ashes since the re-introduction of the baby tray and the Funeral Directors are regularly taking instructions for these ashes from families after they have recovered the remains from the crematorium. The Investigation recommends all staff are updated on the current position and all letters and leaflets are amended to reflect the new position.

11. Urgent steps should be taken to ensure that communication between the NHS, Funeral Directors and the crematorium is as effective as it can be. Despite the existence of a Bereavement Services Group, these agencies have failed to communicate and understand the issues affecting non-viable foetuses, stillborn babies and infants and the needs of their parents.

12. By leaving the disposal column blank on the older computer system Fife Council created a situation where the computer system was able to populate inaccurate information into the Register when the new BACAS system was introduced. Although this error was identified, no steps have

been taken to correct the inaccuracy of the Register for that period. This casual and careless approach to a statutory obligation is of considerable concern.

Falkirk Crematorium

12 FALKIRK CREMATORIUM

12.1 INTRODUCTION

A total of four cremations of infants or babies conducted at Falkirk Crematorium were referred to the Investigation. The earliest of those cremations took place in 1993 and the most recent in 2005.

Falkirk Council manages Falkirk Crematorium which is situated in Camelon Cemetery, Dorrator Road, Camelon.

Opened in December 1962, Falkirk Crematorium has a Chapel of Remembrance and a Garden of Remembrance. Inscriptions within the Book of Remembrance are displayed in the chapel.

In 2013 Falkirk Crematorium carried out 2,003 adult cremations. In the same year there were four child cremations, five cremations of stillborn babies and fifteen individual cremations of non-viable foetuses. There were seventeen shared cremations of non-viable foetuses.

12.2 MANAGEMENT

The crematorium at Camelon is managed by the Bereavement Services Department at Falkirk Council.

Bereavement Services is a division of Falkirk Council's Corporate and Neighbourhood Services. At the time of the Investigation in 2014 the Director of Corporate and Neighbourhood Services, Stuart Ritchie, reported directly to the Council's Chief Executive. Between Stuart Ritchie and the Bereavement Services Manager there were three layers of management namely the Head of Resources and Procurement, David McGhee, the Estates Manager, David Crighton and the Projects Development Coordinator, Wraight Shepherd. Eleanor Thomson was the Bereavement Services Manager and reported to the Projects Development Coordinator.

Falkirk Crematorium has a Manager, William Candlish, who has been in post for approximately five years. Before his promotion he was a Cremator Operator. He reports to Eleanor Thomson who has been the Bereavement Services Manager since April 2006. She was previously a clerical assistant in the department.

Two administrative staff and three Cremator Operators complete the current organisation.

The Investigation was provided with charts setting out the structure of the management team from 1996.

David Ure, the Crematorium Superintendent from the late 1980s until 2006 told the Investigation there was little direct Council involvement in the crematorium during his time. He was of the impression they "*avoided the place*". As a result, he said, "*Council officials exerted precious little influence in my work*".

The current Crematorium Manager, William Candlish, said he had some dealings with Eleanor Thomson's line manager, Wraight Shepherd, but not with other senior management.

Eleanor Thomson, who has been in post Since April 2006 and was previously a clerical assistant in the department, agreed that,

> *"We very much tend to operate on our own autonomy."*

She described the senior management's attitude being,

> *"it's not broken so we don't need to fix it."*

She acknowledged, however, that over the last three years a restructure involving the transfer of Bereavement Services from Community Services to Corporate and Neighbourhood Services had resulted in senior management adopting a more "*proactive*" approach. This was influenced, in her view, by the developments coming from the Scottish Government in the light of the Mortonhall Investigation. This had resulted in there being a new dedicated Cemeteries Development Group and a Crematorium Development Group within the Council.

A Cremator Operator who retired in 2008 said of the crematorium,

> *"to outsiders (even the council) it was taboo, they didn't want to know. Crematoria are like islands… they work away the best they can and outsiders understand that somebody's got to do it but they're glad it's not them. We very rarely got visits from the senior managers."*

In the course of the Investigation it became apparent that there were vacant posts within the senior management structure with no Head of Service for Corporate and Neighbourhood Services and no Estates Manager. Furthermore, there was uncertainty about whether these positions would be filled given the financial cutbacks. The Bereavement Services Manager, Eleanor Thomson, described the impact of recurrent change,

> *"I find myself quite often having to start from scratch with senior management and having to explain just who I am and what I do."*

Explaining where Council policy comes from and how it reaches operational staff Eleanor Thomson said it,

> *"would come through the Head of Service, Stuart Ritchie, and then it would trickle through the management hierarchy and then come to me. A lot of it comes to me as well first through the FBCA … and then I would pass the information on to senior management."*

12.3 POLICY, GUIDANCE AND TRAINING

Witnesses interviewed for the Investigation were able to speak to working practices at Falkirk going back as far as 1982. They agreed it has always been usual for there to be remains following infant cremations at Falkirk Crematorium. Although this could not be guaranteed, the Council policy is for Cremator Operators to do their utmost to recover remains whenever possible.

David Ure, the Superintendent until 2006 described how although,

> *"there were occasionally circumstances when we were not able to get remains from the cremation of infants… we would move heaven and earth to try and procure remains.*
>
> *I tried to explain to families as best as I could, so they could understand, that there might not necessarily be anything to collect, that we are dealing with a very small body here."*

The current Bereavement Services Manager, Eleanor Thomson, explained that it is Council policy to treat everything left after the cremation as cremated remains,

> *"and that's what goes back to families that want them back."*

She explained that this policy does not distinguish between bones and coffin ash. The reason given for this was that in the case of an infant or a non-viable foetus it would be virtually impossible to separate ashes from cremated remains.

In relation to the success rate for achieving remains the Investigation heard,

> *"there is very rarely nothing to give back to families. We would always try and get something back."*

The Investigation interviewed the Crematorium Manager, William Candlish, who started as a Cremator Operator in 1995 and was promoted about five years ago. He said his,

> *"role is to oversee the day-to-day running of the crematorium, make sure the cremations are going right, clients are happy with the service and everything runs as smoothly as possible for the people that are there."*

He described how a perfect member of staff should behave. They,

> *"should be in the background and shouldn't really be seen. Everything should run so smoothly that it's like a nice slow flowing river."*

The earliest case from Falkirk Crematorium to be referred to the Investigation dates from 1993. At that time the crematorium had a Superintendent, David Ure, who had been appointed in about 1989 and only left in 2006, two years after his official retirement. He told the Investigation about his role, describing how,

> *"Initially my job involved the smooth through put of the daily workload."*

In particular he was responsible for,

> *"front of house and managing the process around the chapel; the public coming for mourning; the Undertakers; the actual cremation process; and the office which administered all of this."*

David Ure recalled his induction which involved carrying out two cremations one after the other. He had to,

> *"clear out a cremator of one set of remains before I installed another body. Consequently I got the exact amount of ash from that body which I had cremated, as opposed to having a mixture of the previous cremations."*

The process of thoroughly cleaning out the cremator between cremations was one he considered especially important in relation to infant cremations to ensure only the ashes of the individual baby were recovered and available for the family.

However, a Cremator Operator with experience of cremating babies at Falkirk until 2008, before a tray was introduced in 2014, referred to another practice that he deployed. He said,

> *"I would put the babies in when the adult wasn't quite finished… but they're completely separate, and in the morning I'd take the ashes out separately. I didn't mix them."*

This practice was put to another Cremator Operator. Although he insisted that the cremator is,

> *"always completely cleaned out before the baby goes in"*

it would appear that he too sometimes adopted this method. He explained that,

> *"if it's been a big body and it's taken longer then I'll rake it to the front and just leave some of the ashes there for a while, but it's away from the baby's coffin, the baby's coffin is at the other side, not anywhere near the ashes."*

He explained that the following morning he would collect the baby's ashes first through the charging door.

While David Ure was clear that only one set of remains is allowed in the cremator at any one time, this is open to doubt in the light of the evidence to the contrary (above) from the two Cremator Operators.

Notwithstanding any attempt to keep the ashes separate, this practice would be contrary to the FBCA Code of Practice Rule 5, issued in May 2005, which requires that,

> *"Each coffin given to the care of the Cremation Authority shall be cremated separately."*

David Ure, the retired Superintendent, does not remember there being any written guidance for Cremator Operators. Instead the process was passed on by word of mouth,

> *"We got told the relevant importance of identification of cremated remains and the consequences if we did not follow procedure, and if we didn't follow procedure the disciplinary was awesome to say the least."*

A Cremator Operator with fifteen years' experience at Falkirk Crematorium confirmed the absence of local guidance. He told the Investigation,

> *"I don't have any specific guidance from the council on how to do cremations. It's all in the Code of Practice from the Federation."*

In his time as Superintendent David Ure never felt the need to change any of the actual cremation processes which he considered to be well thought out. His personal involvement in directing the cremation process was identifying the body when it came into the crematorium by checking the name on the cremation card against the name plate on the coffin. Otherwise he said,

> *"I felt able to trust the Cremator Operators, who were charged with the cremation exercise, to do it properly."*

David Ure told the Investigation,

> *"We had a very strict procedure for cremating children, it was the last thing at night. The reason for this was when you opened the door there was so much turbulence and the temperature in there was so overwhelming that when you put the coffin in - whoosh - away it would go and you could see the dust and stoor and everything else getting swept*

up, so much so that when you closed the cremator door you had to leave it till the following morning, because if you'd to open the door prior to that the dust and ashes would be scattered all over the inside of the cremator. Occasionally you would get the odd bit of hard bone, particularly a knee joint or an elbow or something. It was dense bone material. The majority just crumbled under the temperature of about 800°. The ashes that were left in those circumstances were removed. We had to make sure that all the bone material was removed and again take care of it as best we could."

David Ure could not recall there being any cremations of non-viable foetuses in his time although all four cases referred to the Investigation involved non-viable foetuses and took place while he was in post. However, there would not have been anything on the plate of the coffin to alert him to the fact that it contained a non-viable foetus.

It would appear that in recent times the number of cremations of non-viable foetuses at Falkirk has increased. As well as individual and shared non-viable foetus cremations there are also 'Sensitive Disposals' which occur when the family do not wish to be involved but have requested an individual rather than a shared cremation. This would be arranged by the hospital with the Funeral Director, usually under a contract with Co-operative Funeralcare.

A Cremator Operator describing his experience of shared non-viable foetus cremations, explained that they aim to have nothing left at the end of the cremation. To achieve this the container is placed in the middle of the cremator and the ignition burner is employed. Any ashes that do remain at the end of shared cremation are scattered in the Garden of Remembrance.

i Training

Describing the training she received, the Bereavement Services Manager and former administrative officer, Eleanor Thomson, said,

"I felt it was quite lacking for me, it was merely a case of one day I was in the admin office and the next day I was in the manager's office. Fortunately the amount of experience that I had held me in good stead for that. I just had a general chat with the previous post holder and he did explain what the FBCA and ICCM are."

She described her current role as,

> *"to oversee the daily workings of the crematorium and thirteen cemeteries, all the admin processes and everything to do with Bereavement Services. I deal with members of the public, Funeral Directors, attending meetings, management team meetings or FBCA and ICCM meetings, because the Council has membership of both of those."*

The Investigation asked the Crematorium Manager, William Candlish about the training given to Cremator Operators. In his opinion there is more training now than there was in the past. This was confirmed by a Cremator Operator whose training in the 1980s consisted of one week's training at Linn Crematorium. After that there was no contact with other Cremator Operators in the twenty-five years that he worked at Falkirk. Nor had he ever seen any written guidance or instructions from managers.

Today, according to William Candlish, a new technician trains for three or four months, undertaking an average of 200 cremations, before being tested by the Federation, which involves going through a cremation from beginning to end. There is also training on machine maintenance delivered by the manufacturer and every Cremator Operator has an individual training record.

At the time of the Investigation there was no specific training on baby cremation. Following publication of the Reports of the Mortonhall Investigation and Infant Cremation Commission, specific two day training events were organised through the FBCA with the emphasis on infant cremation. Falkirk Crematorium also provides refresher training for the Cremator Operators and their Manager, which they undertake at five yearly intervals.

12.4 Cremation Process and Equipment

The Investigation explored the impact of working practices on the services delivered, particularly in relation to the equipment, including the use of trays, and the policies applied.

Most of the cremations that take place at Falkirk Crematorium are of adults and many of the features of an adult cremation are replicated during the course of a baby cremation[53].

i Cremators

The Investigation was not provided with any evidence about the type of cremator that was in operation in 1993, the year of the earliest of the Falkirk cases. The then Superintendent, David Ure, could only say they were "*ancient pieces of equipment*".

At the time of the Investigation Falkirk Crematorium was equipped with three FT 300/2 Facultatieve Technologies gas-fired cremators, two of which were installed in 1995 and one in 1999 according to the manufacturers.

A reporting upgrade for the equipment was implemented in April 2013 which included infant mode. According to the manufacturer Facultatieve:

> *"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years."*

William Candlish, the current Crematorium Manager described how, before the upgrade, baby cremations were carried out by manually adjusting the controls. This resulted in conditions similar to infant mode but infant mode means the cremation is slightly slower. The big difference with infant mode, he explained, is that the computer does the majority of the work.

Despite the manufacturer's manual referring to the cremation of infants using a tray, none was introduced until 2014 (see below). Before then a baby or non-viable foetus was cremated at the end of the day on the step hearth. The temperature was lowered to just below 750 °and the airs limited to control the

[53] Section 5.12, Cremation Equipment, talks about the different types of cremators used and section 5.14, Cremation Process, discusses how they are used in cremations. Section 5.15, Cremation Process for Infants and Babies explains how baby cremations are performed in the different cremators.

heat in the chamber. After 30 to 45 minutes, once the cremation was finished, the cremator was switched off and the remains allowed to cool down naturally overnight. In the morning they were raked using a hand–brush through the charging door.

The cremators have stepped hearths and the Cremator Operators found that cremating a baby's coffin on the hearth with the temperature set to a low heat enabled them to obtain ashes which could be returned to families. Since 1993 and until the introduction of the tray, the practice was to carry out any baby cremation after the last adult of the day had been cremated, usually in the late afternoon.

The cremators were primarily designed for adult cremations with the coffin charged (inserted) at one end through a large door. After the cremation a rake is inserted through the much smaller door at the opposite end of the machine, where there is a spy-hole through which the Operator can observe the progress of the cremation. The ashes are then raked into the ash cooling area.

Prior to introduction of infant mode in 2013 the manufacturer's manual anticipated manual overriding of the system by experienced Operators. According to a report provided by Facultatieve Technologies Ltd to the Investigation,

> *"time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall

Investigation[54] previously explained why manual intervention in the cremation process is beneficial saying,

> *"the usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

ii Baby Trays[55]

A baby's small coffin, or box containing a non-viable foetus, may be placed on a steel tray inside the cremator to better contain any ashes and prevent them being lost by being spread throughout the cremator by the force of the air jets.

Following on from the Mortonhall Investigation, Lord Bonomy's Infant Cremation Commission Report[56] recommended that,

> *"The Cremation Authorities which have rejected the use of trays for baby cremations on health and safety grounds should urgently consider, in light of the experience of others, the introduction of a local protocol to allow trays to be used in a way that will expose no one to undue risk."*

The Crematorium Manager, William Candlish explained that until about August 2014 a baby tray was not used at Falkirk Crematorium. He thought the reason for their introduction was "*probably to do with Health and Safety*" and the recommendations about using trays to recover remains. Until then ashes were being produced without the use of a tray, a possibility that was not recognised in some other crematoria. Falkirk Crematorium now has two sizes of tray, one for a full term sized baby and the other for a smaller baby.

The tray is used in conjunction with a bespoke trolley and is charged using a long hook to push the tray into the cremator. The cremation takes place at the end of the day and once the cremation is complete, it is left to cool overnight in

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[54] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

[55] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

[56] An online copy of the Infant Cremation Commision Report can be found here: http://www.gov.scot/Publications/2014/06/8342

exactly the same area as it was before, on the step hearth. In the morning it cools further on the trolley.

Speaking of the new equipment William Candlish said he had undertaken research with other crematoria "*to learn from their mistakes*" and discussed the issue with Eleanor Thomson. Although overall he felt the trays were an improvement he acknowledged that they are not without problems, explaining,

> *"I honestly don't think the buckling problem will ever go away but the ones we got were reinforced… with extra welding and tubular steel. Although it can still bend and buckle it's not to the same extent as the one that's not been reinforced."*

Significantly, in the Manager's opinion the amount of cremated remains,

> *"hasn't changed with the introduction of the tray"*

although the process is "*probably easier*" because the technician no longer has to lean into the cremator to brush it out. He considered that,

> *"Health and safety-wise it's a good idea."*

The need for extreme care, in order to minimise the risk to Cremator Operators of being burned, was accepted by Facultatieve in their operation and maintenance manual dating from 1996. This explained,

> *"Before withdrawal of the tray the cremator should be allowed to cool sufficiently to prevent the possibility of injury to the Operator, and it may be best to leave the cremated remains in the cremator until the following morning."*

iii Dispersal of Ashes

As explained above it has long been the policy at Falkirk Crematorium to treat everything left after the cremation process as ashes, to be disposed of according to the wishes of the family. There are three options at Falkirk Crematorium: uplift, retain for further instruction, and inter in the Garden of Remembrance.

David Ure, the former Superintendent described the procedure,

> *"We would put the ashes in a container and put it to the side. If it was to be picked up… it would be presented to the family in that form. So the family always got ashes back if they wanted them back… as far as I was concerned and as far as the Operators were concerned."*

Eleanor Thomson, the Bereavement Services Manager told the Investigation that regardless of the ashes instruction,

> *"For all cremations we do there is a period of about four to six weeks after the cremation that the remains are retained, just to give breathing space for families."*

In some cases the instruction 'retain' is used, in which case Eleanor Thomson told the Investigation,

> *"We would always contact the Funeral Director to come and collect the ashes if the instruction was retain."*

The Investigation was told that where ashes are interred in the crematorium grounds a record is kept of the location. The Crematorium Manager, William Candlish, told the Investigation,

> *"We would be able to say which baby is in which particular grave. It would have a GR Number. GR stands for green. It is our newest section, in use for a good twenty years."*

The Investigation learned that reluctance to scatter ashes in the absence of a very definite instruction has led to problems with unclaimed ashes being retained indefinitely at Falkirk Crematorium. As David Ure explained,

> *"The only thing which I drew cognisance with was the fact that the ashes could sit there for years and when I arrived at the crematorium initially there were sets of ashes, not just children's ashes, but sets of ashes had been up there for eighteen months thereabouts, because the people never came back. Whether they had forgotten about or whether they were still trying to make up their minds, I don't know."*

He explained that determined efforts to contact families and obtain their instructions were often unsuccessful.

> *"I wasn't able to come up with a solution other than pursuing it is as vigorously as I could in individual cases."*

Eventually, in about 2002 they introduced a children's section of the cemetery to address this issue. David Ure told the Investigation,

> *"and that's where a lot of cremated remains are interred where there was no instruction contrary to what we were doing."*

He had, he said, asked the Council,

> *"What happens if these families come along maybe two, three years later on and ask for the ashes back? There would be a question of going and recovering them but by that time you invariably find that the container they are in had deteriorated and the ashes were absorbed."*

12.5 Administration and Record Keeping

David Ure, the Superintendent until 2006 told the Investigation that although in theory he was responsible for the office functions, in practice he had relied upon the office staff. The only time he would become involved was if there was some difficulty, as would occasionally happen, for example where there was a disagreement between different members of the bereaved family about the arrangements. Otherwise, the office staff,

> *"were extremely proficient in their job and things tended to run smoothly without my intervention."*

However,

> *"if there had been a major problem the buck would have stopped with me."*

The booking system at Falkirk Crematorium has been computerised since September 1994 when Gower Consultants' Epilog database was installed. This system includes the facility whereby the final location of ashes after cremation can be recorded. In addition there is a record of every cremation kept at the crematorium. The Crematorium Manager, William Candlish, told the Investigation,

> *"if somebody wants to come into us at the crematorium and say my dad was cremated twenty-five years ago and it was January we can look it up [in the crematorium and in the office] and know exactly where the remains are if they've been interred in the Garden of Remembrance."*

Eleanor Thomson, the Bereavement Services Manager and a former Administrative Officer, is responsible for the administration. Speaking of her role at Falkirk she explained that during her many years at the crematorium she had always been involved in the administration.

Funeral bookings are made by Funeral Directors or the hospital, directly with the administrative team based at the office. The crematorium mainly deals with Co-operative Funeralcare, though they can take bookings from any Funeral Director. Falkirk deals with Forth Valley Royal Hospital, though any hospital may access the crematorium providing it completes the Council's paperwork and adheres to its procedures.

Eleanor Thomson told the Investigation that the office staff check any anomalies prior to the Medical Referee coming in to authorise cremations. Paperwork that is not fully completed is sent back to the Funeral Directors to correct. She explained to the Investigation,

> *"You can find sometimes the application form comes in and it hasn't been ticked what's to happen to the remains. You have to get in touch with the Funeral Director and find out so they may come back and say retain them at the moment. So we'll tick the retain box and that instruction then goes via the diary sheet to the crematorium so they know the remains are to be retained. Then after that cremation has taken place those remains are to be retained and are kept in the particular niche for that Funeral Director.*
>
> *If there is a change in instructions we ask for an email, we ask for confirmation, if anything is to happen the office staff would say you'll need to send an email in or a fax."*

Speaking about ensuring the Register accurately recorded any change of instruction Eleanor Thomson said,

> *"Before the computer we would have manually changed the record. If they [the ashes] were uplifted and maybe after a period of a week or two weeks you would go to that particular cremation and write down uplifted on the register and the date. Then you would also have all the original cremation cards so if anything was changed we would go back and write in what the disposal was. In many instances we would get them uplifted and then they are brought back so again we would have to go back into the database or back to the card and change it."*

As described, these processes seem to be satisfactory.

The Investigation was told by Eleanor Thomson that at Falkirk the cremation card is a self-adhesive label which is stuck onto another sheet of paper and goes to the Cremator Operators after being checked by Eleanor Thomson as Bereavement Services Manager and signed by her or by William Candlish, the Crematorium Manager. The Cremator Operator carrying out the cremation adds their signature to the paper. Afterwards it goes back to the office with the information about what happened to the remains added. There is also an 'authority to uplift' slip for use if ashes are to be taken away. This is attached to any receptacle containing the remains and includes a name, date of cremation and the Funeral Director's details. There's also a section for the signature of the person uplifting.

Thinking back to the time when non-viable foetus cremations were introduced at Falkirk, Eleanor Thomson told the Investigation there had been no formal documentation. It was when hospitals no longer wished to dispose of non-viable foetuses as clinical waste. Today the Crematorium keeps a separate register despite there being no statutory requirement and the non-viable foetus cremations are given a separate cremation number. Forms come via the Funeral Director not from the hospital directly. Until November 2013 they were cremated individually but after that date collective or shared disposals were introduced involving the cremation of non-viable foetuses with other non-viable foetuses from Forth Valley Hospital. When dealing with shared cremations the crematorium is not provided with individual names. A maximum of ten non-viable foetuses are cremated in a single container.

i Findings on Record Keeping

In the four Falkirk cases referred to the Investigation the Form A (Application for Cremation) which includes the Instructions for Ashes proved the most significant of the cremation paperwork. As was the case elsewhere, some parents could not remember signing any forms. They included a family whose baby was delivered in 1997 at twenty-one weeks' gestation and cremated at Falkirk Crematorium.

Commenting on a completed NHS form she had been shown the mother told the Investigation,

> *"The signatures are mine and [my husband's], so we signed this form on the day after the delivery. I can't remember signing it, it's a haze.*
>
> *I can't remember any discussions leading up to the signing of this form. It says we understand there will be no identifiable remains resulting from the cremation. I can't remember anyone talking about the remains."*

The parents were also shown the Application for Cremation Form A. Despite having signed a form suggesting there would be no 'identifiable remains' the form assumes there will be ashes, stating they are to be interred in the crematorium ground.

> *"That was not our wish. I wanted my son's ashes because … we wanted to take his ashes … and scatter them in the sea.*
>
> *I got told from the Funeral Director if there was any ashes you can get them. I always remember them saying it could be a wee drop in a matchbox but as I said it was my son's ashes, I want them. I think it was the day of the funeral we were told that, we were sitting in the car at the Camelon, at the bridge, we were talking to the Undertaker. Prior to that nobody said anything about ashes. I specifically said to the Co-operative man on the day of the cremation, 'look I want the ashes'."*

On Form A, in the section for the instructions for ashes, the word 'retain' was crossed out with a tick entered next to 'inter in crem grounds'. Form A appears to have been signed by a Funeral Director. The final disposal was recorded in the Register of Cremation as 'inter GOR' (Garden of Remembrance). The location of the ashes is not recorded in the Register. The family has, however, been informed of the location following a request to the crematorium for information. They said,

> *"We know from the letter that went to the MSP, from the [Council] Chief Executive, where it's interred in the Garden of Remembrance. The letter explains where exactly."*

They expressed concern to the Investigation that this area is not dedicated to babies or children and that their son's ashes rest with unknown adults.

The experience of discovering years later that there were ashes is not unique to this mother. In another Falkirk case the family lost a baby in 2005 at about twenty weeks' gestation. In a letter sent to the First Minister in June 2013 the mother remembered that having opted to have their son cremated they were told the day before by hospital staff "*that there would not be any ashes*". Yet, they were to learn, several years later, that there had been ashes, and they were interred at the crematorium.

In their case the Instructions for Ashes on Form A has a tick next to the option 'inter in crem grounds'. The Register of Cremation entry is 'inter GOR' [Garden of Remembrance]. This is not the outcome this family would have chosen.

These two families visited the crematorium together and were shown the sites where they had been informed that their babies' ashes were buried. Initially surprised that the plot numbers did not appear to be chronological, further enquiries resulted in the discovery that the plots are collective, rather than individual, plots. Given the previous misinformation the parents find it very difficult to accept the reliability of any information. They have been left deeply suspicious of information about their babies' final resting place.

In another case dating back to 2003 the mother delivered her baby at home at just short of twenty weeks' gestation. She told the Investigation that at the second hospital to which she was taken following the delivery she was asked if she wanted burial or cremation for her baby. She was then told by a nurse,

> *"due to my baby being so small I would be left with hardly any ashes. My brain was saying a different thing, but who am I to disagree with a professional who knows about cremation better than I do? Every time the cremation was spoken about I did mention, if there are any ashes left, I would like to keep them please. I remember signing two bits of paper. Not really reading, because I was being hurried along."*

The following day having been "*offered the chance to buy an urn"* her expectation was that,

> *".. my baby was big enough to leave ashes. I had to sign more paperwork and was hurried along again, [the] nurse had already scored out bits and answered bits."*

Following the cremation the mother heard nothing further about ashes.

Despite her plea for any ashes to be returned to her the Instructions for Ashes section on Form A has '*yes*' noted against option (b) 'Interred in crematorium ground'.

The form is signed by the mother. The Form A ashes instruction appears to have been completed by the Funeral Director when adding the date and time of the funeral service.

There is an NHS form granting the hospital authority to arrange the funeral. Two boxes have been ticked against statements "*I/we have been informed that there will be/ will not be any remains (ashes) after the cremation of my/ our baby*" and "*I/we understand and accept the standard burial or cremation and other arrangements as explained to me/us by a Senior Midwife*". The part of the form which states '*If ashes yes or no*' has been scored through. The form has been signed by the mother and by a Midwife.

There is an 'Application for Cremation of Foetal Remains' form signed by the mother. It also states that,

> *"it will not be possible to recover any remains following the cremation and that if this application has been made on behalf of the parent(s) that this has been made known to them."*

In 2014 the mother read a newspaper article about a parent in a similar situation to herself. She made contact with that parent and with others. Another mother who worked for the charity Sands at that time offered to carry out a search to find out if there had been ashes in her case.

The outcome of the search was that there had been ashes and these had been collected by the Funeral Director following which, according to the Funeral Director, attempts were made to contact the mother to arrange collection of the ashes. When they proved unsuccessful the ashes were removed to another funeral home for storage. Only because of her perseverance the mother received the ashes of her daughter eleven years after the cremation took place.

The Investigation has a copy of the receipt that shows the ashes were collected from the crematorium the day after the cremation. A handwritten note states 'Change of instructions from inter to uplift' suggesting that on the day of the funeral the instruction on the Form A was changed and it was requested that the ashes be returned to the Funeral Director. There was no documentary evidence to explain how this happened.

According to David Ure, the former Superintendent at Falkirk Crematorium, not every Form A included a completed Instructions for Ashes section. In his view the question of how to dispose of ashes was not easy for families. He told the Investigation,

> *"When it came to the cremated remains the expectations of the family is where confusion arose… I was dependent on the family giving an instruction on what was to happen to the remains after the cremation. Now this is where the technical difficulty comes in. Families are beset with grief… they couldn't relate what they wanted to do with the remains. Do they want them kept at the crematorium? Do they want them disposed of at the crematorium? There are almost limitless possibilities."*

He estimated that about two thirds of Applications for Cremation for infants had no instruction on them. He believed in some cases families could not make up their mind, or there was a conflict of opinion within the family. He did not refer to the alternative explanation, that the families had been told there would be no ashes by the hospital or the Funeral Director.

David Ure spoke of the Funeral Directors' role in this situation.

> *"Ostensibly the Undertaker is filling in the paperwork for all of this. However, when the family couldn't make up their mind the Undertakers would leave the space in the form blank.*
>
> *Now the instructions on what's to happen to the remains – are they to be retained, are they to be interred - is normally on the card. There is a space on the card for that and it will usually be completed under normal circumstances. But in cases when it is children, for some unknown reason it's a subject that seems to be taboo, a human failing. So when the part of the card which set out the instructions on the disposal of ashes was not completed I assumed that there had been no instruction given. I therefore retained the ashes until such times as we were in*

contact with the family or contacted by the Undertaker on what had to happen."

This was a different practice from that adopted by his colleague Eleanor Thomson, who was promoted after his retirement and who would actively contact the Funeral Director to obtain the family's instructions.

The earliest of the Falkirk cases was referred to the Investigation by parents who lost a baby at around twenty-four weeks' gestation in 1993. This baby is believed to be the first non-viable foetus to be cremated at Falkirk. The parents could not recall filling in any forms in relation to the cremation, and no relevant application or accompanying forms have been identified or passed to the Investigation. In the absence of any statutory requirement to retain records relating to non-viable foetuses this is not surprising and there is no criticism implied.

The father remembered being told by both hospital staff and the Funeral Director that there would be no ashes. He said,

"I can't properly remember if the Undertaker told us it was because of the size of the coffin and because [the baby] was so small. He may have. I know I was told there would be no ashes but I am unsure as to whether I was given a reason for that… We accepted what we were told at that time. When the people you are dealing with have that information, you trust them. I think he told me there would be no ashes when he rang to arrange the date and time for the funeral. It wouldn't have been the first time I spoke to him to tell him what had happened. Obviously he had been in contact with the crematorium to arrange the funeral so it is possible someone there told him there would be no ashes. I don't know."

The family arranged for an entry to be put in the crematorium's Book of Remembrance and visited each year for twenty years.

"When the Mortonhall story broke something twigged and we wondered if it was the same for us, whether there could have been remains and we weren't told. We contacted Sands in Glasgow and within four days they told us that [our baby's] remains were in a plot behind the crematorium in a wooden casket, and they gave us the plot number. It was hard to believe we had been going to the crematorium for over twenty years and nobody had told us."

The Investigation has seen the entry in the Register of Cremation. It says '*Interred section GR4 396'*.

The father told the Investigation,

> *"Until this interview I had never seen the certificate of cremation, the certificate that the ashes had been interred or the diary page from the Undertaker's notebook."*

The family reported that they have no idea where the instruction to inter the ashes at the crematorium came from. It was not their wish.

The Investigation examined a sample of entries in Falkirk Crematorium's Register of Cremations. The entries in the ashes disposal column consisted of 'inter' or 'uplifted'. These entries were supported by a date or a plot number. This supports the crematorium staff's contention that it was normal for ashes to be obtained.

12.6 COMMUNICATION

The Investigation asked whether there was any information sharing between Falkirk Crematorium and the staff at other crematoria.

David Ure, the former Superintendent said he had been a Member of the FBCA and went to meetings. More recently Eleanor Thomson, the Bereavement Services Manager, attends meetings on behalf of the Council, which has membership of both the FBCA and ICCM.

It was, she said, usual to discuss matters with other Crematorium Managers,

> *"particularly if anything cropped up to do with SEPA. We would exchange information about that and someone would say, 'what kind of report did you get back?' For a while there was a bit of conversation about the temperature in secondary chambers and everything like that…because most of us have the same operating procedures from Facultatieve Technologies there was always an exchange of information here."*

It was also clear from the evidence provided by the Crematorium Manager that since the publication of the Mortonhall Investigation Report in 2014 he had

consulted with colleagues from outside Falkirk when exploring the options in relation to trays for infant cremation.

Asked about the information that hospitals give to parents concerning the availability of ashes a retired Cremator Operator said,

> *"One time [about twenty years ago] I had a nurse here from the Royal Infirmary. She was telling them in the maternity ward that there wouldn't be any ashes for infants. How we found out about what she was doing I just can't remember… we took her round and showed her the process. She was gobsmacked. With a stillborn I usually got bones left after the process and she had been talking about stillborns saying there would be no ashes.*
>
> *I don't know or understand how that 'understanding' of having no ashes came about. I thought personally when I was reading about this, if that's the case they must be doing the cremations with air, processing it like a normal adult."*

A midwife who had qualified in 1988 and had some involvement with the parents in the Falkirk case from 1993 told the Investigation about her experience of dealing with bereaved families. She said she had received no training on the subject of ashes and that she,

> *"didn't really talk much about ashes to be honest. I think maybe if they were fuller term you might have thought there's a better possibility of getting ashes if the Undertakers were able to do that."*

Eleanor Thomson said,

> *"With the NHS there always seemed to be a difficulty in regards to communication and to what paperwork should be filled in and what could and couldn't be done. There seems to be 'a black hole', the information didn't seem to be getting through. Communication seemed to be very poor. There was a lack of communication between Falkirk Royal Infirmary and Stirling Royal Infirmary. Paperwork from the two was different. We drew up a form for the medical practitioner or state registered midwife to sign."*

William Candlish described there being "*quite a few meetings with hospitals*". In particular these meetings concerned the shared cremation contract with the NHS that started about eighteen months previously.

David Ure said that interaction with Funeral Directors was always good in his time. He was,

> *"not aware of Undertakers thinking that we didn't get ashes or remains from an infant cremation."*

This view was confirmed by a Cremator Operator who had worked at Falkirk for twenty-five years before retiring in 2008. According to him the local Funeral Directors understood the process for getting ashes and knew that there would be ashes following the cremation of stillborn babies and infants. He said they had talked about it.

Eleanor Thomson, however, suggested some Funeral Directors,

> *"were unaware of their obligations. On many occasions paperwork had Funeral Directors as applicants and I would say we can't accept that. Even as a clerical assistant I would tell Funeral Directors to take the application back and get it filled in by next of kin."*

The Crematorium Manager, William Candlish said there were occasional meetings with the Funeral Directors, but they were not always well attended. If any Funeral Director had told their clients that "*you never get ashes from babies*", this information would not have come from the crematorium.

On the interaction she had with families Eleanor Thomson recalled when she worked in the office as an administrator,

> *"Some families would come in maybe after the cremation had taken place about the Book of Remembrance or they'll maybe come in to find out what area within the garden the ashes are interred in."*

Asked whether there were conversations about ashes she said,

> *"I don't recall any parent ever asking me about ashes for their child. I would have had to direct them to the staff at the crematorium because I wasn't in a position from a professional point of view to be able to answer that."*

Asked whether families had discussed ashes with him the Crematorium Manager said his only direct dealings with families was at the point of cremation and none had asked questions about getting remains back. He explained,

"until somebody asks we normally wouldn't tell them where in the garden we put the ashes. It doesn't really matter whether it's an adult or a baby, they've actually got to… phone us… and we'll tell them."

A Cremator Operator told the Investigation about an incident when a young woman visited the crematorium to deliver music for the funeral of a baby that had died in utero. She was going into hospital to be induced. She told the Cremator Operator that she had been told by a midwife there would be no ashes. All she wanted was enough to put in a locket. The Cremator Operator was able to assure her that there would be enough ashes to put in a locket. He said,

"You would have thought I'd given that lassie £1,000 because she was so happy to know she was going to get something back. Midwives, Undertakers have no right to say there will be no ashes because they don't do the process. I don't have any idea where they could have got that information."

The Bereavement Service Manager told the Investigation about enquiries she had received in relation to shared cremations.

"I have had one or two phone calls from bereaved parents asking whether cremation took place and what happened to the remains and we can't identify it because it was collective disposal. Unfortunately then I am left with the unpleasant task of reiterating that to them, that it was a collective disposal and there's no nice way or soft way to say that."

12.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Following the Mortonhall Investigation Report and the Infant Cremation Commission recommendations Falkirk Crematorium introduced baby trays and a bespoke trolley. While the absence of a tray did not prevent their routinely returning ashes to families, the Crematorium Manager, William Candlish, was of the opinion that the tray had improved health and safety considerations for his technicians.

A further impact of the Infant Cremation Commission concerned the commitment to introduce a new standard Form A that has been introduced for all crematoria across Scotland. The Crematorium Manager, William Candlish,

told the Investigation that at Falkirk in anticipation of this they have introduced an accompanying Additional Particulars Form specific to Falkirk, giving Funeral Directors more information and a chance to answer additional questions concerning, for example, the size of the coffin.

The Authority for the Disposal of Cremated Remains is on one side of this A4 sheet and is clearly set out in a suitably large font. The options are(a) Taken away by representative (b) Interred in Crematorium Garden of Remembrance and (c) Retained to await instruction. If (b) is chosen the remains are retained for one month "*to allow for a suitable time to reflect on this decision*". In the case of (c) if there are no further instructions, the Funeral Director will be instructed to uplift the remains.

12.8 CONCLUSIONS

1. The Investigation was impressed by Falkirk Crematorium's history of returning ashes of babies to their parents. Despite having membership of the FBCA they did not adopt the Federation's guidance on ashes. Nor had they needed to rely on a tray to ensure ashes were retained. Instead they had a modified procedure involving cremating on the stepped hearth at a reduced temperature in order to produce more gentle conditions appropriate to infant cremation.
2. Despite not having previously used a tray, Falkirk Crematorium observed the Mortonhall and Bonomy recommendations and implemented a tray and accompanying equipment. In doing so they took advice from other crematoria and thoroughly researched what was available. As a result they have been satisfied with the investment in new equipment this involved and have demonstrated a willingness to respond to changing times.
3. The crematorium was also proactive about producing a form with additional information for Funeral Directors to ensure the Instructions for Ashes are clearly and boldly set out.

4. The Investigation learned that the Cremator Operators and their Manager undertook refresher training. This is not routine across all crematoria.

5. The four cases referred to the Investigation all related to non-viable foetuses and are evidence of the confusing and inaccurate messages from NHS staff and Funeral Directors which parents have received. Too often such messages were contradictory so that ashes instructions (that did not reflect parents' wishes) would be included on one form although the parents had signed a statement on another form purportedly acknowledging there would be no ashes. One case also highlighted a failure by the Funeral Director to return ashes to a mother, although the same firm collected them from the crematorium within one day of the cremation.

6. In three cases referred to the Investigation the crematorium was given instructions which were contrary to the parents' wishes. These instructions were provided by NHS staff or the Funeral Directors under the mistaken understanding there would be no ashes. The ashes were interred at the crematorium when the families would have wished to have them returned. Furthermore, the families had to wait years to find out the truth. This has caused considerable avoidable heartache to those concerned. The provision of incorrect information to parents highlights the need for improved communication and joint training across agencies to ensure that there is no room for misunderstandings that can have such a profound effect on the needs of parents.

Glasgow Maryhill Crematorium

13 GLASGOW MARYHILL CREMATORIUM

13.1 INTRODUCTION

A total of four cremations of infants or babies conducted at Glasgow Maryhill Crematorium were referred to the Investigation, two of which related to twins. The earliest of those cremations took place in 1994 and the most recent in 2010.

Glasgow Maryhill Crematorium is situated in the grounds of Glasgow's Western Necropolis on Tresta Road. It was Scotland's first crematorium, built in gothic revival style and opened in 1895 by the Scottish Burial Reform and Cremation Society. According to the crematorium's website,

> *"The Society was established as an educational body, designed to promote cremation as a more sanitary form of disposal for a fast growing population in Glasgow."*

Over the years there have been various refurbishments and there are now two chapels. The Book of Remembrance is displayed in the arcade area at the rear of the Old Chapel.

A Wall of Remembrance surrounds the crematorium's garden and plaques in the wall can be leased for a renewable ten year period. There is a separate Garden of Reflection where ashes may be scattered.

Glasgow Maryhill Crematorium carried out 1,393 adult cremations in 2013. In the same year there were six child cremations, six cremations of stillborn babies and nine individual cremations of non-viable foetuses.

Shared cremations of non-viable foetuses are not carried out at Glasgow Maryhill Crematorium. The crematorium has no contracts with any hospital for disposal of non-viable foetuses.

13.2 MANAGEMENT

Glasgow Maryhill Crematorium is managed by the Scottish Cremation Society Ltd, a regulated charity. The Investigation was provided with information concerning the management structure going back to 1994.

The management of the crematorium is overseen by a Board of Directors which meets quarterly. None of its members has a background in the cremation industry. Instead they have assorted backgrounds including architecture, banking, the law and engineering and are expected to contribute their professional skills and expertise to the organisation. There are currently seven members of the Board, two of whom have been in office since 1994. John Chapman is the current Chairman and has been in post since 2014.

Gordon Armour is Executive Secretary, a post he has held since 2008. Both he and his predecessor have played an active role in the Federation of Burial and Cremation Authorities (FBCA). However, his knowledge of baby cremation was limited, as he told the Investigation,

> *"I think we only became aware of the possibility of having infant mode software when we were discussing with Facultatieve a replacement for what we already had… one of the people heavily involved in the Federation had said to me about the approach to dealing with baby cremations and he had said to me it wasn't the same as for adults because of the small size of the baby."*

Between 1994 and October 2012 the Manager of the crematorium was John Smith. Lucille Furie, the current Manager, was appointed in January 2013. She had previously been Bereavement Services Manager at Glasgow City Council.

The evidence from Cremator Operators suggested that the Board had little involvement in the day to day running of the crematorium. One Operator told the Investigation,

> *"we very rarely saw them here. We were just left to get on with it."*

According to some Cremator Operators the Board's remoteness made it difficult to get their ideas for improvement heard. Their perception was that they did not have the ear of those in authority.

Some Cremator Operators also expressed frustration that despite her role as Secretary of the FBCA in Scotland and Chair of the Institute of Cemetery and Crematorium Management, Scotland & Northern Ireland Branch. It was they who had informed their most recent manager, Lucille Furie, about ashes being available from non-viable foetuses. The Operators told the Investigation that when she moved to Maryhill from Glasgow City Council, Lucille Furie brought with her the belief that cremations of non-viable foetuses did not result in bony remains. It was only their practical demonstrations that convinced her otherwise.

13.3 POLICY, GUIDANCE AND TRAINING

It seems to have been accepted by Cremator Operators at Glasgow Maryhill Crematorium that infant bones survive cremation. Their own experience informed them that even with small non-viable foetuses there can be identifiable bones. One Operator told the Investigation,

> *"Every one of them is very, very difficult. We tend to take a bit more care. We always have here, I must admit, taken more care … We've always used a tray here. I've heard that some crematoria don't and I don't understand why they would say that and I've heard that it's a year or two years [the cut off for ashes] ... I can't understand that. Personally I've had a small non-viable foetus (as they regard it) and there's still bone there. You're talking the size of fish bones but I know a bone when I see one. I've been doing it that long and for somebody to say that they can't get anything back…. and even if we don't see anything, everything that's in that tray, it doesn't matter if it's still a bit of a box that's in that tray, goes back to the family."*

Referring to his experience of babies who have lived he said,

> *"[The ashes from] a one year old won't fit into a baby urn. This is why I can't understand folk saying there is nothing. It really is unbelievable."*

The Executive Secretary, Gordon Armour, describing the Board's policy on returning ashes said,

> *"The position in Maryhill is that whatever was there you would always either give it back or dispose of it in accordance with the wishes of the family. There wasn't a view that nothing comes from this process."*

The administrator responsible for paperwork at Glasgow Maryhill Crematorium told the Investigation,

> *"I have never been notified of a case where there were no ashes from an NVF or told there was nothing left at the end of the cremation. That's not happened. They always maintained that if anybody wants ashes back, they can have whatever there is."*

The Investigation was interested in whether there were written policies and guidelines on the cremation process. A Cremator Operator said,

> *"We've got our manuals downstairs and we did have manuals when we started as well but there were more guidelines then than there are now. It's more advanced now as somebody's had a look at it and thought right we need to make this all one thing.*
>
> *[The previous Manager] had the procedures but they weren't displayed. Well now I think Lucille [Furie] has them. There's a few new procedures being written since Lucille came as well. We worked on a few things and got it down on paper in black and white rather than hearsay. So if I want to check something I would go to Lucille instantly."*

i Operational Practice

The Investigation interviewed five Cremator Operators and learned that three had only joined Glasgow Maryhill Crematorium from other crematoria in the previous two years. The other two had been there for approximately twenty-six and fourteen years respectively.

The Cremator Operators had undertaken the FBCA training in order to become qualified. The Cremator Operator with twenty-six years' experience told the Investigation about the training he received.

> *"I had to go over to the Linn Crematorium which was the training crematorium at the time and I went there for I think six weeks training...Then I just came back here and … that's when I got my certificate… Since then we've had the training for the new cremators going in but that was the training on how to operate them and the safety procedures but there's not really been any further training on actual cremating."*

Further training, including refresher training, is not a standard requirement at Glasgow Maryhill and nor are there any arrangements for personal appraisals.

One Operator revealed that,

> *"when I first went to Glasgow Maryhill the only additional training I got was just on the machines because they were different machines."*

In relation to cremating babies the Investigation heard that,

> *"There is nothing written down here that you have to follow, no guidance imposed on you by the owners as to how you should cremate a baby. It would just go back to a sort of code of practice that's accepted."*

Elaborating on this the same Cremator Operator told the Investigation,

> *"At Maryhill there is a code of practice. It says all cremations must be carried out with the utmost respect. It does cover babies in a way, it just doesn't specify."*

As at some other crematoria, the Cremator Operators work on a rota that involves spending time doing 'front of house' work in the chapels as well as cremating. A Cremator Operator described how,

> *"When you are front of house you are basically organising and overseeing and making sure that the actual chapel is running like it should do."*

The Investigation heard that it is the practice at Glasgow Maryhill Crematorium to conduct foetal or infant cremations as part of the day's routine proceedings, and as soon after the funeral service as practical, not at any specific time of day. It has always been the Society's policy to endeavour to return the ashes to parents if they have requested them. The quantity of ash would vary depending on the age and size of the infant and the size of the coffin. Sometimes only a very small amount of ash would be recoverable.

A Cremator Operator who joined Glasgow Maryhill in 2011 said,

> *"we don't 100% say there's remains there, but you get back what remains are in the tray."*

The crematorium's position on the return of ashes was understood by David Eagle, the Regional Operations Manager for Glasgow Co-operative Funeral

Care and previously Funeral Home Hub Manager for Bellshill. He told the Investigation,

> *"When I started my career (c 2000) there was varying policies across each of the individual crematoria. … at Glasgow Crematorium, which is run by the Scottish Cremation Society up at Maryhill, it was a case of ask and we shall see. There was no guarantee but it was a matter of ask if there's ashes to be available then we will let you know. So that would be the information that we would convey on to families, particularly baby and infant families. Whether there were any ashes to be returned, we would not know until the cremation has actually taken place."*

The Cremator Operators were asked by the Investigation whether any shared cremations had been carried out at Glasgow Maryhill Crematorium. Although it is lawful to cremate non-viable foetuses with other non-viable foetuses through shared cremation, this did not take place at Glasgow Maryhill and there was no contract with the NHS for cremation of non-viable foetuses. Nor, the Investigation was told, had a non-viable foetus or baby ever been cremated with an unrelated adult.

The Cremator Operator with twenty-six years' experience told the Investigation,

> *"There would never be an occasion where we would cremate more than one person's ashes together. I haven't experienced cremating a mother and child together, but if it was asked for, and if the family really wanted it, then you could say well certainly if you want to stay together. So you could have done it then but I was never asked for it."*

13.4 Cremation Process and Equipment

The Investigation explored the impact of working practices on the services delivered particularly in relation to the equipment, including the use of baby trays, and the policies applied.

Most of the cremations that take place at Glasgow Maryhill Crematorium are of adults and many of the features of an adult cremation are replicated during the course of a baby cremation[57].

i Cremators

At the time of the Investigation Glasgow Maryhill Crematorium was equipped with two Facultatieve gas-fired cremators. They were the FTII and the FTIII, installed in 2013 and 2014 respectively. Both are double-ended with Light, Standard, Heavy, Special, First and Infant modes. The current machines replaced two Tabo cremators installed pre-1990 which were upgraded in 2009.

The cremators are primarily designed for adult cremations with the coffin charged (inserted) at one end through a large door. After the cremation the Operator places a rake through a much smaller door at the opposite end of the machine, where there is a spyhole through which the Operator can observe the progress of the cremation. The ashes are raked into an ashes cooling pan underneath this rear door.

An automatic charger is used to transfer the coffin from the trolley and position it in the cremator. A Cremator Operator, described how he would cremate a baby where the coffin was too large to go in the tray (see below for information about the use of trays).

> *"You put the baby on its own on the automatic charger and the automatic charger puts the baby into the middle just as it would with an adult coffin. The setting would be infant setting. As with every cremation you look to see when the cremation is complete. Then you have to carefully pull them through the normal means through the back of the cremator, rake the ashes to that end of the cremator into the cooling tray and then they are in there for an hour. Then they cool and you can manually cremulate them. Same for every cremation, there is a card that follows the coffin."*

[57] Section 5.12, Cremation Equipment, talks about the different types of cremators used and section 5.14, Cremation Process, discusses how they are used in cremations. Section 5.15, Cremation Process for Infants and Babies explains how baby cremations are performed in the different cremators.

Facultatieve described to the Investigation the effect of using infant mode. They explained,

> *"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years."*

Facultatieve anticipated there would be a manual override of the system by experienced Operators. Their advice was,

> *"time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[58] previously explained why manual intervention in the cremation process is beneficial saying,

> *"the usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

[58] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

ii Baby Trays[59]

A baby's small coffin, or box containing a non-viable foetus, may be placed on a steel tray inside the cremator to better contain any ashes and prevent them being lost by being spread throughout the cremator by the force of the air jets.

The Investigation learned that at Glasgow Maryhill Crematorium a tray has been continually in use since the 1980s. The Cremator Operator with twenty-six years' experience told the Investigation,

> *"We've always used a tray, since I started here twenty odd years ago and [a colleague] tells me that when he started 40 years ago they had baby trays here, which might have been a bit unusual because I know that not every crematorium had them then."*

The same Cremator Operator described the benefit of using a tray. He said,

> *"If you use a baby tray no matter what size the coffin is, it can be the smallest NVF or a wee small box, there's always something in the tray and when I say always something it's like maybe a wee bit of ash from the coffin because they're in the tray and the air doesn't get in the same so it's not all blown over the cremator if you like. It gets contained in that tray so you always get something and if you look at it very closely sometimes there's tiny, tiny wee bones but what we gave them back was whatever was in the tray."*

At the time of the Investigation there were two baby trays in use at Maryhill, one suitable for non-viable foetuses and the other for full term infants. The Cremator Operators confirmed that a baby tray is always used.

Executive Secretary, Gordon Armour, confirmed the crematorium's ability to retrieve ashes and the uninterrupted use of baby trays at Glasgow Maryhill Crematorium. He said,

> *"We've always, to my knowledge, had something recovered… Even with the old Facultatieve plant and without the modifications we were getting ashes and we never withdrew the tray at any stage because of health and safety so I've been told."*

[59] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

While in some crematoria the poor quality of the baby trays has been an issue leading to their withdrawal, this was not the case at Glasgow Maryhill Crematorium. A Cremator Operator explained,

> *"I know when the first lot that we had wore out with the heat and things that one of the Directors got a friend of his to make new ones right away so that they were there all the time. There wasn't any gap I don't think because we always had them. I don't know why we had them. We had two, both exactly the same."*

A Cremator Operator with experience of cremating at Daldowie and Linn told the Investigation that the trays in use at Maryhill were more effective that those he had used in the Glasgow City Council crematoria. He recalled,

> *"Then when I came here to Maryhill I got a tray that worked and didn't buckle and an automatic charging machine."*

The Cremator Operator with twenty-six years' experience cremating at Maryhill, gave the Investigation a detailed account of the process when cremating using a tray,

> *"The baby tray is just a rectangular metal tray with a deep side on it. It may be about four inches high all round and that's it. You bring the tray back out the same door you put it in. We use a metal hook and there's handles on the baby tray that you can catch it and just pull it out. It's actually quite flat. It gets lifted down and put down to cool.*
>
> *What we're using at the moment over it is actually a door from the old crushing machine. That's a stainless steel door and it's fireproof so that goes on the hot tray… if you don't put something on it as it's cooling, what's in the tray sparks and goes everywhere and you would finish up with dust everywhere. Part of the coffin and maybe part of the baby would be on the floor if you didn't cover it and that's bound to happen.*
>
> *When it cools what we do is empty it into either one of the cans that the adult ashes go into or if it's very, very little then we use a pestle mortar and we cremulate that. We brush all the tray down. We brush everything down into a corner. It's a bit awkward to be honest with you but there's not much other way of doing it. So you brush it down into the corner. The tray is lifted up and whatever's in that is brushed out. If I hold the tray up someone else will brush out what's in the corner into it and they would just crush it up by hand and then it's put into the wee bag and the baby urn and that's the process. The wee urn is put into a wee box and the label goes on the box…*

With the tray being so hot you would tend to leave the babies till the end of the day; put them in the tray and you would cremate the baby last thing at night so that you could take the tray out in the morning which, although it would still be hot, was cooler but it was difficult to touch…You can imagine trying to pull it out if it was red hot. You could easily have an accident, but that was the way it was done. When you used to do it by yourself the only precaution was leaving it till the last thing at night and then there would be two of you to deal with it in the morning. Now it's done in its order mostly."

iii Dispersal of Ashes

Only two options for instructions for ashes are used at Glasgow Maryhill Crematorium. They are 'scatter' and 'take away'. The instruction 'N/A' or 'no ashes' is not available on their computer system.

The Executive Secretary, Gordon Armour, described the policy at Maryhill about the retention of ashes prior to their disposal. He said,

"The legislation deals with the norm and it says within twenty-eight days but historically we tended to hold on to the ashes longer than the twenty-eight days. We would tend to hang on to them for quite a while and make a few phone calls with the Funeral Director."

According to a witness with twenty-six years' experience of being a Cremator Operator at Glasgow Maryhill Crematorium,

"Scattering of ashes we do a month after, because when I started at first it used to be the next morning that you scattered the ashes but I didn't think that was right because people are in grief and they might make one decision and then regret it. So we actually talked our bosses in Bothwell Street into keeping them for a month so it gave the people a wee chance to change their mind. But they weren't always scattered exactly at the end of the month. We would phone the Funeral Director and say, 'look these ashes are coming up for scattering'. Sometimes they would be there for three months but you would give them every opportunity to change their mind."

Comparing this practice with the system at Daldowie and Linn another Cremator Operator said,

"There are times when ashes lie there and nobody comes to get them. We give them four weeks' notice at Maryhill which is four weeks longer than you would get at the Daldowie and Linn. There it was always the next day but here we give them four weeks' grace and sometimes you do

have to phone up an Undertaker and say 'why have you not picked them up?' One or two can end up like, 'oh we thought the family were going to do it' or 'let me phone the family and I will phone you back'. If they don't phone back we chase them a wee bit. At the end of the four weeks I think the presumption is that if you are not picking them up we will be scattering."

The Investigation learned that in reality ashes are sometimes retained at Glasgow Maryhill for far longer than four weeks. A Cremator Operator explained,

"Normally it's the Undertaker who collects the ashes. The Undertaker's contacted and it's up to them to take it away and then contact the family. Normally we leave it for another fortnight. It's the whole pressure thing as well. You don't know how the families are feeling either. Whether they're wanting them back right away and can they handle that so we just let the Undertaker know. They'll get in touch with the family. It's their responsibility. We've not got the details for that anyway and if they do not come back to us we're supposed to scatter the ashes like adults every four weeks so they're kept and then they're scattered the following month on that date. But with baby ashes because we've contacted the Undertaker and because we've not had any answer back we're not then bound to do anything with ashes. We have to wait until somebody comes back and gives us some sort of clarity of where they're going and what's happening."

The Investigation learned from Gordon Armour as well as some members of staff that reluctance to scatter ashes in the absence of a very definite instruction has led to problems with unclaimed ashes being retained indefinitely at Glasgow Maryhill Crematorium. An example of such a situation was where a family,

"had moved house and the Undertaker is still trying to get in touch with them."

However, there were other situations (referred to below) where, according to the Cremator Operators, Funeral Directors had initially told families there would be no ashes. When told by the crematorium staff after the cremation that ashes were in fact available, the Funeral Directors had apparently been reluctant to go back to families with this information. This led to an increase in the ashes retained at the crematorium and decisions having to be taken from time to time on how to dispose of ashes that were not collected.

At Glasgow Maryhill Crematorium land space is limited and a key experienced Cremator Operator described how over the years the area for scattering of ashes had moved. He told the Investigation,

> *"They used to be scattered in the Garden of Remembrance. There's a map somewhere … It just became full. So we decided to turf the rose beds over and use the area at the back of the crematorium. I think that was about fifteen years ago. They call that the Garden of Reflection.*
>
> *If someone wanted to know where ashes had been scattered you couldn't point with any particularity. It would just be in that area. It might be 1,100 yards x 60 yards or so but I'm not really sure. When I came here at first … you had twelve beds over there and each bed was for a month of the year. So as we took them out at the end of a month we would go in and we could look at the date and say well that's May, June or whatever and they would be buried in that bed… they're just scattered on the grass now but that's the way it was done. So you could at that time say where they were."*

A Cremator Operator told the Investigation,

> *"I don't think I've ever came across a situation where a baby's ashes have been down for 'scatter without anybody attending'. With an adult's cremation we get instruction a lot of the time to scatter ashes…. But with a baby I certainly don't think that's ever the case."*

During this Investigation an anonymous letter was received alleging that there were boxes of unclaimed ashes, including two containers of babies' ashes, at Glasgow Maryhill. The Investigation passed this information to the Executive Secretary, Gordon Armour, who instigated an audit which revealed that there were five sets of baby ashes, including the two previously identified, as well as the ashes of twenty-five adults. Although none of the ashes related to cases referred to the Investigation they were relevant to the Investigation's wider terms of reference that include "*a more general investigation into practices and operations at any specific crematorium where case-specific investigations give rise to more general concerns*". Gordon Armour has made it a priority, where possible, to inform families about the existence of the ashes and to ascertain and carry out what they wish to happen next. As at March 2016 he had made final arrangements with three out of the five families with regard to their babies'

remains. Going forward, ashes will be reconciled every month and the person scattering the ashes will sign to say this has been done.

13.5 Administration and Record Keeping

Record keeping for Glasgow Maryhill Crematorium is carried out by a dedicated member of staff at Scott Moncrieff, Chartered Accountants. This role involves receiving and processing the forms required for a cremation to take place at Glasgow Maryhill Crematorium and to complete Form G, the Register of Cremations. The current post-holder has held the position since 2008 and is based at an office in Bothwell Street.

Maintaining a Register is a statutory obligation, though not in relation to non-viable foetuses, involving the recording of the cremation number, date of cremation, date and place of birth, age and gender of the baby, name of the Applicant for Cremation and disposal method/ final resting place. Previously typed manually, the Register of Cremations has been computerised since the introduction of the BACAS administration and booking system from ClearSkies Software in 2004.

The member of staff responsible for the administration explained to the Investigation that the options for ashes' disposal are contained in drop down boxes on BACAS. They consist of 'scatter' (with or without family attending) and 'take away' (by the Funeral Director or other).

The administrator explained to the Investigation that the same options apply to a non-viable foetus.

> *"The Form A for an NVF has a disposal instruction on it. If they want to take away they can have what they want. If there's anything there they can have it. The request is ashes to be taken away."*

In relation to the option 'no remains' available in some other crematoria, she explained,

> *"There has never been an option on the drop down menu on BACAS to say 'no ashes' or 'no remains'."*

The system records whether ashes have been dispersed in the Garden of Reflection or taken away for private disposal. In the event that families return ashes to the crematorium for disposal, this will be recorded.

There is no legal requirement to keep any record of cremation of non-viable foetuses. However, a non-statutory Register is kept at Glasgow Maryhill Crematorium.

i Findings on Record Keeping

Of the four cases referred to the Investigation, two date from 2002. These are twins, one of whom was stillborn and the other lived for two days. The Investigation was told that cremation records held on microfiche, which should have been retained for fifteen years, were accidentally destroyed leaving only the Form G, Register of Cremations, entry available to the Investigation. The recorded ashes disposal entry is 'T/A' meaning 'take away'. Unlike other Register entries there is no recorded date of uplift in the Register, and the family did not get the ashes.

An email from the Administrator to the parents explained,

> *"I can advise you from the hand written statutory records that the ashes, if any, were to be taken away. There is no record of a date being recorded for the ashes being collected and per our statutory forms 'Ashes not collected within one month will be dispersed in the Crematorium grounds'. On that basis I am led to the conclusion that the ashes would have been scattered in the Garden of Reflection. I realise that this may not provide the details you were particularly seeking and I can only apologise for this situation."*

Both the twins' parents could remember a discussion about ashes at the hospital. They had received support from someone they understood to be the Head of Department or Chief Midwife. Speaking of her, they said,

> *"She was very nice and she was very supportive throughout the process. She was very direct in stating there will be no ashes. 'You don't get ashes from babies'. She said their bones are too soft."*

The mother, who had particularly wanted the babies cremated at Glasgow Maryhill so they would be with a close family member, described her feelings.

"…when the twins passed away we went up to that graveyard every month for a long time after they died. If we thought that my kids' ashes were sitting there and to be told that I've not bothered to pick them up or whatever the situation it is. People see how upset you are. You can imagine the day of a funeral with your children. You've got all these dreams ahead of you and it all comes crashing down just like a building.

For me now to go through this and to explain it makes all that grief raw again when you should be moving on. Having been told there were none I had no expectation of there being ashes and I would have never thought to go and ask because I'm listening to what the hospital's told me."

The Funeral Director had confirmed to the mother that there would be no ashes. The mother recalled,

"I distinctly remember asking during that call as well and getting told that there won't be any ashes and I remember just feeling silly to ask it again but I think I just thought I could have got the ashes."

The father of the twins added,

"You're trying to deal with a situation. So if somebody tells you something you just get taken along and you just accept it. You don't actually question it or think about it. They do this every day. We had never been through this.

So it seems disappointing from my point of view that we've been misled or misinformed, though from the midwife's perspective I don't think it's been a deliberate attempt to misinform.

Ultimately we would like to know where they were scattered and if it was in the gardens. At least we can go and understand that. And also to make sure that they weren't just discarded. They weren't just thrown in the bin."

The mother said,

"I just can't believe really that we're still talking about this. It's so upsetting. We don't want this to get somebody into trouble. We just want an answer to what happened."

The Funeral Directors have also told the Investigation they do not have the ashes nor any paperwork relating to these babies despite the hospital confirming that their records show the twins were collected by Co-operative Funeralcare.

In a 2010 case involving a baby girl delivered at around twenty-four weeks' gestation and referred to as a non-viable foetus in the relevant paperwork, the mother remembered discussing the forms at Glasgow's Southern General Hospital. She particularly recalled that the midwife,

> *"went through this in quite a lot of detail and it said that we must be aware that because the baby would be so small the chances were that there wouldn't be any ashes. But the crematorium would contact us if there were ashes so that we could dispose of those how we chose to."*

According to The Co-operative Funeralcare in a letter dated 2013 to the parents' MSP, the cremation was arranged under a contract between Funeralcare and NHS Greater Glasgow and Clyde and the paperwork was filled in by a representative of the NHS.

The instruction on the Form A was 'N/A' (interpreted as no ashes or not applicable) and appears to have been written by the Midwife. A letter that the parents passed to the Investigation from the NHS Chief Executive to the parents' MSP in 2013 informed them that, due to the passage of time, it was not possible to explain the choice of instruction. The letter confirmed that,

> *"the instructions contained within the policy that was available for staff use at the time were as follows, 'Any ashes, which will have been placed in a casket, can be collected the following day. There may be very little or no remains from cremation of a baby. Parents should be advised of this'. This part of the policy remains the same today."*

Despite the Form A (Application for Cremation) suggesting there would be no ashes, the ashes disposal column on the Register had the entry 'scatter'. The Investigation asked the Administrator where that instruction had come from. She said,

> *"When 'N/A' is written on a Form A, I understand that means parents have been told there will be no ashes following the cremation of their baby. In those circumstances I would enter 'scatter' as the instruction in case there were in fact any ashes as something would need to be done with them."*

As Cremator Operators do not see the Form A, it is assumed they followed this instruction from the Administrator, meaning that any ashes from the baby's

cremation would have been scattered without the parents' knowledge because of the Administrator's action.

When Gordon Armour, Executive Secretary, was informed about this specific case he said he was very surprised. His view was that,

> *"If ashes were recovered in circumstances where the Undertakers had an understanding that there may be no ashes, or there may be a difficulty regarding ashes, and they were to say they're not likely to get ashes or there will be no ashes and score this through on Form A then I would go back to them. It's my understanding (and some of the Board members have been on the Board for quite a long period of time) that the baby trays were something that we've had for a very long time and we've always, to my knowledge, had something recovered. Therefore we wouldn't have the expectation that there wouldn't be ash."*

A Cremator Operator who has cremated at Maryhill for many years told the Investigation that in his experience not all Funeral Directors were happy to pass on the message that there were ashes once they had informed a family to the contrary. He described the response of some as,

> *"Oh we've told the family there will be nothing so just leave it at that. They didn't want to go back to the family. And there were times as well that we had ashes there even although they were down for a scatter but we still phoned them and said 'look there are ashes here'. They might say 'we don't want to upset them'."*

This scenario was, he said, not unusual,

> *"If they [Funeral Directors] had put the ashes down for a scatter, they never wanted to get a family and say, 'look we've spoken to the crematorium and there will be ashes there'. They always felt that it would upset somebody by saying that and they didn't want to upset people. But I would have thought it would have been better just to go and tell people that there will be something there."*

The Investigation asked what would happen to those ashes. The Cremator Operator replied,

> *"Well we would probably scatter them. If they don't want to come and take them then we would scatter them."*

13.6 COMMUNICATION

A Cremator Operator told the Investigation he had no experience of meeting and sharing good practice with Operators from other crematoria. Another Operator agreed.

> *"I've been nowhere else and don't have contact with other crematoria."*

One of their colleagues told the Investigation he had made visits, but outside work hours,

> *"because it's something I like to do in my own time and see other colleagues in the other parts of the world."*

Asked whether they had any contact with bereaved families one of the Cremator Operators said,

> *"I'm open to talk to families if they want. If they want to ask me as many questions as they like they are very welcome."*

A willingness to speak to families was confirmed by one of his colleagues who told the Investigation,

> *"Some people would come up and visit the crematorium. I would always go out on a Sunday and speak to folk and just show them round and talk to them. I like to get folk downstairs and show them the procedure and some of them are a wee bit nervous about it but when most of them do it they feel better if they have taken ashes away and you show them what the procedure is… once they see how it's done they do feel better about it."*

On whether Funeral Directors wanted to know more about the cremation process a Cremator Operator explained,

> *"I talk to Undertakers regularly in connection with general things, how's life, how's work? They probably talk about ashes and particular cremations sometimes but not that I can remember. But they don't make it a point to talk about it all the time, they are curious at times, some of them will come down and say, 'So what goes on?' and we are quite happy to give them a tour."*

One of his colleagues firmly believed that not all Funeral Directors and hospital staff were well informed about cremation, leading to the less knowledgeable

providing families with inaccurate information. Identifying a need for greater sharing of information between hospitals, Funeral Directors and the crematorium he was asked what was needed,

> *"I think informing people better at the very first point with the Funeral Director or even at the hospital. The hospital should be sending people out here who deal with families when they've had a baby or any death really."*

The same member of the crematorium staff spoke about the myth that there are no ashes from babies. He said,

> *"The Funeral Directors – a lot of them seem to have this idea and I think that came through the District Council - that there would be no ashes under a certain age because very often we would phone and say 'look, there will be ashes from this. We always get something'. I'm not saying it will be bone but there will always be something in that tray."*

On whether it was the responsibility of crematoria to educate others, the same Cremator Operator told the Investigation,

> *"As far as the baby ashes are concerned I think we've always done the right thing in trying to advise the Funeral Directors but they didn't always listen to us."*

He was incredulous about some Funeral Directors' level of understanding.

> *"We've been told that Funeral Directors were being told that there would be no ashes for a year and under. I mean a year, that's a full-grown baby. The ashes from a year old baby wouldn't fit into a baby urn. You would have to give them a normal adult urn of maybe say a third full and there would be more than enough for that but too much for a baby urn."*

His colleague agreed that some Funeral Directors lacked awareness of the availability of ashes for babies. He told the Investigation,

> *"I think the Undertakers need a bit of guidance on it. You would think they wouldn't, but I think they need a bit more guidance."*

The same Cremator Operator was of the opinion that poor communication between some Funeral Directors and their staff resulted in families receiving inaccurate information. He said,

"the Funeral Director will sit with the family and take all the information and will mark down whatever he has to mark down but it's then up to the office girl to deal with all the paperwork and the aftermath of all that and to me there's no communication between both parties.

I wouldn't categorise it as everyone – certainly not every Undertaker but there have been times where girls from the office will call up and they will say, 'Oh I thought there wouldn't be anything'. This would happen time and time again…"

This he suggested might be due to,

"just a few individuals who may be not paying attention."

Ultimately he did not, however, believe that the Funeral Directors alone were responsible for creating the misleading messages. Some crematoria did indeed apply distinct cut off dates for ashes depending on foetal age. Furthermore, he believed the FBCA guidance about ashes consisting of skeletal remains had contributed to the confusion.

The Executive Secretary Gordon Armour was certain that any message to the effect that there would be no ashes would not have come from the crematorium. Discussing a Maryhill case with which the Investigation was dealing he said,

"If in one of the cases from 1994 the baby's father was told there would be no ash by the Funeral Director that definitely wouldn't have been from us. I could say that with confidence because of my discussions with the Directors who have been there for a lengthy period of time and indeed my immediate predecessor and his predecessor. Certainly it was his recommendation that we've always had something so we would not have been saying that there wouldn't be any ashes. We would have said there's no guarantee of what you're getting is human ash. It may be residue."

13.7 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

Since Glasgow Maryhill Crematorium has routinely used trays for infant cremations and returned ashes to families over many years, they had no need to make operational changes in these areas following the publication of the Mortonhall Investigation Report and the recommendations made by the Infant Cremation Commission.

It did however take the media attention surrounding Mortonhall to alert some Funeral Directors to the fact that Maryhill was able routinely to furnish families with their babies' ashes. This was explained by a Cremator Operator who told the Investigation,

> *"I think it's only since the Inquiry started that they started to think maybe that we are being told the truth by the crematorium and maybe there are ashes. I think that's only when it changed."*

13.8 CONCLUSIONS

1. The Investigation noted Glasgow Maryhill Crematorium's history of returning ashes of babies to their parents, although this did not always happen as the outcomes of the four cases referred to this Investigation demonstrate. Although members of the FBCA they did not use the Federation's definition of ashes as 'skeletal remains'. Discussing this topic, Executive Secretary Gordon Armour offered an explanation for Glasgow Maryhill Crematorium adopting a different approach from that of some other crematoria. He told the Investigation,

   "As to why culturally the profession really didn't focus on the scattering of ashes over many, many years I think that there's a fundamental difference in the way we're organised as a charity because the Board are very concerned that we shouldn't just comply with the legislation but we should also be thinking about what we're doing. This issue has if anything strengthened that view on the Board. I feel that with the Local Authorities the structure is so different that we have the advantage of being a small organisation."

2. The evidence that Cremator Operators at Glasgow Maryhill Crematorium have for many years been able to retrieve ashes demonstrates what can be achieved by experienced Operators even when using less sophisticated machinery. Commenting on these achievements by his predecessors one Cremator Operator told the Investigation,

   "We have baby urns in the columbarium there. We have a big tower there. It's got 3,000 sets of ashes in it and we've got wee baby and stone urns and there's ashes in them from a hundred years ago. So they must have had baby trays or something similar to the trays we have even back then because as I say there are ashes in there that are a hundred years

old and they're baby ashes. So they were able to collect them all that time ago without any modern equipment or anything."

3. While the number of cases relating to Maryhill referred to the Investigation is small, the distress caused in individual cases should not be underestimated. In one case it has not been possible to investigate fully due to the accidental destruction of the relevant records. No reason as to how this happened has been provided and the undated disposal 'taken away' recorded in the Register of Cremations does not afford closure to the parents as they did not receive any ashes.

4. In another case the Form A Instructions for Ashes entry is 'N/A' and the entry in the NVF Register is 'scattered'. Despite the Crematorium's success at returning remains to families, this was not universally understood by NHS staff and Funeral Directors. It is perhaps not wholly surprising that, faced with different outcomes at other crematoria, they may have made inaccurate assumptions about what could be done and where. With the benefit of hindsight the situation might have been rectified by a call from the crematorium to the hospital or Funeral Director to advise that there would, more likely than not, be ashes and to ask what should happen to them. There is no evidence that such a call took place or if it did what the response was. The crematorium's Executive Secretary was surprised that the crematorium's administrator entered 'scatter' as the final disposal without reference to the parents.

5. The absence of a very definite instruction has led to problems with unclaimed ashes being retained for many years at Glasgow Maryhill Crematorium. The new Burial and Cremation (Scotland) Act 2016 will address this issue for the future.

Kirkcaldy Crematorium

14.1 INTRODUCTION

A total of five cremations of infants, babies or non-viable foetuses conducted at Kirkcaldy Crematorium were referred to the Investigation. Four of these cases were from 2010 and one from 2011. None of these families had ashes returned to them following the cremation of their baby.

Kirkcaldy Crematorium was opened in 1959. It is one of two crematoria managed by Fife Council. The other is Dunfermline Crematorium. A large red sandstone chapel is set in woodland grounds. In addition to the Gardens of Remembrance there are beds of commemorative roses and azaleas together with a commemorative wall and commemorative kerbs. Books of remembrance for babies are displayed within the crematorium offices.

Generally, cremated remains can be either collected by next of kin or Funeral Directors on their behalf or they are scattered in the Garden of Remembrance. Ashes are scattered one month after the cremation takes place. The ashes are scattered in a different area of the garden depending on the time of year in which the cremation took place. There are four sections. There is a Snowdrop Garden at Kirkcaldy Crematorium specifically for babies. The crematorium has a relatively small number of infant and stillborn cremations (eleven in 2013) but a higher number of non-viable foetus cremations (sixty eight in 2013), some of which are 'shared' cremations where families have agreed that the cremation can be shared with other non-viable foetuses.

Two other Crematoria are situated in the area; Dunfermline Crematorium which is also managed by Fife Council and Perth Crematorium. Perth Crematorium is situated approximately 38 miles from Kirkcaldy.

Kirkcaldy Crematorium is equipped with two Evans Universal and one Facultatieve Technologies FT11 double-ended, gas-fired cremators. The Evans Universal cremators were installed in 1998 and the Facultatieve

Technologies FT11 was installed in 2012. Prior to the installation of the Evans Universal cremators, Kirkcaldy Crematorium used twin flux cremators.

14.2 MANAGEMENT

i Structure

Since 2010 Kirkcaldy Crematorium has been part of Fife Council's Directorate of Communities. The Director of Communities manages a Head of Service. A Bereavement Services Manager reports to the Head of Service.

The post of Bereavement Services Manager has overall responsibility for management of the administration and operation of all the crematoria and cemeteries in Fife, Kirkcaldy and Dunfermline. A Bereavement Services Officer reported to the Bereavement Services Manager. That role had been supported by a Support and Development Officer since 2011. The Bereavement Services Officer left in 2015 and has not been replaced.

ii Approach

Senior management receive information through Service Plans or stand-alone reports which are compiled by Heads of Service. The Chief Executive of Fife Council, Steve Grimmond, told the Investigation,

> *"In the pre-Mortonhall Inquiry period I had no specific information around the kind of technical operation of the crematoria and nor would I have sought that."*

The Head of Service, Grant Ward, said,

> *"My contact with the crematoria has largely been through Liz (Murphy) (Bereavement Services Manager), so I wouldn't profess to have an intimate detailed technical knowledge of the crematoria or their operation...It's obviously become an area of much greater focus for us but I wouldn't want to profess that it was a sort of hands-on day to day involvement. I've got a range of responsibilities and I very much rely on Liz and I have every confidence in Liz."*

Liz Murphy is Bereavement Services Manager and has direct responsibility for the running of both Dunfermline and Kirkcaldy crematoria. She said,

"My job is at a strategic level. It's ensuring the day to day operation and helping and developing processes. It's my job to make sure the processes are in place and staff know what they are doing as far as day to day administration and that they have the training to do the job. I also oversee the maintenance of cemeteries. I deal with any issues that arise within overall administration in the work we do – the cemeteries and the crematoria and also the strategic side of identifying our capacities in the cemeteries and looking forward – what do we need and ensuring everything's running smoothly"

Until 2015, she was assisted in this role by a Bereavement Services Officer, William Greig, who was based mainly at Dunfermline.

A Cremator Operator said,

"no-one has come down from the Council for example to say is there a way you can get remains form a baby or have a look around and ask themselves whether there might have been a better way to do it. We had health and safety guys come down to assess our method and managers and hierarchy come down now and again"

Another said,

"Liz and Willie were there but I have not been at the crematorium when senior people from the Council have come to visit."

14.3 Response to Mortonhall Investigation and Infant Cremation Commission

On 1 May 2013 after the issues at Mortonhall Crematorium came to light, a Briefing Note was produced by Liz Murphy, Bereavement Services Manager, for senior management and elected members. The note set out the Council's procedures for dealing with the cremation of babies. It stated that,

"Any ashes present after a cremation will always be offered back to a family via the Funeral Director...If cremation is chosen instead of burial, bereaved families are advised that more often than not there will be no ashes/cremated remains left for return. This reflects the national guidance via the Federation of Burial and Cremation Authorities (FBCA[60])"

The Briefing Note goes on to say,

[60] Section 5.2, Key Organisations, explains more about the FBCA.

"The Bereavement Services Manager is also actively involved in discussion at a national level with both local authority and private Crematoria Operators via the FBCA. Establishing a common policy/approach to the issue of baby ashes is a key area of focus."

Despite this discussion there was no realisation that other crematoria were returning remains with the use of a baby tray[61]. The former Bereavement Services Officer, William Greig, who now works at Perth Crematorium, approximately 28 miles, away informed the Investigation,

"In Perth...they've always used a tray there"

Indeed a tray was in use at Dunfermline Crematorium between 1991 and the mid 2000's. Despite common management of Kirkcaldy and Dunfermline Crematoria there was no tray used at Kirkcaldy in the same period. It is clear however that the tray was taken from Dunfermline and brought to Kirkcaldy. It was not returned to Dunfermline and there is no record of what happened to it.

The Chief Executive told the Investigation that after the Briefing Note was received,

"From recollection there was no internal audit undertaken at the time. Effectively we acted in response to the information that was emerging. We immediately took action to amend the practice. One of those amendments was by the use of a baby tray)."

At the time of the briefing the baby tray (purchased in December 2012) had been taken out of circulation and was not re-introduced until May 2014.

14.4 POLICY, TRAINING AND GUIDANCE

i Written Policy

Although a former Operator, who left Kirkcaldy Crematorium 10 years ago, referred to "*strict guidelines on what you could and couldn't do*" he also went on to say,

[61] Section 5.13, Baby Tray, explains more about how a baby tray is used.

"They had literature. They had books. They had brochures and things like that of how the machine should be operated but I'm not aware of any local operation procedures written just for the crematorium."

A former Cremator Operator stated,

"I am asked if I ever saw any literature about whether there were remains or not. The only thing we ever had was training manuals that was issued to us from the manufacturers and these manuals told us basically what we're to do and what we weren't to do and baby cremations were included in that meaning that you couldn't leave anything in overnight and things like that."

A current Cremator Operator told the Investigation,

"Although I've been trained and I've got guidance manuals from the manufacturer the Council have also got operational policy guidance on what I should be doing."

After media coverage of the issues at Mortonhall Crematorium flow charts documenting the processes at the crematorium were produced. John Swan, Corporate Development Lead Officer told the Investigation,

"I was asked to go to a meeting I remember a few years back and discuss the issues at Mortonhall and the babies' ashes. I produced various flowcharts based on what the staff should be doing and since the guys on the ground are the technicians and the managers are in charge my role was co-ordinating it more than anything else and then I think we got a few various issues."

He also referred to older written procedures,

"The old written procedures probably don't even exist anymore as documents are kept for five years and we have had the flow charts for a bit more than five years."

The Flowcharts issued in March 2010 shown to the Investigation do not set out any specific steps for non-viable foetus, stillborn or baby cremations. A draft flowchart for Baby Cremations dated December 2014 which shows the use of a baby tray was provided to the Investigation. John Swan, Corporate Development Lead Officer, confirmed that the baby tray was purchased in December 2012, but withdrawn from use in February 2013 following health and

safety concerns. It was reintroduced in May 2014, and the flowchart was drawn up for the process of using the baby tray in December 2014.

Liz Murphy, Bereavement Services Manager referred to a folder of FBCA training notes[62]. However, she confirmed,

> *"There are not specifically local instructions on the cremation process. It's not written down to the level of detail of how each individual does the cremation."*

A Cremator Operator from Kirkcaldy's sister crematorium in Dunfermline provided the Investigation with an extract from a Facultatieve manual which stated,

> *"Where Infants are to be cremated a special purpose Infant Tray should be used and is available from Facultatieve Technologies Ltd."*

Facultatieve advised the Investigation that this recommendation has been in their manual since 1987.

The BSI (the British Standards Institution) carries out annual assessments of Kirkcaldy to determine the effectiveness of its quality management system. The audits provided to the Investigation did not raise any issue in relation to infant or non-viable foetus cremations until the November 2014 assessment which stated,

> *"The recent improvements to the system regarding cremation of babies was explained and a clear understanding of this was demonstrated by the cremator operatives."*

The Bereavement Services Manager has confirmed that there is no further reference to infant cremation in any other BSI Assessment Reports.

A Cremator Operator told the Investigation of the current position,

[62] Section 5.3, Training, explains more about the training Cremator Operators receive.

"Although I've been trained and I've got guidance manuals from the manufacturer the Council have also got operational policy guidance on what I should be doing. The policy guidance basically covers the whole process from coming in the front door; checking the identification of the coffin as it comes through; charging it; cremating it properly; raking it out; cremulation of it; taking metals and that out of the remains. The Council guidance will be somewhere down there in the cremating area."

ii Training

The training of staff at Kirkcaldy Crematorium throughout the period has mainly been in-house training on general cremation practice. When it came to the cremation of foetuses and babies staff learned from their more experienced peers or supervisor. However special training for the cremation of babies was not included. The same trainer trained one of the Cremator Operators for Dunfermline but despite this the practice of using a baby tray was not adopted in Kirkcaldy Crematorium.

An external examiner from the FBCA attended after the Cremator Operator had carried out fifty cremations for the practical examination. No part of the examination referred to the cremation of babies.

14.5 CREMATION EQUIPMENT

i Equipment

The two Evans Universal 300 cremators and the Facultatieve Technologies FT11 cremator used in Kirkcaldy Crematorium were upgraded in 2010 with mercury abatement software and then with software designed to improve monitoring and reporting of emissions in 2013. The upgrade also provided a new programme called infant mode. Describing infant mode, Facultatieve explained,

"The infant profile is set such that very low levels of combustion air are applied; this reduces turbulence and retains more ashes. Also the main or ignition burner is effectively disabled again to reduce the effect of turbulence. We recommend that the infant mode is used on any charges below the age of five years."

ii Baby Trays[63]

Bizarrely, despite having a common manager there was no consistency in relation to the use of a baby tray between the two crematoria within Fife Council.

Apart from a brief period when a baby tray was borrowed from Dunfermline Crematorium there was no baby tray used at Kirkcaldy Crematorium until the Bereavement Services Officer purchased a baby tray in December 2012 which was put into immediate use. An Internal Audit Report dated 5th February 2013 noted,

> *"Serious health and safety risks associated with cremating babies."*

A meeting took place on 13 February 2013 which was attended by Cremator Operators, the Bereavement Services Officer, a Health and Safety Officer, a Quality Control officer and others. The meeting decided that the baby tray was very unsafe, despite the guidance and advice on it use in the Facultatieve operating manaual and it was agreed that it was not to be used until further notice.

However, the Bereavement Services Officer, William Greig, told the Investigation, *"No-one ever got hurt by a tray."*

There is an entry on the minutes of the meeting on 13 February 2013 attributed to the Bereavement Services Officer, William Greig, which states

> *"Advised that if recent media issue had not arisen we would have continued advising that there were no remains for anything, however now this would need to be tightened up"*

He is also attributed as saying,

> *"Concerned that where we had been stating no remains that we would be open to criticism if we now started having remains."*

[63] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

There was discussion about obtaining a bespoke tray and everyone agreed that the way forward would be to purchase a baby cremator. The costs of this were to be investigated. No further notes or minutes have been supplied in relation to this. Despite this discussion a baby tray was reintroduced in May 2014.

A further Internal Audit Report dated 25 June 2014 documents the protection measures in place to reduce the risks associated with the cremation of babies to include the use of a screen to shield the tray from the work area. The items to be addressed in relation to the use of the baby tray were outlined as: a need to test the suitability of the material of the screen; the fact that some personal protection equipment had not been issued and the unsuitability of the tray for holding the baby coffin. No follow up actions on these issues have been provided to the Investigation. However it is worth noting that personal protection equipment had always been available at the crematorium. Thomas Graham, Support and Development Officer, told the Investigation,

> *"They had PPE before they were using baby trays – you've still got to wear PPE when you open the chamber door for the heat that comes out"*

14.6 Cremation Process

i Non-viable Foetuses

Non-viable foetuses were described as being cremated individually or in shared cremations with other non-viable foetuses. Those cremated in shared cremations came from Crosbie and Matthew Funeral Directors who had an arrangement with Forth Park Maternity Hospital until it closed and since then with Victoria Hospital Maternity Department. These cremations were termed 'multiples' which meant that there were a number of foetuses in a cardboard box. These were sent to Kirkcaldy Crematorium once a month. The term, 'individual non-viable foetuses' meant that there was just one non-viable foetus in the box. Occasionally a non-viable foetus came in a coffin.

The cremation process was the same for individual and shared non-viable foetuses. The box was placed just inside the cremator directly on to the solid hearth and then pushed further into the machine so that the box or coffin was

under the main burner (contrary to the manufacturer's instructions) which was at the top end of the machine. The door was closed and the details of the non-viable foetus or non-viable foetuses were entered into the machine. Infant mode was not available until 2013 (and not used until 2014) and the standard mode would have been selected. The 'airs' which are the method of ventilating the machine would then be changed to direct them to where the Cremator Operator wanted them to focus.

One Cremator Operator told the Investigation,

> *"When you cremated NVFs under the previous procedure before the tray, I don't think there were ever remains. If you saw some remains you would always try to rake it out. I can't actually remember trying to rake out after them. You were told you wouldn't get them back from an NVF but then that wouldn't make any difference because you'd always check."*

Another said,

> *"We were not able to recover anything before trays. As soon as I open that door to put the rake in, everything is just moving, just turbulence. This is what we get, fly ash, so no nothing was recovered. You would look but if it's a non-viable foetus I could pretty much guarantee the way we were cremating before there was just nothing there to rake. Obviously if you have got the door open and you take a visual check and there is nothing there then you wouldn't rake anything."*

Another said,

> *"I was taught to put it (the baby) in right under the flame and just hit it (the baby) with the flame. The effect of that was that there was nothing left at all.*
>
> *I'd visually look and if there was nothing I'd just leave it but if there was something I'd try and take it out, but normally it's like talcum powder. Anyway by the time it gets down to the funnel for sitting in to cool there was never anything. I can't recall a time when I did manage to recover any remains of NVFs under the old (pre-baby tray) system."*

However information from the cremator manufacturer anticipated manual override of the system by experienced Operators. According to a report provided by Facultatieve Technologies Ltd to the Investigation,

> *"Time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

Such manual intervention was found to be very successful over many years at Seafield and Warriston crematoria, whose superintendent Jane Darby described the technique to the Mortonhall Investigation.

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[64] explained in his evidence why manual intervention in the cremation process is beneficial saying,

> *"The usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

William Greig, former Bereavement Services Officer, confirmed that afterwards they raked the cremator out and dispersed what was there,

> *"Not all the time there was something there. Sometimes there was. Sometimes there wasn't. If there was something there we dispersed the ashes in the baby gardens and we used to tell the parents."*

William Greig also said,

> *"We did not speak to those parents about whether there was or wasn't going to be ashes because they seemed to be under the impression from the Funeral Director that there wouldn't be any remains particularly foetuses at the time and I think the Funeral Directors were actually*

[64] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

saying to the family there wouldn't be any remains. We just raked out whatever was in there and put that out in the gardens."

A former Cremator Operator who had worked with the old twin-flux cremators with a honeycombed wall (which meant you heated one side from the previous cremation) advised that with those machines the box or coffin was left overnight with the machines off. He confirmed that when using the 'old' machines Cremator Operators were able to brush up the cremated remains the next morning. He said with regard to the new cremators,

"The question was raised then, 'so what do we do?' and it was that well you can't do anything. There's no way you can get cremated remains. We the Operators raised the question."

ii Stillborn babies and Infants

This process was described as similar to the process for non-viable foetuses. A Cremator Operator told the Investigation,

"I didn't really get remains under the old (pre-tray) system…Because I'd put infants, stillborns and NVFs right in the path of the main burner. That's where it's hottest."

The manufacturer, Facultatieve told this Investigation that,

"Facultatieve Technology guidance manual has been giving advice on how to cremate infants since the 1990s, if not before, and recommends the use of a tray and not using the main burner, well before the notion of infant mode"

Another Cremator Operator told the Investigation,

"With a stillborn, the process was much the same prior to the trays and you couldn't guarantee there would be remains left. I'm pretty sure I cremated a stillborn under the old process; I think I got remains but it was a long time ago. As soon as you open the machine the suction goes down in the machine. If ashes were recovered what would happen to them would depend if they were wanting them back. If they were then they would get them back. I'm not sure exactly what the instruction was in those days if we were to get remains when we didn't expect to.

With infants who have actually breathed, prior to the use of the trays, again it was just the same process.... I'm not sure if we were able to recover ashes."

Another Cremator Operator summed up the prospect of getting remains,

"If there was evidence of something there they would have got them back and the chances would be increased the bigger the baby and the bigger the coffin."

iii Definition of Remains

None of the Cremator Operators had a defined age under which they understood ashes were not available,

"I've never heard it said that you would never get ashes from a baby under a specific age. I mean we were basically told years ago that you weren't likely to get remains back from under a full term cremation. I think that was just passed down from whoever was teaching."

Staff members used the terms 'ashes' and 'remains' interchangeably and all shared the view that it would be comforting for families to get something back. A Cremator Operator said of Non-viable foetus cremations,

"NVFs would normally come up in a cardboard box so there is fewer remains at the end of that, it's what we call fly ash, it's paper really as opposed to a coffin where it is actually wooden. From my experience since the tray was introduced I would pretty much imagine parents are grateful even to get fly ash."

In contrast to another Operator's evidence, William Greig, former Bereavement Services Officer, explained that what was seen as 'fly ash' and not remains was dispersed without the knowledge of the family,

"I think in the cremation register that it says dispersed and then (No family) in the most occasions. It was dispersed without family – probably without the family being aware that it was taking place – it was recovered and it was dispersed in the gardens. I think they had been told that there would be no recovery of remains. I think they had been told that and just because of the guy's nature who is in these positions, if there was anything there whether it was cardboard or bits of remains of teddy bears or whatever, they thought it right to be dispersed in the garden."

This was also what was explained to the NHS staff who attended study days at the crematorium after the issues at Mortonhall Crematorium came to light.

In all of the media coverage the Council's position was that where a baby had died the crematorium staff would do their best to meet the wishes of parents. The likelihood of obtaining ashes described by the Cremator Operators is at variance with this media line. A media statement on 10 January 2013 stated,

> *"However in line with national guidance, we advise parents that on most occasions with a cremation of this nature (infant cremation) there won't be any remains because a skeleton isn't formed until late in a baby's development. It's obviously a really distressing time for parents but we give them this information because we want them to know what to expect."*

In an article entitled 'We take the best possible care of your baby' printed in the press on 29 May 2014 Liz Murphy, Bereavement Services Manager is quoted as saying,

> *"We will explain the various options which are open to them in such circumstances from leaving it to ourselves to scatter any ashes in our special Garden of Remembrance at Kirkcaldy Crematorium to having a small private ceremony here or a full service if that is what they wish."*

This is in contrast to the information given to the Investigation that arrangements were made through the hospital or Funeral Directors.

This article came out after the publication, and in apparent ignorance of, the Mortonhall Investigation Report which confirmed the physiology of baby bones and the ability to obtain remains from foetuses as early as 17 weeks' gestation. The Council said in the article that in the majority of cases, no cremated remains are obtained from an early stage foetus as they claimed remains are essentially soft tissue.

In the same article William Greig, former Bereavement Services Officer, is attributed as saying that the whole system for babies and infants was different,

> *"The whole process is gentler and wherever possible, we will try to get some ashes for the family."*

While that may have been the case after the tray was introduced (in the same month as the article was published) it contradicts the evidence given to the Investigation by Cremator Operators at Kirkcaldy that, prior to that, non-viable

foetuses, stillborn babies and infants were placed directly under the main burner.

Liz Murphy, Bereavement Services Manager, told the Investigation,

> *"The advice that we always got was that there wouldn't always be ashes in every case because of the nature of the development of a baby. I have a letter from Duncan McCallum from the Federation (FBCA) from 2007 I think it was."*

In fact the letter is dated 17 December 2008 and states,

> *"In cases where bereaved parents desire the cremation of an infant or of foetal remains, they should be warned that there are occasions when no tangible remains are left after the cremation process has been completed. This is due to the cartilaginous nature of the bone structure. If the warning is not given the parents may have been denied the choice of earth burial and thereby subjected to understandable distress."*

However, under the heading 'Cremation of Infants and Foetal Remains', it also states,

> *"Cremation trays should be used when cremating stillborn or infants in order to establish if any 'tangible' remains exist after cremation.""*

Duncan McCallum declined to make any comment on the contents of this letter.

The FBCA carry out periodic audit visits to their member crematoria. A report of such a visit dated 1 August 2007 makes no mention of infant cremations or trays. The covering letter to that report confirms that,

> *"The Federation provides for all its Members a comprehensive Technical Advisory Service which is based on experience and knowledge accumulated over many years on all matters relating to the cremation service."*

Liz Murphy confirmed that the subject of infant ashes never came up at FBCA or ICCM[65] meetings prior to Mortonhall.

Liz Murphy described the issue of ashes as,

[65] Section 5.2, Key Organisations, explains more about the FBCA and the ICCM.

"It is a grey area and that was the general thinking throughout from those guiding voices. It was also the medical profession to be fair. Even the discussions we had at meetings everybody was of the belief that a full term baby didn't have properly developed bones and that was an issue, perhaps a reason why sometimes there were remains and sometimes there weren't. Another issue, which I know is something that has come out through reports, was peoples' sufficient understanding of what cremated remains were. I suppose ours was that we were looking for skeletal remains rather than everything that was left after cremation."

She went on to say,

"We would look for them – if there was something there we would definitely give something back."

This position is clearly contradicted by the Cremator Operators at both Dunfermline and Kirkcaldy Crematoria.

Thomas Graham Support and Development Officer told the Investigation that Cremator Operators are quite concerned that what is left after cremation is coffin ash. Despite the publication of the Mortonhall Investigation Report and the Infant Cremation Commission Report[66], staff members had clearly not been briefed on the findings of the Forensic Anthropologist and expert witness to this and the Mortonhall Investigation, Dr Julie Roberts, to enable them to understand fully the physiology of baby cremation.

14.7 ADMINISTRATION AND RECORD KEEPING

i Bereavement Services

Official administration and record keeping for Kirkcaldy Crematorium is handled by the clerical officers based at an office situated at the gates of the crematorium.

[66] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

An online copy of the Infant Cremation Commision Report can be found here: http://www.gov.scot/Publications/2014/06/8342

There are two clerical officers in charge of the processes. They are now line managed by the Business Support section of Fife Council but rely on the Bereavement Services Manager, Liz Murphy, for immediate guidance.

Funeral bookings are made by Funeral Directors and booked into the diary system on the BACAS system[67] (the computer record keeping system) which was introduced in 2001. The office faxes confirmation of the date time and name of the deceased to the Funeral Director.

When all of the paperwork is checked, the information relating to the cremation, to include what is to happen to the ashes, is added on to the BACAS system and the paperwork is printed off for the Cremator Operators including sticky labels for the ashes container. One of the Cremator Operators collects the papers for the next day.

The crematorium staff now have access to BACAS, which was introduced in 2001,

> *"After the cremation takes place I'd get the paperwork back to let me know if the ashes are a 'take-away'. This lets me know if the family or the Funeral Directors will collect them so I'd get take away slips back signed to say who has actually taken the ashes away."*

This information is also added to the BACAS system. However if ashes are dispersed this is not confirmed,

> *"I don't get confirmation from the guys that it's (dispersal) been done, I only get it when the ashes have been taken away and by whom."*

Liz Murphy Bereavement Services Manager said,

> *"In all likelihood any other cases would have been left blank by staff as we were not good at feeding back the information unless they had been collected."*

[67] Section 5.10, Statutory Forms, explains what BACAS is.

The instruction for the ashes has already been put into the BACAS system before the cremation but if something changes then an amendment slip is generated and the instruction is changed showing who advised of the change.

Non-viable foetuses are given a separate number. The paperwork for shared cremations comes from Crosbie Matthew, the Funeral Directors. They have an arrangement with the hospital (historically Forth Park but now Victoria) and the foetuses are identified by a reference number only. The paperwork is signed by the hospital mortuary attendant for shared cremations of non-viable foetuses.

The Register of Cremations which is the official statutory record of the cremation is created automatically from BACAS. The practice of inserting the disposal outcome of the remains of the baby on the Register before the actual cremation had taken place has rendered the records wholly unreliable and meaningless as a statutory record of the actual outcome of the cremation.

Since 2001 there has also been a separate register kept for the cremation of non-viable foetuses which is also generated by the BACAS system.

ii Records kept at the crematorium

There has not always been an option for 'no ashes' or 'no remains' in the BACAS[68] computerised recording system. A clerical officer was asked what she would do if she was told there were no ashes and she replied,

> *"It's usually 'disperse' because on the application form I get from the hospital or should I say Crosbies* [Funeral Directors] *they will say what is to happen to the ashes. They will circle what is to happen with the ashes. If ashes have to be dispersed in the gardens I will just put dispersed in the A section which is the baby section. That was the case before the trays."*

When asked if a situation might occur where the family are told there are no ashes but the record shows dispersal. She replied,

[68] Section 5.10, Statutory Forms, explains what BACAS is.

> *"Aye. BACAS has been changed to give me the option now, but historically that would be a problem. I have always been told there is no ashes before the tray, but that wasn't an option available to me on BACAS."*

Another clerical officer confirmed that the non-viable foetus paperwork from the hospital has changed and now gives options for ashes whereas before it did not and it was assumed that the instruction was to scatter in the Garden of Remembrance,

> *"Before that if it was a non-viable foetus, unless we were told differently it was assumed that the ashes were going to be dispersed in the gardens. Now the parents have got a say."*

Surprisingly, this issue was never raised with the supplier of BACAS. This was despite the fact that another issue was raised in an internal report prepared about the Mortonhall Report by Liz Murphy Bereavement Services Manager in 2014. The report stated,

> *"Issue with BACAS which has automatically populated 'no Remains' into sections that were left blank for remains when system was upgraded. Only solution to redress is to go back through records and manually input correct record."*

Liz Murphy, Bereavement Services Manager told the Investigation,

> *"There also appear to be issues with BACAS self-populating blank entries into the older system when they moved over to the newer system."*

The Investigation contacted Martin Caxton, the General Manager of Clear Skies Software which supplies the BACAS programme to Fife Council. He told the Investigation,

> *"The disposal terminology in the original BACAS system was fixed (i.e. the users could not alter the wording). In the current version of BACAS the users can define their own disposal wording. In the conversion between the old and current versions of BACAS the default wording was changed to 'Strewn by Staff' which for most users was interchangeable with 'Disperse'. A small program, however, can be run to return the wording to its original text... although the system has a number of programming checks...the final check is provided by the users as they use the system and discrepancies are identified and rectified if possible."*

Nonetheless these records had been left blank which allowed this automatic insertion of information to happen. It was raised by this Investigation as an issue rather than by Fife Council. It would appear that Fife Council had not checked for any anomalies after the BACAS system was upgraded.

The BSI assessments made no reference to any difficulty with the computer recording system.

14.8 COMMUNICATION

i NHS Evidence

Liz Murphy, Bereavement Services Manager told the Investigation,

> *"I think there might have been a mixed message with midwives at the hospitals (because that has been an issue over the years) with the completion of the application forms for foetuses. We use a different form for them and I think it is only recently I've become aware that there's maybe been mixed messages coming from the Funeral Directors as well. I think some Funeral Directors have in their head that there definitely weren't going to be ashes for any foetuses. It's not always the same member of staff that would be filling the applications and dealing with the families"*

Cath Cummings, Head Midwife (retired in 2016) told the Investigation that in Fife women were offered cremation for non-viable foetuses after sixteen weeks' gestation from much earlier than in other places. She stated that they were always told there would be no ashes for non-viable foetuses,

> *"We were always informed there would be no ashes from cremation here in Kirkcaldy. If we were asked that is what we would have told parents."*

This is despite the existence of a Bereavement Services Group in place since the 1980s with representatives from Crosbie Matthews Funeral Directors and Liz Murphy from Fife Council.

An NHS booklet was developed by this Group which advised that there was no guarantee of any cremated remains and it was very unlikely any would be recovered. This booklet was in circulation in 2010 and 2011. A 2008 version stated this more starkly,

> *"You must bear in mind that cremated remains are not available afterwards."*

An updated version of the booklet, dated April 2013 states,

> *"Unfortunately due to the age of your baby it is very unlikely that there will be any ashes /cremated remains available following a cremation. On the very rare occasions where there are ashes/cremated remains, you will be notified by the Funeral Director or by staff from the Crematorium. Following such notification you can decide what you would like done with the ashes/cremated remains."*

This was also the position of the Scottish Government at the time and was confirmed by the Chief Medical Officer in 2012.

This information has still not been updated at the time of writing even though Fife Council crematoria have been returning ashes from every cremation since at least June 2015 (the date from which they were required to report any instance of non-recovery of ashes).

The information given to NHS staff changed as the Mortonhall issues emerged. The Head Midwife told the Investigation,

> *"After we were told that it was possible some families might get ashes we did some study days at the crematorium (this was after Mortonhall came to light). It was explained that it depended on temperatures and how ashes were recovered whether there would be any or not. I understand that anything that was swept out after the cremation that was not considered at that time to be ashes was scattered in the baby garden."*

In relation to the timing of completion of the Application for Cremation (Form A) Cath Cummings said,

> *"We find that most families want to know what will happen to their baby and want to discuss it soon after delivery. However if they are not ready they do not have to rush it."*

Dr Tydeman, Consultant Obstetrician, NHS Fife said in relation to a particular case,

> *"I would have told [Kirkcaldy parent] that there would be no ashes following cremation of the baby. This is something we were always told was the case. We believed that any baby right up to term and in the early*

neo-natal period vaporized during cremation, although I found this very hard to accept. We were told there was inadequate mineral content in the bones to withstand the process. This was a widely held belief. This was the culture in which I was trained."

Dr Tydeman continued,

"Several years before we had challenged whether you could get ashes, during 2006 two specialist midwives and I became aware of inconsistencies on whether ashes were available or not. The two midwives visited the crematorium to satisfy themselves about what we were being told by the Undertakers and to challenge the information with which we were being provided. They had a discussion with the Crematorium staff who confirmed that there were no ashes because of the ferocity of the process."

The foetal midwives who visited Kirkcaldy and Dunfermline crematoria, in April 2006 told the Investigation,

"We were shown the facilities in full and at both locations we raised the question of whether ashes were available, both sites informed us that due to the efficiency of the cremators there was no possibility of ashes for foetuses."

The information given to parents by NHS Fife is still that ashes cannot be guaranteed despite a one hundred per cent success rate in retaining ashes at Kirkcaldy since the introduction of the baby tray. The Foetal Midwives told the Investigation,

"When the concerns were released regarding Mortonhall in the media we checked again with Crosbie Matthew and were told that rarely were ashes available and if the parents wanted to be informed we were to give them that option, this was not a guarantee only occasionally an option. This has remained our current practice."

The current checklists used by midwives with bereaved families state,

"There is now a possibility that ashes will be available from cremation, The Funeral Director/ Crematorium staff will contact you. You can then decide what you would like done with the ashes."

Crosbie Matthew Funeral Directors confirmed to the Investigation that they do contact families after retrieving the ashes, unless the family has chosen not to

be involved at all in the cremation arrangements for their baby. Sheila Matthew said,

> *"In order to allow for any change of mind on their wishes, we find it is better practice to double check that we are doing exactly what they want to happen. We think that sometimes at the time of loss, the next of kin are not really taking in all the information and may need a bit more time to be certain of the right decision for them. We then arrange to carry out their instructions."*

At a time of deep distress and often shock, parents interviewed for the Investigation stated that they felt that they had little time to make decisions about the final act of care for their baby before leaving the hospital.

Sheila Matthew, Director of Crosbie Matthew confirmed that the Form A was normally done at the hospital but went on to say,

> *"We don't rush anything too fast just in case they'd had a change of heart about what they want to do. They might decide they don't want cremation, they want burial. So there's quite a bit of time and also if the baby is away for post-mortem then you've automatically got time – a week or two weeks."*

ii Funeral Directors

Crosbie Matthew is the main Funeral Director dealing with Kirkcaldy Crematorium and their representative told the Investigation that, until publication of the Mortonhall Investigation Report, they did not expect to get ashes from non-viable foetuses or very young babies. They had two people working with them who had previously been Cremator Operators so they did not query this. Sheila Matthew, Director of Crosbie Matthew told the Investigation,

> *"Prior to the publication of the Mortonhall report, I think my understanding of ashes would have come through Liz Murphy who I've obviously worked closely with for a number of years. The understanding was that ashes would not be the coffin per se but the infant, which is obviously impossible to differentiate between the two. We were always told that there aren't any recoverable ashes because of the temperatures of the ovens and the size of the baby, especially if they were very tiny. If they were slightly older you might have had some ashes."*

Most Cremator Operators told the Investigation that they had no contact with families. One said,

"Because of the delicacy of matters I have in the past with one or two that has just been down as 'dispersed' picked up the phone myself, phoned Crosbie and Matthew and they then spoke to the families themselves to make sure that they are getting the correct information from the hospitals or wherever."

He added,

"...if the family have come to the service and it's on the ticket to say you know scatter in the gardens I would normally say to the family and so would my colleagues, 'if there is remains would you like them back?'"

The former Bereavement Services Operator, William Greig said of Funeral Directors,

"They were saying that there were not going to be any remains on foetuses. Well 99 times out of 100 if it was an actual baby then we got remains"

A Funeral Director told the Investigation,

"I think we were really clear that the crematorium procedure was that there were no ashes. So we had to make sure that they knew that and if they weren't happy with that well would they prefer a burial?"

There was no evidence of families being directed to Perth Crematorium which the Investigation has been advised was providing ashes or indeed any knowledge that it was doing so. When asked about this Sheila Matthew, Director of Crosbie Matthew, said,

"We would give them the option of Dunfermline or Kirkcaldy to choose. I wouldn't have known if another one gave ashes so I wouldn't have offered that."

A Funeral Director who had been a Cremator Operator told the Investigation,

"In 2005, I became a Funeral Director. I would have said that from NVF that the likelihood of there being any cremated remains would be none. If the baby is older I would have said there's a bit more chance that there might be something and I would have also told families that we would say to the crematorium technicians that if there was anything there for them to let us know regardless of what we've put down on any forms. We fill in the forms. Technically it should be the parents that do it but it's filled in – you've got to appreciate that they're very upset. So we try and do as much as we can for them but they are done and they are read over

and they're given to the family for them to check and then the family sign them."

He went on to say,

"I am asked when Mortonhall came out did I change what I told the families. No. Mortonhall had nothing to do with me. There's no way that anything that I ever did in my whole time resembles Mortonhall. I would tell them that there might be a chance that there might be nothing left after cremation. That is what we've always been told and not only from my experience from being a cremation technician but since I've left and we've been told that by the cremation authorities that that's what we've to tell people.

If a family told us that they're very keen to get ashes, we would only say to them we would check with the crematorium if there were any ashes at the end and let them know. The crematorium would have let us know if there were any but we could phone them and check."

A Cremator Operator confirmed to the Investigation,

"Sometimes if the family is really desperate to get them (ashes) the Funeral Director might come to me and ask 'Will we get ashes from that cremation'…but again all I can say is if there's ashes you would get them. If there weren't any then you couldn't."

The Investigation was shown the sample letters sent out by Crosbie Matthew.

The letter sent in relation to non-viable foetuses states,

"We take advice from Fife Bereavement Services, Fife Council, to find out whether there are any cremated remains available following a cremation. On the rare occasions where there are remains, parents will be notified and asked what they wish to do with them."

This does not reflect the current position at Kirkcaldy and Dunfermline

Crematoria where ashes are obtained from 13 weeks' gestation.

A Funeral Director employed by Co-op Funeralcare in Fife since 1998 told the Investigation,

"From the age of about a year and a half and under, from what I'm led to believe going back over these years, there was never the possibility to give ashes back to a family. The crematorium won't be able to get anything back because there's no trace of human remains."

He went on to say,

"All I can remember being told in training is for a child you can't get ashes back. I can't really remember who told me. It would be the crematorium because they're the only people that would say something like that. I don't think we got training on that aspect but it was mentioned about the bones I can recall from some books I read, but it didn't state anything about ashes..."

It is clear that Funeral Directors working in Fife understood there to be no possibility of returning ashes from non-viable foetuses and young babies to families. It is much less clear why, that being the case, they often completed Applications for Cremation with an instruction that the ashes should be dispersed. Nor did there appear to be any curiosity about whether ashes could be retrieved from a different crematorium or willingness to explore such an option to families who were distraught at the idea of having nothing left of their baby.

iii Communication between Partner Organisations

An interdisciplinary group made up of midwives, Sands representatives, hospital managers, lay people and Funeral Directors interested in the whole process had been meeting on and off for 19 years.

Grant Ward, Head of Services spoke of a good working relationship with Crosbie Mathew, Sands and NHS Fife but said,

"... I am not trying to be overly defensive about that. It's partly back to the overall process – our role versus the role of the Funeral Director and I think that might be something to look at in your report. I wouldn't be surprised if some of those communication issues and process issues were something that emerged from your investigation and how those could perhaps be improved and tightened."

iv Bereavement Services Group

In addition, the Bereavement Services Group meets from time to time to look at various issues. Sub groups take on responsibility for different projects. This group was responsible for arranging a special room in the hospital, called the 'Butterfly Room' where babies can be kept rather than in the mortuary before leaving the hospital and Snowdrop gardens at the Crematorium.

A report to the Bereavement Services Group meeting on 3 December 2008 set out the services provided by the Funeral Directors, Crosbie Matthew. In relation to each category; stillborn/Neonatal, under 24 weeks' gestation it stated, 'There are no cremated remains available'.

However, the Bereavement Services Group had Process flowcharts drawn up (in 2013). The flowcharts for non-viable foetuses refer to the cremated remains being collected or scattered in the Garden of Remembrance. The flowcharts for stillborn babies or neonates refer to the cremated remains being collected or scattered in the Garden of Remembrance if there are any cremated remains.

14.9 Impact of Mortonhall Investigation Report and the Infant Cremation Commission

A further Briefing Note to Senior Management and the Council was issued by the Bereavement Services Manager, Liz Murphy, dated 15 May 2014. It refers to regular dialogue between Bereavement Services (Kirkcaldy and Dunfermline Crematoria), Fife NHS and Funeral Directors and states that,

> *"The wording of information provided to parents now advises that is very unlikely that there will be any ashes following cremation."*

It goes on to say that,

> *"The cremation process continues to be closely monitored and the use of a special cremation tray for foetal and infant remains has recently been re-introduced to try and help improve the chances of ashes being retrieved."*

The Investigation was advised that when the baby tray was fully introduced in May 2014 the system changed so that the cremator was set to infant mode, which had been introduced in the 2013 upgrade. The box or coffin of the non-viable foetus was placed on to the baby tray which was then pushed just inside the charge door. The details of the cremation are entered into the computer. A visual check through a specially designed spy hole is carried out and when there is no longer the flicker of a flame the Operator puts on personal protection equipment and removes the tray through the same door that it was charged (placed into the cremator) on to a trolley. This process is easier in the large

cremator than in the smaller cremators as they have a lip over which the tray must be manoeuvred. The tray is then placed in a spare cremator to cool. When it has cooled the remains are brushed into the cremulator tray and crushed by hand using a pestle and mortar. The ashes are put into baby urns if they are to be collected and into individual high density plastic bags if they are to be dispersed.

This system has ensured that remains are retrieved on every occasion.

A Cremator Operator said,

> *"Ever since we've started using the tray there's always some kind of remains there."*

Another said,

> *"Prior to using the baby tray it was pretty rare to get remains on NVFs. But if they ask me now I could pretty much guarantee there will be something there."*

A Safe Working Practices guide dated 2014 has been introduced for the Cremation of Foetuses and Babies at Kirkcaldy and Dunfermline crematoria.

Since the full introduction of the tray at Kirkcaldy the Crematorium has successfully recovered ashes in all cases from around 13 weeks' gestation onwards.

i Staff Reaction

Cremator Operators described to the Investigation how upset they felt because they previously were not obtaining ashes and could have been. Liz Murphy told the Investigation,

> *"Staff have found it really hard, the fact they weren't looking for ashes as per the new agreed definition i.e. they were only looking for skeletal remains of which in some cases there were none and the fact that they're now getting ashes as per the now agreed definition, where before they thought they couldn't get them. They find that quite upsetting."*

Working practices and the failure to modify those were the cause of the failure rather than any understanding of the definition of ashes. Cremator Operators

expressed disappointment that other crematoria had been obtaining ashes for years and they did not know about it. A Cremator Operator told the Investigation,

> *"When we started using trays and realised you got something back to give to the parents we were all, I mean, I am, generally gobsmacked. From the tiniest NVF at 12 weeks because we are using this baby tray, I mean what it looks like to me is like if it's the ribcage it looks like a nail clipping and were just told that that wasn't possible. We didn't know that places like Seafield Crematorium in Edinburgh have been able to use the tray for years and years and years."*

Another Cremator Operator said,

> *"I did start to think about it when I was using a tray and I think the other boys will say that as well…it hits home to me now that I'm able to recover something using a tray where I couldn't before. It has affected me"*

Another said,

> *"When we first started using the trays and realised that it's possible to recover ashes we felt pretty bad. I think we all did when we seen what was being recovered and it was confined to that tray."*

The Chief Executive, Steve Grimmond said,

> *"I think my reflection would be that there is recognition of the sensitivity, that staff feel that there is an anxiety that they believed genuinely that they were acting and following the practice that was informed by professional advice that was around. They now know with the benefit of hindsight that there is different advice and so there is a sensitivity around that and probably a kind of morale issue that flows from that into feeling exposed by that"*

Grant Ward, Head of Services acknowledged that,

> *"Given all the media coverage, I think there's probably a morale issue and a sense from Liz and Willie (before he left) and the guys – and I think witch hunt is putting it too strongly – of a sort of perceived grievance from those operating within the crematorium."*

14.10 SUMMARY OF FINDINGS FOR INDIVIDUAL CASES

The parents of a full term baby who died on the day he was born in 2010 told the Investigation that despite the fact that their son weighed 7lb the Funeral

Director (Co-op) told them that there would be no ashes. When they probed this further they said it was explained to them that this was because babies' bones were not fully developed. The family were not made aware that other crematoria did return ashes. The Application for Cremation (Form A) was signed by the baby's father and countersigned by the Funeral Director. The section in relation to the disposal of ashes was completed with the abbreviation 'N/A' taken to mean not applicable. This family placed additional objects in the coffin in an effort to increase the likelihood of ashes. When the parents in this case read the article in the local press on 29 May 2014 in which Fife Council said,

> *"The potential for securing ashes increases as the length of gestation increases, although the retrieval of cremated remains cannot be guaranteed. If there are ashes these will be offered to the family or the Funeral Director or, if requested, can be scattered in the specially designated baby areas within the Gardens of Remembrance..."*

they contacted the journalist to question the statement since their experience was that they heard nothing further from the crematorium or the Funeral Director. The Certified Copy of an Entry of a Cremation records the disposal for this baby as 'No Remains'. However when the Investigation checked the original Register of Cremations, there was no disposal recorded in it. The Bereavement Services Manager explained to the Investigation that the entry on the Certified Copy had only been made when the record was requested by this Investigation and had been taken from the Cremator Operator's records. The Register of Cremations is a statutory document and the Certified Copy should be an accurate copy of the original. There is a failure in Fife Council's statutory obligation to maintain a Register with a recorded disposal outcome for ashes if that column is left blank. The addition of information six years later at best undermines the value of the Certified Copy register and is a cause of real concern.

The Funeral Director in this case told the Investigation that he would go out of his way to get something back for families but that,

> *"From the age of about a year and a half and under, from what I'm led to believe going back over these years there was never the possibility to give ashes back to a family. The crematorium won't be able to get anything back because there's no trace of human remains. There's very little from a very young age from an infant already and the bone is really just cartilage, it's not actually bone. It's not developed at that stage. What I would say is we were always told by the crematorium you can't get ashes but in the few occurrences for the few funerals I've done for children they would try and get something out in order to get it back to families."*

Parents of another baby who died on the day he was born, this time in 2011 were first told by the Consultant in the hospital that there would be no ashes following the cremation of their son. This information was then confirmed by the Funeral Director that the consultant recommended they used (Crosbie Matthew). Once again the Form A is signed by the parent and countersigned by the Funeral Director. In the section for the instruction for disposal of ashes the word 'NONE' has been written. The Certified Copy of an Entry of a Cremation records that there were no remains. In this case, the original Register checked by the Investigation also recorded 'No Remains'.

Another family of a baby born at 23 weeks' gestation in 2010 and who lived for a day told the Investigation that the Funeral Director (Crosbie Matthew) said that there would not be any ashes,

> *"He said there would be no ashes. He said that if there were any remains they would not be (our daughter's) remains. He said that her bones could not survive the cremation process and that any matter left over would be strictly from other things, other than her……. We would have wanted whatever was left, even as he described it. She was cremated in clothing and with a teddy bear and some letters, plus the coffin. But he went on to say the fire would be too hot and there would be nothing."*

Despite this, the Application for Cremation (Form A) has been completed with the option 'disperse' circled. This is followed by a note which states 'Family have been told there will be no cremated remains.' The Certified Copy of an Entry of Cremation records that the ashes were 'Strewn by staff'. The original Register records the ashes were 'Dispersed'. However this may mean that the disposal column had in fact originally been left blank as the term 'strewn by

staff' was not a term used at Kirkcaldy. It was a term used when the upgrade to the BACAS computer recording system automatically populated this column where it had been left blank.

In the case of a baby delivered at 21 weeks' gestation in 2010 the option 'disperse' is circled and the words 'Baby Section' have been written in to the section on the Application for Cremation (Form A) which deals with the instruction for the disposal of ashes. The Certified Copy of an Entry of Cremation records 'No Remains.' The original Register in this case recorded the instruction for ashes in the disposal column and said 'disperse –any ashes to be dispersed in baby garden'. It would appear that in this case the original entry which was the instruction was later updated following the cremation to record that in fact no remains had been recovered.

The parents of a baby delivered at 23 weeks' gestation and who lived for forty minutes told the Investigation that they chose the Funeral Director Crosbie Matthew because they knew them from a previous funeral. The family told the Investigation that they had a full sized child coffin as there was no smaller one available at the time. They recalled the Funeral Director did not offer a choice of crematorium. The parents told the Investigation,

> *"They did not mention anything to us about not getting ashes back. If there was no ashes we would never have went ahead getting the cremation done. We would definitely have got the burial - why have nothing when you can still have something? We were going to bury her ashes so that we had a place to go. Whether it be her ashes or the whole coffin we would have buried it to have somewhere to go."*

The Application for Cremation (Form A) is signed by the baby's father but the section for the instruction for the disposal of ashes is blank. The baby's mother recalled being shocked to find out after the funeral that there would be no ashes. She told the Investigation,

> *"After her funeral, I phoned up Crosbie Matthew and I says can you tell us when we're getting our daughter's ashes back and they were stuttering on the phone and they said 'there's no ashes'. I went 'what do you mean there is no ashes?' I was shocked. They said 'oh no your*

daughter doesn't have ashes'. They said that it would be because the baby gets burned at the higher temperature there's nothing left."

They tried to probe further and were met with silence. They told the Investigation,

"We felt robbed. We still feel robbed."

14.11 CONCLUSIONS

1. Like Mortonhall this was a section of the City Council working in isolation without any strategic direction, development or quality control of the service, so far as it related to babies, infants and non-viable foetuses. There was little knowledge by Senior Management of the service provided to the families of these babies. There was insufficient interest taken or leadership shown by management. As with Mortonhall, much of what was learned by Cremator Operators at Kirkcaldy was received wisdom from more experienced peers. The belief that there would be no recovered ashes from infants, stillborn babies and infants was contradicted by what was known to be recovered in many other crematoria including Perth only 38 miles away, as well as in Dunfermline Crematorium a short distance away and under common management when a tray had been used in earlier years. It is also clearly contradicted by the evidence of the Forensic Anthropologist, Dr Julie Roberts, who states that bones in cremated foetuses from as young as 17 weeks' gestation can and do survive the cremation process.

2. Reliance on a definition of skeletal remains meant that families were not given the opportunity to have ashes back. Dr Julie Roberts stated in her report,

   "My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is inconceivable that there would be nothing left of newborn babies and infants aged up to two years following cremation. The 'no ashes' or 'no

remains' policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt skeletal remains, and/or individual or corporate management decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together."

3. The delay of over a year in allowing the use of the baby tray after it was introduced at Kirkcaldy highlighted a lack of insight or appreciation of the importance of this issue.

4. Training was largely carried out in-house and there was no appetite to look beyond and seek best practice from other crematoria, professional organisations or manufacturers of equipment. The inter agency Bereavement Services Group did not address the issues of baby cremation until after the Mortonhall Investigation. It is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate joint training and joint understanding of their obligations to the parents of these babies. This inertia allowed unacceptable practices to develop across all the relevant agencies in Kirkcaldy.

5. The most senior level of management for Kirkcaldy Crematorium must provide strong leadership and now take full responsibility for the effective management of the crematorium. It must also ensure that immediate and appropriate training takes place and that effective and ethical practices are maintained. This relates not only to a change of working practices but to an assurance that the culture of the organisation and the knowledge and understanding is such as to prevent any future failure of the trust of those families who have placed the remains of their loved ones in their care.

6. As with some other crematoria there was an absence of any local written instruction or guidance. This meant that the actual practices employed in the crematoria were not documented and available for inspection by normal quality assurance procedures. Had such written guidance even been shared between the two crematoria for which Fife Council was

responsible, the effectiveness of using a tray may have been recognised and implemented in Kirkcaldy.

7. Methods of safely using a baby tray could and should have been implemented in a more timely manner given that trays were already in use in many crematoria throughout Scotland.

8. Notwithstanding the lack of local written guidance and the failure to use a tray the method of cremation of non-viable foetuses, stillborn babies and infants at Kirkcaldy could and should have been modified as recommended in the manufacturer's guidance. This guidance had been available at Kirkcaldy for many years. Instead, the practice at Kirkcaldy Crematorium was to place the coffins or boxes directly under the main burner which ignored the manufacturer's advice, thus virtually eliminating any prospect of obtaining ashes.

9. It is important that those suffering the unexpected loss of an infant baby must be given adequate time and information to make a decision about the cremation of their child.

10. NHS maternity staff (Forth Park and then Victoria) and Funeral Directors understood there to be no ashes from non-viable foetuses and young babies and advised families to this effect. Funeral Directors completed the Form A instruction to scatter in these cases although they told families there would be no ashes following the cremation of their baby. As a result of this understanding many parents were deprived of the opportunity to seek return of their baby's ashes. Crematorium staff at Kirkcaldy have admitted that on occasion following cremations that there was 'something' left and to scattering this without recourse to or the knowledge of the families concerned.

    At the time of writing, bereaved parents are still advised by the NHS Fife leaflet that it is very unlikely that there will be any ashes following infant cremation. This is despite the Mortonhall Investigation Report, the Infant Cremation Commission Report, all of the publicity surrounding this issue and indeed the fact that some of those responsible for its publication

have been interviewed by this Investigation. It is astonishing that the booklet which is the only written document that bereaved parents take home with them has not been revised. It should be updated with immediate effect.

11. Funeral Directors interviewed for the Investigation still referred to the "*rare occasion we might get ashes*" in 2015 despite the conclusion of the Mortonhall Investigation Report and the Infant Cremation Commission. This is difficult to understand as Cremator Operators have advised that they always obtain ashes since the re-introduction of the baby tray and the Funeral Directors are regularly taking instructions for these ashes from families after they have recovered the remains from the crematorium. The Investigation recommends all staff are updated on the current position and all letters and leaflets are amended to reflect the new position.

12. Urgent steps should be taken to ensure that communication between the NHS, Funeral Directors and the crematorium is as effective as it can be. Despite the existence of a Bereavement Services Group, these agencies have failed to communicate and understand the issues affecting non-viable foetuses, stillborn babies and infants and the needs of their parents.

13. By leaving the disposal column blank on the older computer system Fife Council created a situation where the Computer system was able automatically to populate inaccurate information into the Register when the new BACAS system was introduced. Although this error was identified, no steps have been taken to correct the inaccuracy of the Register for that period. This casual and careless approach to a statutory obligation is of considerable concern.

Mortonhall Crematorium

15.1 INTRODUCTION

A total of 43 cases which had not already been investigated by Dame Elish Angiolini were referred to this Investigation. These 43 cases range across the time period 1970 to 2011. Of these, one baby was found to have been buried rather than cremated and two are believed to have been clinically incinerated on hospital premises rather than cremated at Mortonhall or at any other crematorium.

All families who referred babies to the Investigation were invited to submit evidence in person or in writing. In each case these families were offered a copy of the Mortonhall Investigation Report to help them understand the context of what had already been discovered. This Investigation facilitated communication for the families with the City of Edinburgh Council who included them with the families of the previous Mortonhall Investigation in the consultation on options for a memorial and offered them the opportunity to have their baby's name engraved on the wall of the new Memorial Garden at Mortonhall Crematorium.

The evidence given to the Investigation by the families was very familiar and consistent with the findings of the Mortonhall Investigation. Having been told, usually by their Funeral Directors, that there would be no ashes, the manual Register of Cremations routinely recorded 'interred in the Garden of Rest'. With the move to a computerised system, cremations of foetuses and babies were then routinely recorded as 'no remains'. Sadly, the findings of the Mortonhall Investigation Report apply equally to these cases registered with the National Investigation. This information has been communicated to the families who registered with the Investigation.

In the most recent case of a stillborn baby cremated in 2011, the family were told by the Funeral Director that they could collect the ashes because Mortonhall Crematorium had by then introduced a baby tray to maximise the

recovery of ashes. This instruction was duly noted on the Application for Cremation (Form A).

After the cremation had taken place the family were informed that in fact there had been no ashes recovered in this instance. The Investigation interviewed the Crematorium Manager and was told he believed it was possible that on this occasion the Cremator Operators placed the baby's coffin directly on the hearth and did not use the baby tray which had only been very recently introduced. One of the Cremator Operators who carried out this cremation is no longer employed by City of Edinburgh Council and was unable to be contacted. The other, who was a trainee at the time, told the Investigation he could not recall this particular case. The family were informed after the cremation that there were no ashes recovered and the Register of Cremations was updated to reflect the actual outcome. Given the evidence of Dr Julie Roberts, that the bones of a stillborn baby would survive the cremation process, it can be inferred that these were lost to the secondary chamber when the cremator was switched on in the morning in readiness for that day's cremations or were left in the cremator and mixed with the ashes of the next person cremated in that cremator.

The Investigation requested a report from the Chief Executive of the City of Edinburgh Council, Andrew Kerr, on the changes implemented since the publication of the Mortonhall Investigation Report in April 2014.

> *"Following the discovery of potential issues in relation to cremation practices at Mortonhall Crematorium in late 2012, the Council commissioned an independent investigation into practices at the Crematorium regarding the cremation of non-viable foetuses (NVFs), stillborn and neonatal babies. In April 2014, following receipt of Dame Elish Angiolini's Mortonhall Investigation Report, it was agreed at the City of Edinburgh Council's meeting of 26 June 2014 that the twenty-two recommendations contained in the report would be accepted and taken forward by the Council and other relevant agencies.*
>
> *To take this work forward, a Multi-Agency Working Group was convened by the Chief Executive, and met regularly, allowing the opportunity for affected parents and stakeholders to have scrutiny of improvements, multi-agency discussion and feedback on actions undertaken to inform and develop the way forward. This forum was facilitated to provide*

reassurance to affected parents that good progress was being made on the actions and that these were being delivered within the required timescales. This Group has requested that Council give consideration to ensuring long term service improvements and joint working by continuing its role through bi-annual meetings and a further report to Full Council in June 2016.

The implementation team, which was led by a Senior Manager and includes officers seconded to support the delivery of the action plan, staff at Mortonhall and officers from across the Council, have continued to work jointly in embedding the recommended culture change at Mortonhall Crematorium. This work has also involved developing improved working practices with partners and stakeholders to ensure an informed and supportive approach from the range of service providers who meet directly with the bereaved. All staff have played a key role in local implementation of changes to working practices arising from the investigation and actions, supporting the development of an engaged, legislatively compliant service demonstrating best practice.

Working cremation practices at Mortonhall were revised with immediate effect following receipt of the recommendations, to ensure compliance with the actions required. As a specific example, the practice of overnight cremation of infants at Mortonhall formally ceased in May 2014, and relevant agencies informed of this change in practice. This followed the change in practice introduced in 2011 whereby Operators adopted the use of cremation trays for the cremation of NVFs, stillborn and neonatal babies.

In order to provide a clearly articulated public statement of revised operational practices, a Cremation Services Policy Document was approved by the Council in February 2015. This Policy Document has been made available to members of the public, industry and healthcare professionals and key elements of this document will be incorporated into wider service information which is currently under development. This document incorporates guidance agreed at National level, sets out the range and quality of service that the bereaved can expect from services delivered at Mortonhall Crematorium, and outlines a commitment from us to deliver cremation services to the specified standards.

In connection with this, Senior and Service Managers are attending regular meetings with NHS Lothian and representatives of the funeral industry to develop greater shared clarity of understanding around the choices available to parents when faced with the loss of a child, and to develop a clear end-to-end understanding of each stage of the process by all stakeholders. This clarity will ensure that all practitioners are aware of operational practices at Mortonhall Crematorium, and therefore enable them to provide informed support to parents at a difficult time.

The Federation of Burial and Cremation Authorities (FBCA) and Institute of Crematorium and Cemetery Management (ICCM) have agreed to adopt recommendations of Lord Bonomy's report and have developed updated training and guidance. The FBCA's Training and Examination Scheme for Cremation Technicians now incorporates specific elements dealing with baby, infant and foetus cremations. Mortonhall Crematorium is among the first in Scotland whose staff have successfully undertaken update modules in infant cremations, which has involved monitored assessments carried out through site visits to other crematoria in Scotland. Currently these modules have been completed by four members of staff, with the remaining staff due to complete these during the next delivery phase offered by the provider.

Senior officer input to the Scottish Government's National Committee on Infant Cremation, and its various sub groups, has enabled the City of Edinburgh Council to maintain a proactive role in the review and development of good practice and legislation across Scotland.

The Council has continued to work with affected parents and collaboratively with Stillbirth and Neonatal Death Society (SANDS) Lothians and Simpson's Memory Box Appeal (SiMBA) in regards to improving the landscaping around Mortonhall, and the design and location of a fitting memorial to babies affected by historical practices at Mortonhall. Following a number of consultations and meetings involving affected parents around the potential location, style and design of any memorial options, it was agreed by parents that a memorial should be developed at Mortonhall recognising the significant feedback received in support of this. It was also agreed that, in acknowledgement of feedback received from parents who would find it difficult to return to Mortonhall, that a second memorial be developed in an alternative location. The team worked closely with the designer and other contractors in progressing and refining the design for Mortonhall Crematorium to ensure this remains tailored to the wishes of parents. Positive progress in this regard enabled the garden to be completed and opened in early December 2015. The Memorial Garden offers a secluded space for affected parents and families to remember their loved ones.

Parents who did not wish to return to Mortonhall also requested that a further memorial location be identified. Based on feedback from parents the preferred location for the alternative memorial is Princes Street Gardens, and good progress is being made in relation to the commissioning of a suitable memorial in this space.

As part of a recently agreed Improvement Programme, £1.9 million of investment will allow for the refurbishment of the customer and operational aspects of the building and installation of replacement cremation equipment, with work to enhance the reception area and waiting room environment expected to take place later in 2016.

Regular communication has been maintained with affected parents throughout the programme. As part of a joint approach between SANDS Lothians and SiMBA and the Council, parents have been invited to participate in ongoing consultation around the design and location of memorials. Close liaison with these partner charities has ensured clear joint understanding of key messages. Parents have received regular letter and email updates to ensure they are aware of progress, and a number of meetings have been arranged to enable wider discussion of options and facilitate shared agreement around the way forward. The team has provided regular written and telephone support in responding to individual queries from affected parents. These have ensured that parents contacting the Council are updated on progress, while at the same time providing a sympathetic response to those parents who require additional reassurance and emotional support.

The City of Edinburgh Council, in conjunction with industry representatives and agreed Scottish Government Codes of Practice, has developed an approach to the cremation of babies and infants that is designed to maximise the recovery of ashes at all times. This includes the use of a cremation tray designed to retain ashes, and the maintenance of operational conditions that will maximise the recovery of any ashes during the process of cremation.

Cremations of babies and infants are carried out at the end of the working day when all other activities have ceased, allowing the onsite staff to be vigilant during the cremation process, and to take action to adjust operational conditions when necessary in order to maximise the recovery of ashes.

These actions have enabled staff to recover ashes for the cremations of all babies and infants since the revised practices were formally introduced in 2014.

All City of Edinburgh Council staff responsible for carrying out cremations of babies and infants continue to undergo training to ensure they have the relevant skills for this highly sensitive process, and the Council is committed to ensuring that the service provided by staff at Mortonhall is of the highest standard"

15.2 CONCLUSIONS

It is clear that the City of Edinburgh Council and their partners have listened to the findings of the Mortonhall Investigation and implemented changes that aim to ensure that mistakes made historically are not repeated. Sadly this comes too late for the cases referred to this Investigation. The conclusion drawn by the Mortonhall Investigation, that families will be left with a lifetime of uncertainty about their baby's final resting place applies equally to these cases.

Woodside Crematorium, Paisley

16.1 INTRODUCTION

The Investigation was asked to look at five cases in relation to Woodside Crematorium, Paisley between 1990 and 2007. The families did not receive ashes for their baby.

Woodside Crematorium, Paisley opened in 1938. It is an independent crematorium run by Paisley Crematorium Company Ltd. The Crematorium is a listed building situated on a hilltop setting in over 20 acres of Paisley Woodside cemetery. In the Gardens of Remembrance there are 11 lawn areas. The lawn area in which ashes are scattered or interred is noted in the Register of Cremations. There is a Book of Remembrance together with memorial plaques on the walls overlooking the roses and lawns.

Generally, cremated remains can be either collected by next of kin or Funeral Directors on their behalf or they are scattered in the Garden of Remembrance. They are scattered four to six weeks after the cremation takes place. The crematorium has a relatively small number of infant, stillborn and non-viable foetus cremations (four infant and two stillborn in 2013 and six non-viable foetuses in 2013). In 2013 there were 1,442 adult cremations.

16.2 MANAGEMENT

i Structure

The management structure for Woodside Crematorium, Paisley is a Board of Directors to which the Crematorium Manager and Registrar reports. It employs one Cremator Operator and three other staff members who are trained to cremate and provide cover when required.

The Crematorium Manager and Registrar, Frank McFadyen, is permanently based at the crematorium. There is a Permanent Secretary to the Board of Directors and then Board members and a Chair.

ii Approach

The Chairman of the Board of Directors at the time of the Investigation, John Paton, told the Investigation,

> *"I, as Chairman, probably would speak to someone in the crematorium not always every day but at least every second day. We have a monthly inspection of the crematorium and the grounds. Each Director (on the Board) is charged with that and we take it in rotation. I spend at least one afternoon a month at the crematorium. I speak to the General Manager/Superintendent almost every day. I feel I am on top of the situation at the crematorium so far as operations are concerned."*

Frank McFadyen, Crematorium Manager and Registrar, attends FBCA and ICCM[69] meetings and reports back to the Board. The Chairman of the Board of Directors attends these occasionally. The Chairman of the Board of Directors told the Investigation,

> *"The most recent one I went to was the one where the Mortonhall and Aberdeen issue rose its head. "*

16.3 Response to Mortonhall Investigation Report and the Infant Cremation Commission

The management at Woodside Crematorium, Paisley explained that they had been obtaining ashes for infants since it opened in 1938. They were not, therefore, concerned that the issues raised in the Mortonhall Investigation Report had any application to them. The Chairman said,

> *"Over the years the crematorium has not really detected any appetite to address the issue of infant or child cremations because we felt, apart from probably the use of baby trays, we were doing everything that was considered appropriate in the cremation of infants plus the fact that volume was so low."*

Nonetheless, a baby tray was purchased in January 2014 before the publication of the Mortonhall Investigation Report and has been used for the cremation of non-viable foetuses, stillborn babies and infants since then.

[69] Section 5.2, Key Organisations, explains the role of the FBCA and the ICCM.

As required by statute, records were kept at the crematorium for fifteen years. Accordingly, not all records were available for the dates of the cases submitted to the Investigation.

16.4 POLICY, GUIDANCE AND TRAINING

i Written Policy

As with many crematoria the main source of information for written procedure is the manufacturer's operating manual. The Crematorium Manager and Registrar, Frank McFadyen told the Investigation,

> *"We don't have any further in-house procedure manual, we just work from the manufacturer's recommendations."*

The Investigation was shown a more recent instruction to staff known as the Infant Cremation Commission and Cremating Procedures for Infant Cremations of Babies, Foetuses and Stillbirths. There is another form signed by the employees dated January 2015 attached to which is the cremation practice guidance whereby staff have acknowledged that they fully understood the procedures and the importance of them.

The National Committee on Infant Cremation Code of Practice, dated January 2015, is also available to the staff. None of these policies were in place at the relevant time of the cremations which are the subject of this Investigation.

The Chairman explained in relation to the cremation of adults,

> *"We don't have a manual of instruction. There are rules and they know the rules and it goes back to the Funeral Directors. They are the point of contact between the bereaved family, we are only providing a service to the Funeral Director."*

ii Training

Training on the single-ended machines took place in 1995 and was carried out by Facultatieve. The Cremator Operator was trained by his predecessor. He

trains the other staff all of whom are appropriately qualified. The Crematorium Manager and Registrar Frank McFadyen did have contact with other crematoria from time to time.

16.5 OPERATIONAL PRACTICE/CREMATION PROCESS

i Equipment

At the time of the Investigation, Woodside Crematorium, Paisley was equipped with one Evans Universal 300/2 single-ended, solid hearth gas-fired cremator which was installed in 1995. It was further equipped with a FT11 single-ended, solid hearth gas-fired cremator which was installed in 2003. Both cremators were upgraded with software in 2013 which provided infant mode[70] and new monitoring and reporting mechanisms on emissions.

Staff at Paisley Woodside Crematorium told the Investigation that ashes have normally been recovered at Woodside from foetal or infant cremations since 1938.

ii Baby Trays[71]

A baby tray was purchased in January 2014. The Cremator Operator told the Investigation that he had heard about baby trays from an engineer[72] previously and had made enquiries about getting one but one was not purchased at that time. He said,

> *"I'm more happy with the baby tray. I'd asked for a baby tray in the past because one of the engineers had mentioned it to me."*

iii Cremation Process

Before the introduction of the tray in January 2014 the coffins of non-viable foetuses, stillborn babies and infants were placed just inside the cremator door

[70] Section 5.15, Cremation Process for Infants and Babies explains more about 'Infant Mode'infant mode'.

[71] Section 5.13, Baby Tray, explains what a baby tray is and how it is used.

[72] The Facultatieve engineer will have said this because their manual has always recommended use of a tray.

of the single-ended cremator. The ashes were raked out the following morning. In a single-ended cremator the ashes are raked out from the same door through which the coffin is charged (inserted). Infant mode has been used since 2013. Prior to 2013 the basic profile was used but was often modified through manual intervention. Such manual override was found to be very successful over many years at Seafield and Warriston crematoria where it was described during the Mortonhall Investigation.

Dr Clive Chamberlain, a Chartered Engineer, member of the Council of the Combustion Engineering Association and expert witness to the Mortonhall Investigation[73] explained in his evidence why manual intervention in the cremation process is beneficial saying,

> *"The usual conditions for cremation of adults is not suitable for infant cremations, and it is a matter of establishing whether there can be suitable conditions created… the essential characteristic of infant cremation must be a gentle process."*

According to a report provided by Facultatieve Technologies Ltd to the Investigation,

> *"time savings can be made by careful and thoughtful manual intervention by an experienced Operator, using knowledge and experience to judge the best performance characteristics. Time can be saved by finishing off the cremation in manual… Other circumstances may occur where the Operator may wish to intervene and perform the cremation with the controls in manual mode… the Operator is able to directly control the combustion air and burner levels, only the draught control and secondary care will usually remain in automatic mode… The Operator is able to switch between automatic and manual control at any stage in the cremation; thus total control over the full range of different cremation characteristics can be achieved."*

In accordance with the recommendations of the manufacturers, Facultatieve, the Cremator Operator at Woodside Crematorium, Paisley, who began work in October 2002, took great care to modify the procedure to enhance the

[73] An online copy of the Mortonhall Investigation Report can be found here: http://www.edinburgh.gov.uk/info/20242/mortonhall_investigation/957/mortonhall_investigation_-_report/2

possibility of recovery of remains. The Cremator Operator told the Investigation,

> *"But it was basic and after a short term we realised that a basic profile didn't fit every cremation, every cremation was different. Sometimes you want to control the air and heat yourself. The computer became more advanced and it had more profiles on it."*

This Cremator Operator explained,

> *"I was told if it's a pre-viable foetus there wouldn't be any ashes. I wasn't really told about stillborn. I think within two or three weeks here I'd worked out that I was getting them anyway. I found out that I was getting ashes off pre-viable foetuses right away.*
>
> *In all the books I've got it says that the parents have to be told before the cremation of a pre-viable foetus that there won't be any remains."*

When he realised he was obtaining remains he showed these to local Funeral Directors and the Crematorium Manager and Registrar. He told the Investigation,

> *"I also got Undertakers in because I didn't want them to think that nobody got any ashes back from a baby and then all of a sudden I'm getting ashes back. I wanted them to see that definitely there was something there and I was pointing them out to the Undertakers. I wouldn't normally do that to people but I thought if it was the Undertakers that I show and say look that's an arm, a leg and all the rest of it and that was a pre-viable foetus."*

He explained that he cremated non-viable foetuses, stillborn babies and infants last thing in the day so that the cremator was at a sufficiently high temperature and the ashes could be raked out the following morning. He almost always obtained ashes. On the rare occasions when he did not he would telephone the office and advise them that there were no remains. He said,

> *"I was passionate about baby ashes because I knew I could get them back and it was important to families if they had asked for them."*

However, if parents had not asked for the return of ashes, the ashes were scattered in the Garden of Remembrance. Non-viable foetus Registers did not record the disposal. No records were available for the 1990 case referred to the Investigation as it pre-dated the fifteen year period for which records have to

be retained. Records were sampled in the Registers of Cremation for two cases, one from 2002 and the other from 2006. This examination confirmed that remains were obtained and either delivered or dispersed. The Crematorium Manager and Registrar, Frank McFadyen told the Investigation,

> *"I think prior to 2002 it was very rare that parents asked for them to be returned. It's only now in the past few years nearly every child's ashes has been asked to be returned. That said, pre 2002 ashes were quite often returned. In fact we have records going back showing ashes were returned even as far back as 1938. It just depends on the family's desire to have them back and if they don't we just disperse them."*

A family's desire to have ashes returned may however be influenced by what they are told by Funeral Directors in relation to the possibility of ashes being obtained. John Boyle, manager of J & W Goudie, Funeral Directors told the Investigation,

> *"On the reverse of the Form A it asks the day and the time of the cremation but we will also ask what is their intention or what they want to happen to the ashes following cremation and we give them the option that they will be returned to them; that they can be scattered; that they can be returned back to the funeral home within reason until they make a decision about what they want to do with them…What we will say is, 'if there are any ashes we will give them back to you'."*

He went on to say of Woodside Crematorium, Paisley,

> *"I know for a fact that Woodside will do their utmost best to return anything that's there but I can't tell you and I couldn't honestly say to you how many occasions that we have done or we haven't been able to. I think it would probably stick in my mind if there were many cases when we didn't get anything back, because we would be disappointed for them…If it was a recurring problem my staff would have brought it to my attention."*

A pestle and mortar is used for cremulation[74] for very small babies or non-viable foetuses.

[74] Section 5.14, Cremation Process, explains what a cremulator is.

iv Definition of Remains

The Cremator Operator made a very clear distinction between ashes and remains explaining that his view was that he should be returning remains of the baby rather than remains of the cremation procedure which would include the ash of the coffin. This affected the quantity of remains returned. He accepted that the Scottish Government was proposing in the new Burial and Cremation (Scotland) Bill that everything should be returned.

> *"Up until about six or seven months ago I just delivered the remains of the baby, I didn't give (back) what was the remains of the cremation procedure. I picked out bones which was easy. It amounts to about a teaspoon or two teaspoonfuls and that's it but I felt as if families are getting back what they are wanting. It was remains of the baby they're getting back as opposed to ash, bits of coffin and (to me) a lot of rubbish was going with it."*

In contrast the Chairman said,

> *"I think the fact that you give everything that's on that tray back in a box to the bereaved parents is a great comfort to them, they're not really bothered too much what the ashes consist of, what they have come from, they are the ashes of the child."*

There was no defined age under which it was understood ashes were not available.

16.6 Administration and Record Keeping

Official administration and record keeping is all carried out on site at Woodside Crematorium, Paisley. The Crematorium Manager and Registrar maintains the records with some support from an administrator**.**

Funeral bookings are made by Funeral Directors and booked into the diary system. Cards are completed containing the details of the cremation including what is to happen with the ashes. The Cremator Operator told the Investigation that,

> *"The cards for the babies always said 'deliver if any'. In the morning the office would phone me up and ask if there were ashes from the baby cremated the night before, because they make up the certificates for the families. If the card said 'Dispersed' I would hold on to them. Once or*

twice I got a good set of ashes and I phoned down to the office and said that I got ashes here and they phoned the Undertaker and the Undertaker got in touch with the family to see if they wanted to change the instruction from 'dispersed.' I think they came back and dispersed themselves "

Following the cremation the information from the cards is entered into the Microsoft Office Professional Access system (the computer record keeping system). The information is updated with the date of collection of ashes when the ashes have been collected. The Crematorium Manager and Registrar explained,

"So the original one would have an entry which was the intention as expressed on the form. But we would go back into and update that with the date.

On the retention of ashes there's an option on the back of the application form for ashes to be retained. And it states quite clearly that they should get back to us within a period of a month and thereafter if we don't hear anything then we would disperse the ashes in the garden."

Although the Cremator Operator told the Investigation that,

"In virtually every case I always get something back as I said apart from the very early period when I've lost them a couple of times."

However he confirmed that before January 2014, if there was no skeletal remains there he would still put down 'dispersed'. He said,

"If there's nothing left I put down 'dispersed'. 'No ashes' should be put on it. But I've already phoned and told the office there's no ashes. "

The cases for which there were records all stated 'dispersed'.

He admitted that there have been a few times when he lost ashes when he began cremating either due to air coming on before the ashes had been removed or the suction of the door closing blew them away. However, there was only a small number of occasions when he did not get ashes. He was able to learn from those occasions and avoid those factors. He said,

"There's been a few times that I did lose infant remains because when the machine cools down the air has come on and it blew it (the remains) away completely. I can learn from that and I don't do that

anymore…Another problem you can have is with the suction of the door when the machine is closing down – it can go up to about 80% in which case it's sucking everything away and I found that's why I lost remains one time. All these things happened to me just once or twice but you find out and make sure it doesn't happen again."

The Investigation sampled Registers from 1985, 1990, 2002, 2005 and 2006. Unlike the findings at other Crematoria, the Registers never record 'no remains' and in several cases from each of the years, the Register records a date to indicate that remains were collected.

16.7 COMMUNICATION

i Contact with Funeral Directors

Funeral Directors submit the Form A and an additional form which asks additional questions including questions in relation to the instructions for the ashes. All paperwork was kept for a fifteen year period.

Funeral Directors sign a form of discharge when they collect ashes. If ashes are not collected a letter is sent to the Funeral Director and if the ashes are still not collected within two to three weeks they are dispersed. This is recorded in the Register of Cremations.

The Chairman stated that the Funeral Directors were the client of the crematorium and explained,

"We never have a situation where our client is the hospital, the NHS Trust. Our client would be the Undertaker. I'm also Chairman of the Funeral Directors so I know about that side. The instruction would always come from the Funeral Director although the parents have got the most interest, the biggest stake if you like, on what's happening. An awful lot of the current criticism is directed at crematoria but there is no regulation of the funeral industry. You can start up tomorrow as a Funeral Director if you like, nothing to stop you. The interaction we have as a company with our local Undertakers is pretty good. I think it's got to be very clear that very, very seldom have we got any contact with the parents."

The Cremator Operator told the Investigation,

"I was scared that they're (parents) getting told there probably won't be any (ashes) and when they're grieving they don't take everything the way it should be"

ii Contact with Families

Staff at Woodside Crematorium, Paisley advised that they did not have much direct contact with families except when they would collect ashes after the cremation or where they attend the scattering of the ashes. If a family member is collecting the ashes they must have the authority of the applicant to do so.

16.8 IMPACT OF MORTONHALL INVESTIGATION AND THE INFANT CREMATION COMMISSION

A baby tray is now used in every case at Woodside. As Woodside Crematorium, Paisley was already recovering ashes for infants in most cases there was no internal audit of processes carried out.

The processes for the cremation of non-viable foetuses, stillborn babies and infants have now been documented.

The cremators are single-ended and the baby tray is removed from the door through which it was charged. The tray was still extremely hot but could be left to cool overnight.

The Cremator Operator said,

"The safety issue obviously is how we get the tray out when it's red hot. I just lift it out and I put it down and leave it to cool down and then I can handle it…With the tray what I do is put the tray on the edge and I just push it in with the rake as well and that pushes it far in. I've got a handle for lifting the tray out in the morning and I will take it out and use the rake and I pull the tray right to the edge and then lift it up."

The Chairman told the Investigation,

"If there were health and safety issues relating to the use of the tray the Board would look at it, but you have got to take steps to ensure that there is no health and safety issue in that the tray's inserted at the aperture…

and left overnight, therefore it's easily handled when it is extracted from the actual cremator."

16.9 Summary of Findings for Individual Cases

The earliest case referred to the Investigation from Woodside Crematorium, Paisley was of a one day old baby who died in 1990. As the cremation took place more than 15 years before the Investigation, access to records was limited to the Register of Cremations and a copy of a diary page.

This family was told by the Crematorium staff that the ashes had been scattered among the rose beds as there was no instruction to return the ashes. The baby's father told the Investigation he had been told by the Funeral Director that there would not be ashes. The Register of Cremations records 'Dispersed'

The family of a baby who died in 2002 were told by the pastor that the Funeral Directors had informed him "*that you don't usually get anything back*." The Form A stated 'Retain if possible. Let Goudies (Funeral Directors) know'. However, the Register records that they were dispersed. Woodside Crematorium, Paisley advise that they contacted the Funeral Directors. The Funeral Directors confirmed to the Investigation that they had no record of the crematorium contacting them about collecting ashes. There is no written evidence to show whether the crematorium contacted either the family or the Funeral Director. What is however clear is that the family were not informed of the existence of ashes and the matter was not adequately pursued by the Funeral Director.

The mother of a non-viable foetus recalled being asked by the Funeral Director (J & W Goudie) in 2006 whether they wanted any remains back and they confirmed that they did. However, after the funeral they were told that "*there was nothing because she was so small*."

The baby's father did not recall it being raised but confirmed that he was expecting remains. Option (b) which states that the ashes are to be 'Returned to Applicant' has been selected on the Form A (Application for Cremation) and

in addition the words ‘Yes Return’ have been added. However, this has then been scored through with the initials ‘N/A’ written.

The Funeral Director told the Investigation,

> *“It was hoped that ashes would be recovered after the cremation but following the process there were no recoverable ashes to return.”*

In a 2005 case the parents do not recall being told anything about ashes before the cremation of their daughter who was delivered at 20 weeks’ gestation. Her parents recalled,

> *“Nobody spoke to us about ashes until the day of the cremation when we asked. They said there would be nothing left because she was too small. I remember asking the question but I can’t remember specifically who it was I asked. It could have been the Funeral Director.”*

In both cases involving non-viable foetuses, a Form 2 from NHS Greater Glasgow and Clyde requesting a cremation of a pre-viable foetus was signed. This form states ‘I understand that there will be no ‘identifiable remains’ resulting from cremation’. This form was used with bereaved families regardless of which crematorium was to be used and failed to take into account the fact that some crematoria in the Glasgow area regularly returned ashes whilst others seldom did.

At Woodside Crematorium, Paisley, the Cremator Operator told the Investigation that until 2014 he looked for bones in ashes remaining from the cremation and only returned to families those bones. If he could not see any bones, as seems probable in the two cases of non-viable foetuses referred to this Investigation, he did not consider that the residual ash should be returned to the family. He also told the Investigation that on rare occasions all remains including coffin ash were blown away during the cremation process. If there were ashes following these cremations and the Operator considered they did not contain bones, they would have been dispersed in the baby area of the Garden of Remembrance.

A parent of a nine day old baby who was cremated in 2007 told the Investigation,

> *"I can't remember who it was that told me first that there were no ashes, but all of the midwives seemed to be in agreement. When there was more than one in the room nobody ever turned round and said, 'well actually that's not true'."*

Believing that there would be no ashes, this family chose not to attend the funeral,

> *"… I said 'if there's no ashes, I don't want to know where she was cremated because there's nothing for us. So just send us the bill… and that's that'. We said goodbye to here in the beautiful little room in the hospital, all decorated like a nursery."*

However, the Form A has the instruction 'Dispersed within the crematorium grounds'. The Extract from the Register of Cremations advises that the remains were dispersed in the Garden of Remembrance but the parents were not advised of this at the time as the hospital staff had told them there would be no ashes. These parents were therefore denied the opportunity to retain their daughter's ashes.

> *"What torments me nightly and I end up in tears just about every night and it's because I don't know where she is. If I'd had those ashes to put at the bottom of a tree, I would've known where she was. The fact that somebody cremated her and had her remains and thought nobody cared enough to come to this baby's cremation or get her ashes… when we didn't know there were any ashes. I'm so upset on the one hand and absolutely ragingly angry on the other because what we were told was wrong, and it's too late."*

16.10 CONCLUSIONS

1. Although training was largely carried out in-house, care was taken to modify procedures to maximise the possibility of obtaining ashes without the use of a baby tray. These methods were successful in the majority of cases. Woodside Crematorium, Paisley are to be commended for the care applied to this aspect of cremation.

2. There was little evidence of any joint training with Funeral Directors or NHS midwives working in this area. Although the Cremator Operator did

make an effort to bring Funeral Directors in to the crematorium to demonstrate the ability to retrieve the ashes of infants in Woodside Crematorium, Paisley, it is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate and ongoing joint training and joint understanding of their obligations to the parents of these babies.

3. It was clear that Woodside Crematorium Paisley reacted appropriately to the issues emerging from the Mortonhall Investigation and Infant Cremation Commission. Staff exhibited an accurate understanding of the physiology of the bones of foetuses, stillborn babies and infants.

4. There was an absence of any local written instruction or guidance. However this did not impact on the ability of the crematorium to get ashes but could have been of relevance had a change of personnel occurred. This meant that the actual practices employed in the crematoria were not documented and available for inspection by normal quality assurance procedures.

5. Communication between NHS staff, the Funeral Directors and crematorium was not formalised. The Crematorium Manager and Registrar and Chair of the Board attended FBCA and ICCM meetings and there was some evidence of communication taking place in relation to the availability of ashes. It is incumbent on all those professional agencies involved in the cremation of these babies to ensure that they communicate effectively with each other and have appropriate joint training and joint understanding of their obligations to the parents of these babies.

6. It is important that those suffering the unexpected loss of a baby must be given adequate time and information to make a decision about the cremation of their child.

7. The procedure for updating records was generally found to be efficient and effective. The co-location of record keeping services and cremation processes may have assisted to ensure that this took place. However, the Cremator Operator recognised that the Register of Cremations would record ‘dispersed’ even if he considered there to be no remains and had told the administrative staff there were no remains. As he would disperse in the Garden of Remembrance any ash he considered not to contain skeletal remains, on most occasions this record would be accurate. However on the rare occasion that he did not recover anything at all from the cremation, the Register would still record ‘dispersed’ rather than ‘no ashes’ or ‘no remains’. Although a rare occurrence, this does prevent the Investigation from confirming the location of the ashes of their babies to the parents registered.

Seafield and Warriston Crematoria

17.1 INTRODUCTION

Situated in Edinburgh, Seafield and Warriston crematoria are both privately run by Edinburgh Crematorium Ltd. Warriston Crematorium carried out its first cremation in October 1929 and Seafield in May 1939.

A total of eleven babies registered with the National Investigation were found to have been cremated at Warriston or Seafield spanning the period 1971 to 2006. In contrast to other crematoria investigated, the records for these babies all stated that ashes had been dispersed following cremation.

17.2 CREMATION PROCESS AND EQUIPMENT

The detail of how foetal and infant cremations are carried out at Seafield and Warriston was covered in detail in the Mortonhall Investigation and described in the Report. The Registers of Cremation record that remains have always been recovered from these cremations whether or not a baby tray has been used.

Edinburgh Crematorium Manager Jim Nickerson told the Investigation,

> *"After the Mortonhall issue broke, I thought I should check to make sure that this always had been the policy and always been the case with us, so I started going back through the early registers. I found the first stillborn child that we ever did was in 1934 and the ashes were given back in an urn to the applicant. I then looked at every decade to find other children where the ashes had been given back and I found that every decade after that, we had given ashes back at some point. The majority are still dispersals because that was the custom at the time, but I can always find one at least where we had given them back so I'm confident that throughout the whole time that Warriston Crematorium has existed, that we've given ashes back when asked."*

17.3 ADMINISTRATION AND RECORD KEEPING

The majority of the cases registered with the Investigation were more than fifteen years old and therefore the only record available was the Register of

Cremations. It is a statutory obligation to keep all other records for fifteen years only. In all but one case the Register stated that the ashes had been dispersed in the Garden of Remembrance. In one case from 2006 the Register stated that the ashes had been 'retained'.

Seafield and Warriston crematoria have for many years operated a system whereby Funeral Directors have to sign for any ashes they collect from the crematorium. Initially such signatures might only be the name of the company but by 2006, the signatures were required to be those of individuals. The Investigation was therefore able to find the name of the Funeral Director who had signed the ashes out in 2006 and follow this up. The Investigation discovered that the baby's ashes were in fact still being held by the Funeral Director, eight and a half years after the cremation took place. The Investigation directed that these ashes should be immediately returned to the family.

17.4 COMMUNICATION

i Communication with Families

One of the issues for families registered with the Investigation appears to be that some Funeral Directors working in Edinburgh understood the position to be that there would be no ashes and informed the families of that position. As established by the Mortonhall Investigation, Funeral Directors were informed by Mortonhall Crematorium that there were no ashes following cremation of foetuses and infants. No such communication was issued by Warriston or Seafield crematoria.

The current Superintendent at Warriston Crematorium worked as a Funeral Director before taking up his post at Warriston in 1992. He told the Investigation,

> *"What I was aware of, as a Funeral Director, was that if you went to Mortonhall, you did not get ashes back. If you went to Warriston or Seafield you would get ashes back. That was my understanding. If I knew that, I can't see why other Funeral Directors weren't aware of that."*

The Managing Director of William Purves Funeral Directors confirmed their understanding,

> *"whilst Mortonhall clearly stated that there would be no ashes from cremations of young infants, Warriston, whilst not guaranteeing there would be any ashes, made every effort to provide ashes and to our knowledge they always did so."*

Parents however told the Investigation that they were clearly informed by Funeral Directors that there would be no ashes. One said,

> *"But the Undertakers were very clear with us. No question. No dubiety. There will be no ashes. It was absolutely clear."*

Another had a similar experience,

> *"we all sat down and went through various details and that was the first time that we were informed much to our surprise, because we did ask for ashes, and it was the Undertaker that first of all says there won't be any ashes. There will be nothing left. It's only a baby."*

The mother of a baby who died aged seven months told the Investigation,

> *"the Undertaker said 'no ashes for a child under two'. Those were his exact words 'No ashes for a child under two'".*

Two families told the Investigation they had checked the position on ashes with Warriston crematorium and that crematorium staff had confirmed there would be no ashes.

The parent of a baby who died in 1977 said,

> *"I also contacted Warriston to make sure and they said exactly the same, there wouldn't be anything left."*

Another parent whose baby died aged four months in 2001 said,

> *"I asked for ashes and the Funeral Director told me there would be none. On the Monday after the cremation I phoned Warriston and asked if there was any and again was told no"*

The current management at Warriston Crematorium cannot explain how this message could have been conveyed to parents by crematorium staff given that they have always recovered ashes.

The family who received their ashes after eight and a half years told the Investigation that the Funeral Director had told them at the time of arranging the

funeral that there 'probably' would not be ashes. When they collected the ashes from him, the Funeral Director told the family that he had been passing on what he had been told by the crematorium.

> *"He went through arrangements and at that time he said 'now you do realise there probably won't be any ashes'. And at our meeting with him last week when we collected the ashes, he did say 'I was warned by Seafield that you don't, that there sometimes aren't ashes' and he said 'I gave you that information as well.'"*

In the most recent case of a baby cremated at Warriston in 2005 the mother recalled that the Funeral Director had very strongly given the impression that there would be no ashes following the cremation of her newborn son. She told the Investigation,

> *"While he did not definitively say 'there will be no ashes' he said it was highly unlikely and we definitely made our decision thinking that there would not be any ashes. He then said 'I would go for dispersal' and because we thought there was not likely to be anything we agreed to that. There was a certain easiness to it, that we wouldn't have to think of what else to do. We didn't know then what dispersal meant and we didn't know that dispersal means different things in different crematoria. I hadn't thought about what it meant very much because I thought it wasn't going to happen. If we had thought there were going to be ashes, we would have thought about what that meant and we probably would have chosen elsewhere to disperse them in our own way. That is my issue, that we didn't get that choice."*

17.5 CONCLUSIONS

1. The Mortonhall Investigation found that Funeral Directors often gave an instruction for ashes to be dispersed even after telling the family that there would be no ashes. If that was also the case for the families in this Investigation, the crematorium would have followed the instruction on the Form A (Application for Cremation) for the ashes as they do for every cremation they conduct.
2. The overall regulation of the funeral profession needs to be improved. Funeral Directors should be licensed and subject to a statutory regime of regulation and inspection.

3. Steps must be taken by the Chief Executives of Health, Crematoria and Funeral Organisations to ensure that all staff required to advise parents on cremation or to carry out such cremations are properly briefed. They must have an understanding about the survival of baby bones in cremation where proper care is taken. They must also have an understanding about the fundamental importance to families of having back any small remnant of their baby, including ashes from the baby's clothes, blanket, toy or coffin to help them grieve for their loss.

4. The written evidence in the Registers of Cremation supports the crematorium's position that ashes are always recovered. However, with the exception of the most recent case, there is no surviving paperwork which records the instruction that would have been given on the Application for Cremation (Form A). In all cases referred to the Investigation it can be concluded that ashes will have been recovered from cremation and will have been dispersed in the Gardens of Remembrance. The exact location of dispersal is not recorded.

Annex

Anthropology Report

Report of Julie Ann ROBERTS BA (Hons), MSc, PhD

Occupation Forensic Anthropologist and Archaeologist
at
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Dated the 31st day of May 2016

Signature……..

Laboratory Reference Number: CFS/935214/16
Customer Reference: National Cremation Investigation

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1. Qualifications and Experience

I have been employed as Scientific Lead and Team Leader for the Anthropology, Archaeology and Ecology Department at Cellmark Forensic Services since September 2010. I hold a Doctoral degree (PhD) in the subject of Forensic Anthropology from the University of Glasgow, a Master of Science degree (MSc) in Osteology, Palaeopathology and Funerary Archaeology from the University of Sheffield, and a Bachelor of Arts degree (BA Hons) in Archaeology and Ancient History from the University of Manchester.

I have worked as a Biological Anthropologist and Archaeologist for approximately 21 years and I have approximately 17 years forensic casework experience, specialising in the excavation and examination of decomposed, burnt, fragmented and commingled human remains from scenes of crime. I specialise in the analysis of fragmented, burnt and commingled bone and I have undertaken research on the taphonomy of burnt human bone, and the colour changes and fracture patterns which occur as bone is burnt. I researched and examined Bronze-Age cremation burials at Glasgow University for approximately eight years and have published extensively on this subject in archaeological journals. I have undertaken a wide range of forensic casework relating to burnt human remains which includes the recovery, examination and reconstruction of burnt, fragmented and commingled remains from fatal fires in houses, cars, aircrafts and military vehicles. I have also recovered, examined and reconstructed burnt fragmented bone from victims of war crimes, terrorist incidents, individual and multiple homicides in the UK where bodies have been burnt in attempts to dispose of evidence. I have examined burnt adult and juvenile bone from archaeological and forensic contexts and have also been required to distinguish between burnt human and non human bone from fatal fires and large bonfires. I have produced numerous witness statements relating to burnt and fragmented remains and given evidence in court and at inquest on my anthropological examinations of burnt remains.

I am professionally accredited by the Royal Anthropological Institute as a Forensic Anthropologist Cert FA-I (most senior level) and I am registered with the National Crime Agency as an Expert Advisor in Forensic Anthropology and Archaeology. I am a member of the Forensic Expert Group advising UK DVI on Forensic Anthropology, a Fellow of the Royal Anthropological Institute, a member of the International Academy of Legal Medicine and the Forensic Anthropology Society of Europe, and a member of the steering committee for the British Association for Forensic Anthropology.

2. Background

On the 22nd January 2013, The Right Honourable Dame Elish Angiolini DBE QC was appointed to undertake an independent inquiry into practices surrounding the cremation of pre- term and new born infants at Mortonhall Crematorium in Edinburgh. As part of the Mortonhall Investigation I was asked to provide expert opinion on the skeletal development of the foetus and neonate, how the cremation process affects the body, the survivability of foetal remains during and after cremation; the relationship between the survival and recovery of remains and the methods used to cremate and retrieve them from the cremator; and the accuracy of advice provided by Funeral Directors and crematoria staff at that time. I produced my findings in two statements, dated 7th January 2014 and 10th March 2014, which appeared in full in Annex C and Annex D (respectively) of the Mortonhall Investigation Report, produced by Dame Elish Angiolini on the 14th April 2014. The report by Dame Elish was subsequently published by City of Edinburgh Council on the 30th April 2014 (The City of Edinburgh Council, 2014).

Whilst the independent investigation relating to Mortonhall was progressing, the Scottish Government established The Infant Cremation Commission, chaired by Lord Bonomy. The Commission was tasked with reviewing "*current policies, guidance, practice and legislation in Scotland in relation to the handling of all recoverable remains (ashes) following the cremation of babies and infants and to make recommendations for improvement and change"* (The Scottish Government, 2014). Lord Bonomy's Infant Cremation Commission Report, published by the Scottish Government on the 17th June, 2014, provided national recommendations for future improvements (*ibid*).

On the 17th June 2014, as a result of the findings from the two investigations, the Minister for Public Health announced the establishment of a National Investigation into infant cremations in Scotland as it was acknowledged that families from some areas of Scotland were still seeking answers (The Scottish Government, 2015). The aim of the National Investigation was therefore to *"provide every parent whose baby was cremated in Scotland with the same opportunity to have their concerns regarding their cases investigated and to get an individualised response"* (*ibid*). Dame Elish Angiolini was appointed to lead the investigation and, as part of the investigation she requested that I meet with her and Claire Soper from the National Cremation Investigation Team, to discuss the provision of a forensic anthropology expert report.

During my subsequent discussions with Dame Elish and Claire Soper it became apparent that in certain locations concerns remained regarding the cremation of pre-term babies and infants. In one example at Aberdeen crematorium there was a policy of "no ashes of children aged 2 years and younger" being returned to parents. At the same crematorium it was reported that non-viable fetuses, neonates and infants were being cremated alongside adults, with more than

one coffin at a time being placed in the cremator. In these cases it was apparently not possible to identify who the adults concerned had been.

3. Scope and Purpose of Report

In January 2016, I met with Dame Elish and Claire Soper. During the meeting it was agreed that I would assist the National Cremation Investigation by providing expert opinion on the following:

- The skeletal development of infants from age 40 weeks to 24 months.
- The size and appearance of burnt skeletal remains from infants of specified ages within that range.
- The amount of ash that would be produced from the cremation of infants of specified ages within that range.
- Whether it would be possible to distinguish between adult skeletal remains and infant skeletal remains if they had been cremated together.
- The possibility that the skeletal remains of infants up to two years of age might not survive the cremation process.

It was also confirmed that the following specific data should be included in my report:

- A summary of skeletal development in the neonate and infant between full term and two years
- A range of expected sizes of bones at age 40 weeks gestation, 3 months, 6 months, 12 months, 18 months and 24 months.
- Forensic drawings of cremated foetus and neonate bones reproduced from photographs taken at Seafield and Warriston Crematoria in Edinburgh and Parkgrove Crematorium in Douglasmuir. Full details of which images were used and how they were reproduced can be found in Sections 4.2 and 7.2.

My report also contains information on the cremation process and how it affects the body, the survivability of neonatal and infant remains during and after cremation, and the relationship between the survival and recovery of remains and the methods used to cremate and retrieve them from the cremator. Finally, consideration is given in the report as to whether there is any

scientific credibility in the notion that there would be no remains or ashes1 left following the cremation of infants aged up to two years. This was thoroughly researched as that belief (or official position) may have informed the policy decisions made at certain crematoria with regard to the return of ashes and information given to bereaved parents.

4. Technical Note

This report has been produced as a "stand alone" document for the National Cremation Investigation. It does however contain sections of text derived from the two reports I produced previously for the Mortonhall Investigation (The City of Edinburgh Council, 2014). These sections relate primarily to the cremation process and the effects it has on the body, the growth and development of the foetus *in-utero*, the physical appearance and dimensions of cremated foetal and neonatal bones and the ability of them to survive the cremation process. This has been supplemented with additional data on neonates and new data on infants aged up to two years at death.

4.1 Appendices and Archive

Diagrams of the skeletons of a neonate and a young child are provided for reference purposes in Appendix One. A glossary of terminology used in the report is provided in Appendix Two, a list of sources of metric data for foetal and infant remains is provided in Appendix Three, and a bibliography of texts referred to in this report can be found in Appendix Four. A full record of the work undertaken within the laboratory in relation to this work has been retained in the archive at Cellmark Forensic Services, Chorley, and this can be made available on request providing sufficient notice is given.

4.2 Reproduction of Photographic Images as Forensic Drawings

It was agreed that it would be of value to include a graphic representation of the some of the surviving neonatal and foetal remains identified at the private crematoria, Warriston, Seafield and Parkgrove. Due to the sensitive nature of the subject matter, however, Dame Elish and her team did not wish to show the original photographs taken at the crematoria. After discussion it was agreed that the best way to show the images would be for a suitably qualified and accredited expert to produce hand-drawn or electronically generated "drawn" images of the bones that could be seen in the selected photographs.
This work was undertaken by the Multimedia & Evidential Imagery Team, Specialist Operations Regiment, Royal Military Police, using Adobe Photoshop CS5 and a Wacom Tablet.

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1 The term "ashes" used in this context is discussed in Section 6

4.3 Terminology relating to Foetal Age and Infancy

It should be noted that there is a difference between gestational and conceptional or foetal age. Gestational age refers to the length of pregnancy after the first day of the last menstrual period (LMP) and is usually expressed in weeks and days. Conceptional age is the true fetal age and refers to the length of pregnancy from the time of conception (Mongelli, 2012). Fertilisation can not occur till ovulation has occurred approximately 14 days after the first day of the menstrual period. As such conceptional age is always approximately two weeks behind gestational age (*ibid*). Gestational age is more frequently used because the actual day of conception is often unknown, whereas the LMP can usually be determined.

Infancy, as defined by Bogin (1999) refers to the three years of human life following birth, characterised by dependency prior to the child adopting a “close to adult diet” and “some independence of social interaction” (Black and Maat, 2010: 82).

For further terminology relating to foetal and infant age see Appendix Two.

4.4 Comparative Data and Related Research

A great deal of the literature relating to cremated bone is based on experimental research using archaeological human remains or modern animal remains. This information covers a range of topics and is easily accessible. However, primarily for ethical reasons, there is has been little research involving modern cremated human adult remains and even less focusing on foetal neonatal and infant remains. Because of this there is a limited amount of scientific data available for reference purposes when it comes to providing an evidence based opinion on the survival of these remains during and after cremation. When considering this, the limited reference data must therefore be supplemented by knowledge of skeletal development, how cremation affects the body, visual examination of relevant images from modern crematoria and familiarity with findings from research on non-human and ancient human remains.

5. Skeletal Development in the Foetus, Neonate and Infant

Detailed information relating to the development of the foetus can be found in my previous two reports dated 7th January and 10th March, 2014, produced for the Mortonhall Investigation (The City of Edinburgh Council 2014). This report includes an abridged summary of foetal development and provides additional detail on the skeletal development of the neonate and the infant from age 40 weeks through to 24 months.

5.1 Development and Ossification of the Foetus *in-utero*

Bone develops from the primitive mesenchymal tissue of the embryo in a process called ossification. There are two types of ossification; intramembranous and endochondral (Scheuer and Black, 2000: 21-24). The essential difference between the two is the presence or absence of a cartilaginous phase. The majority of bones, including the limb bones, vertebrae, ribs and basi-cranium are formed by endochondral ossification (Scheur and Black, 2000: 24; White and Folkens, 2005: 46; Sanders, 2009). In endochondral ossification a cartilage template composed mainly of collagen is first formed out of the tissue membrane, this then ossifies (turns to bone) due to the action of osteoblasts and osteoclasts.

The bone will simultaneously increase in diameter and length, as compact and cancellous bone is formed2. Compact bone is composed of parallel columns along the long axis of the bone and it forms the shaft or cortex (outer surface). Cancellous bone is arranged in a lattice structure orientated along the lines of stress and it provides structural strength within the bone. Lengthways growth in the long bone is achieved by means of a growth plate at the end of the shaft of the bone. New bone is deposited between the growth plate, also known as the epiphyseal plate, and the end of the diaphysis (the shaft) which is termed the metaphysis. (White and Folkens, 2005: 46).

Scheuer and Black cite the clavicle as being probably the first bone in the human body to show evidence of bone development in the sixth week of foetal life (2000: 23). In a study of ossification of the limb bones in 728 foetuses ranging in age from 8 to 26 weeks, Bagnall *et al.* found that primary ossification centres showed at approximately 9 weeks of conceptional age (Bagnall *et al.*, 1982). They also observed that there was a predictable order to this ossification whereby the centre of the humerus appeared first followed by the femur, radius and ulna which appeared simultaneously, the tibia and then lastly the fibula (*ibid*).

On a molecular level, bone tissue is a composite of organic and inorganic material, protein and mineral. The protein is collagen which constitutes about 90% of the bones organic content. The mineral component is hydroxyapatite, a form of calcium phosphate. Crystals of this mineral impregnate the collagen matrix to form a weave of protein and minerals. The mineral component gives the bone its hardness and rigidity, whilst the protein component is rubber-like and flexible (White and Folkens, 1991: 19). The composition of bone is highly relevant when

2 Compact and cancellous bone is also known as cortical (compact) and trabecular (cancellous) bone.

considering the effects of cremation on bone and expectations regarding its survival of the process.

The rate of growth differs between the upper and lower limb bones. In early development the upper limb bones are longer than the lower limb bones due to their earlier ossification and faster growth rates (Sanders, 2009). From 19 weeks gestation until birth, however the lower limb bones grow faster than the upper limb bones and the reverse becomes true (Watkins and German, 1992, in Sanders, 2009). Studies have shown that there are also differences between the growth rates of bones on the right and left sides of the body *in utero*, with growth of the humerus, tibia and fibula being favoured on the left side and growth of the femur being favoured on the right (Bagnall *et al*., 1982). In terms of recognition of skeletal elements, Scheuer and Black (2000) note that by 12-13 weeks gestation bones such as the femur are distinct enough for identification (Sanders, 2009). The weight of the foetal skeleton will increase with age, with the greatest proportionate contribution being the skull (Trotter and Hixon, 1974).

5.2 Skeletal Development in the Infant: From Birth (40 weeks Gestation) to 24 months Immediately after birth, post-natal ossification centres appear which continue to develop into early adulthood. These centres fall into two groups; the primary centres of the bones of the wrist and ankle, and the secondary ossification centres of the ribs, vertebral column, sternum, shoulder and pelvic girdles and the long bones of the limbs (*ibid*, 2000: 8). Together with the teeth, the neurological system is the quickest to develop and skeletally this is reflected in the early maturation of the cranium and the vertebral column (Black and Maat, 2010:82).

The primary centres of the bones of the wrist appear from two to four months after birth and (although they are very small) by 2 years of age, three of them, the capitate, hamate and triquetral are present and identifiable (*ibid*: 328). In the ankle, two of the tarsal bones, the calcaneus and the talus will be present at birth and by the age of 2 years primary centres for the cuboid, the lateral and possibly the medial cuneiform will be present (*ibid*: 449).

Some of the bones in the skull which are separate at birth will join at around 40 weeks gestation, for example the tympanic ring (a small ring of bone) will fuse onto the outside of the temporal bone around the ear. Some of the cranial sutures will also start to fuse in infancy, for example in the frontal bones, and the anterior fontanelle will be closed by age two years in the majority of cases (Scheuer and Black, 2000: 107).
The secondary sites of ossification appear after birth, developing within the cartilaginous epiphyses which are separated from the metaphysis by the growth plate. Controlled by hormones and genes and influenced by other factors such as health and nutritional status, bone growth continues

at the metaphysis until such a time that it has reached its predetermined size. Cells at the growth plate then stop dividing and the primary and secondary sites of ossification (the main part of the bone and the epiphysis) fuse together in a process called epiphyseal fusion or closure (Biswas and Iqbal, 1998: 59; White and Folkens, 2005: 47). Once the epiphyses have closed the development of that bone is complete. This occurs from early infancy through to the age of up to 29 years when the medial end of the clavicle finishes development (Scheuer and Black, 2000).

Infancy is the period in which the child will show the most rapid growth of any of the postnatal stages (Black and Maat, 2010). According to Black and Maat, the child will increase its length by around 50% and double its birth weight in the first year after birth (*ibid*: 82). Doyle (2016) summarises "Normal term neonates generally lose 5 to 8% of birth weight in the days after delivery but regain their birth weight within 2 weeks. They then gain 14 to 28 g a day until 3 months, then 4000g between 3 and 12 months, doubling their birth weight by 5 months, tripling it by 12 months and almost quadrupling it by 2 years (see also Table Eight, this report).

Tables One to Six, present the maximum lengths of six bones which are easily identifiable in the neonate and infant. These are mean measurements of *unburnt* bone. In the long bones they relate to the diaphysis alone, i.e. the shaft without the epiphyses. Where measurements are presented between the male and female columns this indicates that the sex relating to the value was not stipulated. Information on the individual reference sources is given in Appendix Three.

Table One: The Frontal Bone of the Cranium (Length: frontal chord)

Age	**Maximum Length (mm)**		**Reference**
	Male	**Female**	
40 weeks	54.8		Fazekas and Kosa, 1978
3 months	81.9		Young, 1957
6 months	89.3		Young, 1957
12 months	99.6		Young, 1957
18 months	-		-
24 months	109.2		Young, 1957

Table Two: The Femur

Age	Maximum Length (mm)		Reference
	Male	**Female**	
40 weeks	74.4		Fazekas and Kosa, 1978 Trotter and
	75.40	70.7	Peterson, 1969
3 months	100.7	100.8	Maresh, 1970
6 months	112.2	111.1	Maresh, 1970
12 months	136.6	134.6	Maresh, 1970
18 months	155.4	153.9	Maresh, 1970
24 months	172.4	170.8	Maresh, 1970

Table Three: The Humerus

Age	Maximum Length (mm)		Reference
	Male	**Female**	
40 weeks	64.9		Fazekas and Kosa, 1978 Trotter and
	65.2	61.2	Peterson, 1969
3 months	80.6	80.2	Maresh, 1970
6 months	88.4	86.8	Maresh., 1970
12 months	105.5	103.6	Maresh, 1970
18 months	118.8	117	Maresh, 1970
24 months	130	127.7	Maresh, 1970

Table Four: The Tibia

Age	Maximum Length (mm)		Reference
	Male	**Female**	
40 weeks	65.2		Fazekas and Kosa, 1978 Trotter and
	66.8	60.8	Peterson, 1969
3 months	81.9	80.8	Maresh, 1970
	84.83	84.95	Gindhart, 1973
6 months	91	88.9	Maresh., 1970
	99.26	97.06	Gindhart, 1973
12 months	110.3	108.5	Maresh, 1970
	119.57	117.08	Gindhart, 1973
18 months	126.1	124	Maresh, 1970
	135.53	134.24	Gindhart, 1973
24 months	140.1	138.2	Maresh, 1970
	150.14	148.08	Gindhart, 1973

NB the Gindhart reference data was obtained from radiographs whereas the Maresh standards are measurements of dry bone in infants who had died. The consistently shorter length of the bones in the Maresh study may be a reflection of the poor health of the children who died, although this cannot be confirmed and other population specific factors may be involved.

Table Five: The Clavicle

Age	Maximum Length (mm)		Reference
	Male	Female	
40 weeks	44.1		Fazekas and Kosa, 1978 Yakoni *et al*., 1985
	41		
3 months	44.4		Black and Scheuer, 1996
6 months	54.1		Black and Scheuer, 1996
12 months	59.5		Black and Scheuer, 1996
18 months	63		Black and Scheuer, 1996
24 months	66.5		Black and Scheuer, 1996

NB the Yakoni *et al*. reference data was obtained from ultrasound scans

Table Six: The Scapula (length / height)

Age	Maximum Length (mm)		Reference
	Male	Female	
40 weeks	35.5		Fazekas and Kosa, 1978
	34.8		Hrdlicka, 1942
	46.5		Vallois, 1946
3 months	-		
6 months	49.2		Saunders, 1993
12 months	60.4		Saunders, 1993
18 months	-		
24 months	67.8		Saunders, 1993
	61		Vallois, 1946

5.3 Factors Affecting the Development and Maturation of the Skeleton *in utero* and during Infancy

Rates of increase in the size and maturity of bones differ between the sexes and this is evident before birth. There is also a difference in the timing of ossification of bones and mineralisation of teeth (Scheuer and Black, 2000:4). In their research Bagnall *et al.* (1982) observed that the female foetus is in advance of the male in terms of skeletal maturation after 21 weeks. After birth skeletal maturity continues to be more advanced in girls than boys but bone mineral density is significantly less in girls than boys, the latter having a higher mineral density and larger long bones (*ibid*)

Sanders (2009) summarised a number of studies which focused on femoral lengths of neonates and foetuses of different ancestries. In one study (n=450), it was found that the femoral length of Indian neonates was significantly longer than that of Malaysian and Chinese neonates (Lim *et al*., 2000 in Sanders, 2009: 18). In another study which took femoral

measurements by ultrasound from 39 Asian, 31 Black, and 100 White foetuses of 15 to 20 weeks gestation, it was found that the femur lengths of the Asians were shorter than expected and those of Black foetuses were longer than expected. (Shipp, 2001 in Sanders, 2009: 18).

In a research project which examined the weight, density and percentage ash weight of bones from foetuses through to elderly adults, Trotter and Hixon (1974) found that the unburnt bones of Negroid foetuses were on average heavier than those of the Caucasoid foetuses and the bones of the males were generally heavier than those of the females. These differences were not statistically significant, but there were significant differences between the lengths of the Negroid and Caucasoid long bones, the former being longer than the latter in four types of long bone tested (*ibid*).

Whilst genes play a major role in the development of a foetus *in utero*, other influences can affect growth and development greatly. Black and Maat (2010) list the following as factors that influence prenatal growth: Maternal weight, maternal age, health and nutritional status, blood pressure, intra-uterine constraints, parity, smoking, alcohol / drugs, emotional status, environmental pollution and altitude. Similarly, Lobo and Zhaurova (2008) stated that “It is difficult to overemphasize the importance of prenatal environment to a developing fetus”. They were speaking primarily with reference to birth defects but in addition to these they also found that stillbirths and low birth weights were associated with smoking during pregnancy.

It should therefore be taken into account when looking at unburnt and burnt foetal and neonatal skeletal remains that the pregnancy may have ended in spontaneous abortion or stillbirth because the baby was not developing normally. As such the bones may be smaller and perhaps not as well developed as they would be in a healthy foetus of the same gestation.

Many of the same factors which affect foetal and neonatal growth play a major role in the growth and development of infants (de Onis *et al*, 2009; Uysal, 2006; Simpson and Kunos, 1998; Goodman et al., 1984). The effects of *in utero* influences can be carried over into infancy and even into adulthood (*ibid*; Malina et al, 2004) and whilst maternal health and lifestyle choices may have less of a direct impact on the child once it is born, they are still a consideration (de Onis *et al.*, 2009). Infant growth and development are influenced by other factors too, such as physiological or psychological stress which might include childhood illness, periods of malnourishment and an individual’s resistance to stress (Roberts and Manchester 1997; Uysal, 2006; Ameen et al 2005). These factors are inextricably linked with the social,

political, environmental and economic situation that the infant is born into (Behrents and Broadbent, 1984).

Studies by the World Health Organisation between 1997 and 2003 examined the growth and development of 882 infants from birth to 24 months (and beyond) from six diverse geographical regions; Brazil, Ghana, India, Norway, Oman and the USA. External factors that they examined included duration of breast feeding and smoking during and after pregnancy. They concluded that "healthy children from around the world who are raised in healthy environments and follow recommended feeding practices have strikingly similar patterns of growth" (de Onis *et al,* 2009). This suggests that, in their study at least, maternal and external factors outweighed genetic factors such as sex and ancestry.

5.4 Dental Development

Although teeth are not part of the skeleton it is important to mention their development in this context as they are capable of surviving the temperatures attained during the cremation process, particularly when they are un-erupted and protected by the jaw.

The onset of tooth formation starts with the first deciduous3 incisor between 14 and 16 weeks after fertilization (16 and 18 weeks gestation). This is followed 2 weeks later by the second incisor and then a week after that the canine starts to form. Deciduous first molars are initiated around 15 weeks after fertilisation and deciduous second molars 3-4 weeks after that when the foetus is in its 18th -19th week of life (Hillson, 2002: 121).

The first permanent molar also starts forming *in utero* around 28-32 weeks after fertilization with the lower molars starting to develop slightly earlier than the upper. The other permanent teeth do not start to develop until after birth.

At birth the neonate will have a full set of un-erupted deciduous dentition comprising upper and lower central and lateral incisors, canines, and first and second molars (Ubelaker, 1989). All of the deciduous dentition usually erupts within the first two and a half years after birth and by this time the permanent incisors, canines and first molars will also be developing in the jaw (Hillson, 2002: 1139; Ubelaker 1989). An infant aged two, therefore, will have mixed dentition some of which is capable of surviving cremation (See Section 7).

3 Deciduous teeth are commonly referred to as "milk teeth"

As with skeletal development, girls are in advance of boys, with various studies finding a difference of as much as a year (Hillson, 2002: 125). The difference between the sexes is greater in black girls and boys (double that seen in whites) and black children achieved each stage of dental development on average 5% earlier than white children (*ibid*). A study by Simpson and Kunos (1998), which included infants from birth to aged 24 months, also identified health as a factor in tooth development, particularly in the canine which proved to be more affected by health and hormonal status than the other teeth.

6. The Cremation of Human Remains

The sequence of cremation can be described as follows:

1. Ignition and burning of coffin and outer layers of body
2. Drying of the "wet" parts of the body followed by the burning of the contents of the thoracic, cranial and abdominal cavities
3. Completion of the burning of combustible parts
4. Calcination of bones
5. Cooling of ash remains and ash processing to produce a final ash of small particles

(Davies and Mates, 2005: 132)

The discussion below focuses in more detail on the changes which the human body undergoes when it is cremated. It is out-with my sphere of expertise to comment on the technical aspects of the cremation process, for example how the cremator works and various legislation surrounding the cremation process. Expert opinion on this is provided in the specialist statement of Dr Clive T Chamberlain produced for the Mortonhall Investigation (The City of Edinburgh Council 2014) and in a further publication *The Encyclopaedia of Cremation* (Davies and Mates, 2005).

6.1 "Ashes" versus "Cremated Remains"

The distinction between the terms "ashes" and "cremated remains" and the confusion that often surrounded the definitions was discussed previously in my report dated 7th January 2014 which I produced for the Mortonhall Investigation (The City of Edinburgh Council, 2014). Since the publication of that report and the work of the Infant Cremation Commission, this issue has largely been resolved.

In his report, the Rt. Hon Lord Bonomy recommended the following:

"2.3 *The "ashes" which the Cremation Authority is obliged to give into the charge of the person who applied for the cremation if he so desires should be defined in legislation as "all that is left in the cremator at the end of the cremation process and following the removal of any metal". That should not preclude the applicant from consenting in advance to the removal of metals, such as coffin nails and artificial joints, and their separate disposal, including as part of a metal recycling scheme.* ***(7.21)*** (The Scottish Government, 2014).

Subsequently, section 45 of the Burial and Cremation (Scotland) Act 2016, passed on 22 March 2016, stipulates:

"(1A) In this Act 'ashes' means the material (other than metal) to which human remains are
reduced by cremation.
(1B) In this section "human remains" includes, where remains are clothed, in a coffin or with
any other thing, the clothing, coffin or other thing" (Claire Soper, *pers. comm*)

Parkgrove Crematorium in Douglasmuir produced a policy statement in relation to the cremation of babies and infants reflecting these recommendations. It includes the following paragraph:
"*Whilst our employees might use the terms 'ashes' and 'cremated remains' we deem these to be one and the same and defined as 'all that is left in the cremator at the end of the cremation process and following the removal of any metal'. There might be a small number of cases where there are no ashes remaining at the end of the cremation process. If this is the case our staff will contact the Applicant for Cremation and advise them of this"* (Brown, 2015).
The policy statement also makes reference to the means by which Parkgrove maximise the recovery of ashes during cremation, shared cremations, disposal of ashes and record keeping, which are in line with the recommendations of Lord Bonomy.

Also as a result of these recommendations, in March 2016, the Federation of Burial and Cremation Authorities (FBCA), the Institute of Cemetery and Crematorium Management (ICCM), the Cremation Society of Great Britain (CSGB) and the Association of Private Crematoria and Cemeteries (APCC) issued a joint policy statement for infant cremation in England and Wales which re-iterated the above definitions:

"In line with Lord Bonomy's recommendations (INSERT CREMATORIUM NAME HERE) Crematorium considers cremated remains and ashes to be one and the same thing and

supports the commission's definition that ashes are "all that is left in the cremator at the end of
the cremation process, and following the removal of any metal".
(FBCA, 2016).

It would seem, therefore, that there is no longer room for any confusion regarding the definitions of cremated remains and ashes, and the advice that should be given to bereaved parents in terms of what is retrievable at the end of the cremation process.

6.2 The Effects of Cremation on the Human Body

When the body is subjected to extreme heat it will undergo a number of predictable changes; the skin will harden and split, the subcutaneous fat and muscle will burn, there will be dehydration and oxidation of the organic component of the body (including the organic component of bone) and eventually, at temperatures in excess of around 1000 C°, there will be re-crystallisation of the mineral component of the bone (Holden *et al*., 1995; DeHaan and Nurbakhsh, 2001; McKinley, 1994; Shipman *et al.*, 1984).

As bone is heated, proteins will undergo a process of denaturation. The water that is found in the organic component of bone is removed at between 300 and 500 C° (Harsanyi, 1993 in Fairgrieve, 2008: 138). At temperatures above 700 C° the water contained within the mineral component of bone is also lost and Calcium Oxide (CaO) is formed. It has been suggested that the formation of CaO is linked to skeletal maturity (*ibid*).

It is important to note that once complete combustion of the organic component of the bone has occurred, the amount of DNA present is much reduced if not lost completely. Current standard DNA analysis techniques (eg. STR analysis of nuclear DNA or mitochondrial DNA analysis) used to obtain DNA profiles from unburnt or charred remains have had very limited success when applied to calcined bone, therefore positive identification of the deceased following complete cremation is generally not possible (McDonald, *pers. comm*.)

Exposure to extreme heat will cause visible changes to bone and, at sufficiently high temperatures, alteration of its microstructure. In laboratory conditions it has been proven that the colour of bone changes progressively and predictably as it is heated. These colour changes range from pale yellow, through to red /brown, black, blue, grey and finally white, when all the organic matter has combusted and the bone is calcined (Shipman *et al*, 1984; Holck, 1986; Holden *et al.*, 1995).

Studies at both macroscopic and microscopic levels generally agree that under conditions of extreme heat bone shrinks, splits and cracks. There is a wide variation in the degree of shrinkage reported in different studies, with figures ranging from 2 to 25% reduction from the original fresh bone (Nelson, 1992). In the experimentally controlled cases reviewed by Nelson the amount of shrinkage was found to be at the lower end of that range averaging between 3 and 5% (*ibid*). A study which closely mimicked conditions in a modern crematorium involved the cremation of one half of each of five cadavers in a gas oven with a temperature range of 600 to 1000° C (Dokladal, 1971 in Mayne Correia, 1997: 227). From measurements taken on the preserved unburned half compared to the cremated half in the same individual the researcher established shrinkage rates of between 5 to 12% (*ibid*).

It has been claimed that as foetal and infant bones contain more water and organic material in the form of proteins than mature bones they shrink more than the bones of adults (Vaughan, 1981 in Smith et al, 2011). Modern clinical advice corroborates the difference in body water content up to the age of 12 months, stating that it is 70% at birth, dropping to 61% at 12 months "which is about equal to the adult percentage" (Doyle, 2016: 3). Hermann (1977) found that the decrease in bone volume which occurs during cremation was greater in neonates and infants than adults where the percentage reduction never exceeded 13% (Uytterschaut, 1993) whilst in her study, Uytterschaut found that the bones of neonates and infants contract by an average of 10% (*ibid*). The degree to which shrinkage occurs in neonatal and infant bones is important within the context of this investigation as it has the potential to affect the recognition of their skeletal remains following cremation.

Numerous studies have been undertaken examining the fractures which occur as a result of thermal damage to bone (Goncalves *et al*., 2011; Schmidt and Symes, 2008; Bontrager and Nawrocki, 2008; Buikstra and Swegle, 1989). The majority of experimental studies have shown that burning fleshed bone, as in a modern cremation, typically produces characteristic curved, transverse, thumbnail, and step fractures, deep longitudinal fractures and warping of the bone (Ubelaker, 1989; Bontrager and Nawrocki, 2008; Buikstra and Swegle, 1989). These fractures are easily distinguishable from the fractures caused by mechanical damage following cremation, although they can actually pre-dispose the bone to this type of damage. Some examples of heat induced fractures can be seen on the foetal bones in the original photographs of the foetal and neonatal remains from Seafield and Warriston.

7. The Survival of Foetal, Neonatal and Infant Skeletal Remains During and After Cremation

On the 23rd March 2016 I received information from Claire Soper relating to fourteen crematoria that had been investigated as part of the National Investigation. It identified six crematoria where cases included in the investigation had been recorded of "no remains" following the cremation of neonates and infants. These are cases referred to the National Investigation by families and do not therefore represent the oldest babies recorded as "no remains" in the whole of the registers at the crematoria. The crematoria and the ages of the individuals who had been cremated are outlined in Table Seven, below. It should be noted that in most crematoria the term 'no remains' was never used when registers were completed manually, and this term was only adopted with the advent of computerised records. So, although there may have been no remains for older babies they were recorded as 'dispersed in the Garden of Rest'.

Table Seven: Crematoria with "No Remains" Recorded (Data provided by Claire Soper)

Crematorium	Age of infant
Kirkcaldy	3 hours 15 minutes
Linn	9 months 3 weeks4
Daldowie	5 months
Craigton	9 days
Aberdeen	5 ½ months
Mortonhall	1 day

Details of research and scientific findings are given below which provide evidence that the remains of infants of an equivalent age to those listed above (and younger), purported to have no remains, would survive cremation.

7.1 The Impact of Cremation on the Foetus, Neonate and Infant

In terms of bone and tooth survival, cancellous bone will shrink but generally retain its shape, whereas compact bone will shatter into small pieces, and un-erupted teeth and roots survive while the exposed crowns break apart (Mayne Corriea, 1997:278). The survival of bones and teeth, including those of foetuses, neonates and infants, is well documented in archaeological cremation burials of up to c. 4000 years old, even where the remains are calcined, completely

4 The infant concerned suffered from a medical condition called Spinal Muscular Atrophy

mineralised and brittle (Hillson, 2009; McKinley, 1994, 1996; Downes and McGregor, 1995;
Roberts, 1995, 1998, 2001; McSweeney, 1995; Davies and Mates, 2005; Smith *et al.,* 2011). It has also been proven through archaeological and modern crematoria studies that certain bones are more likely to survive than others and, in summary, the denser bones and those well embedded in muscle tissue are found to be most resilient (Mayne Corriea, 1997:278). This was also identified by Smith et al (2011) in their study of archaeological remains from Carthage, who observed that size differences between burnt and non- burnt bone varied for different elements, with shrinkage being more pronounced in younger individuals.

Where ossification has not begun or is in its very early stages, the cartilage or connective tissue prototype for the bone can be lost entirely in the cremation process as all the organic matter in the body is combusted. Once the bone has started to ossify, however, it will undergo broadly the same changes as adult bone during the cremation processes. That said there are some differences to take into consideration which relate to the development and maturity of the bone. It has already been noted that neonatal and infant bone loses more volume than adult bone when burnt and some studies found there was a greater degree of shrinkage in foetal bone. Fairgrieve (2008: 138) stated that neonatal bones will burn “more completely” than adult bones and less mineral residue will be left following cremation, due to a lack of Calcium Oxide (CaO) in the bones of young individuals as the intermolecular cross-links between the collagen chains have not yet developed.

It is true for adults that bone mineral density and the weight of cremated bone is affected by age, sex, stature, diet, activity and even geographical location (Van Deest *et al*., 2011). It follows that some of these criteria would also apply to foetal, neonatal and infant skeletons with more emphasis on the maternal environment in the former (see also Section 5.3). Some foetuses and neonates may be smaller than usual or have delayed development for their gestational age and therefore there bones may be more susceptible to damage from the heat and post-cremation mechanical damage.

In terms of gross anatomy, neonate and infant bones are thinner, smaller, less robust and lighter than adult bones therefore they will combust more quickly and at lower temperatures. It has been noted that for an adult the whole cremation process takes on average 90 minutes at a temperature of 1000º C or more, whilst cremation of an infant or foetus can be completed in 40 to 60 minutes at temperatures of 700º C (Dunlop, 2004). In the same paper, Dunlop noted that foetal skeletal remains (he does not state gestation period) could be “discerned quite clearly”

following cremation at Hull Crematorium (*ibid*). This is discussed further in Sections 7.2 and 7.3.

7.2 The Appearance and Size of Cremated Foetal, Neonate and Infant Remains

Evidence that foetal skeletal remains can survive modern cremation processes and are recognisable from as early as 17 weeks gestation, was obtained from two private crematoria currently operating in Edinburgh, Seafield and Warriston. Photographs of these remains were not included can be found in the report of Dame Elish Angiolini, 2014 (The City of Edinburgh Council 2014) for reasons of sensitivity but were made available on request following publication of the Report. Additional information and images supplementing the findings from Seafield and Warriston has since been obtained from Parkgrove Crematorium in Douglasmuir (Soper *pers. Comm*. 2015; 2016).

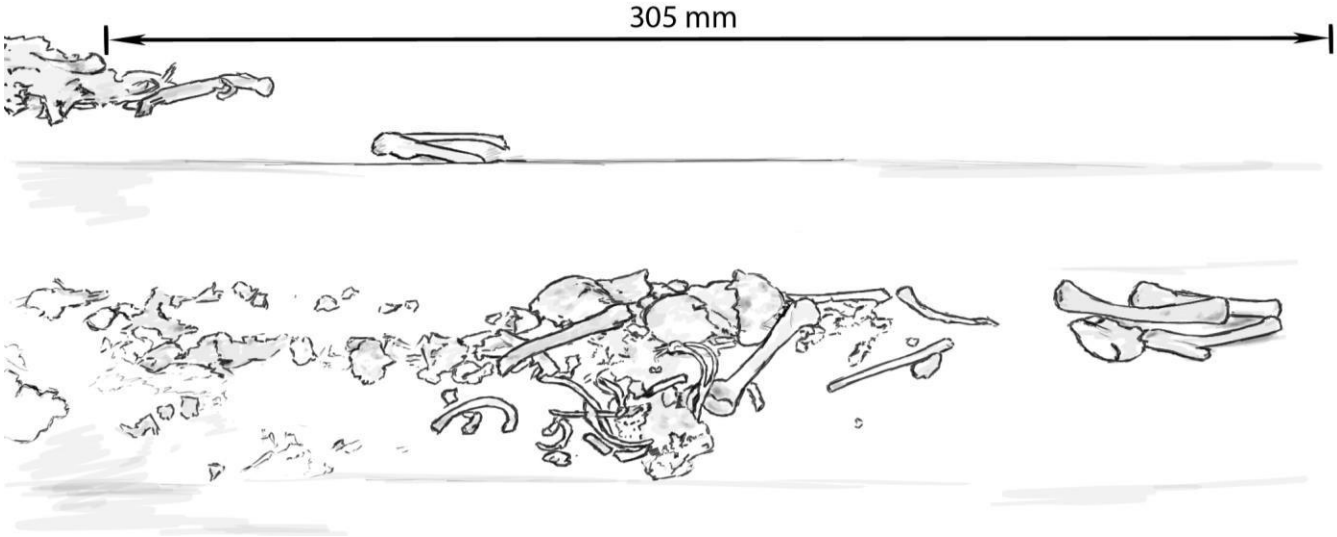
As explained in Technical Note One of this report, a decision was made not to display the actual photographs of the remains. Instead an artist's impression was created by the Royal Military Police Multimedia and Evidential Imagery Team, using Adobe Photoshop CS5 and a Wacom Tablet. These are shown below and following each image there is a list of the bones which are identifiable in that picture. The photographs from Parkgrove Crematorium were slightly less clear than those from Seafield and Warriston therefore the individual bones are slightly less well defined.

Image One: Seafield, Full Term Stillborn

Bones that can be identified in Image One include the femur, humerus, fibula, tibia, pelvis (ilium), scapula, possibly an ulna, multiple vertebrae (body and

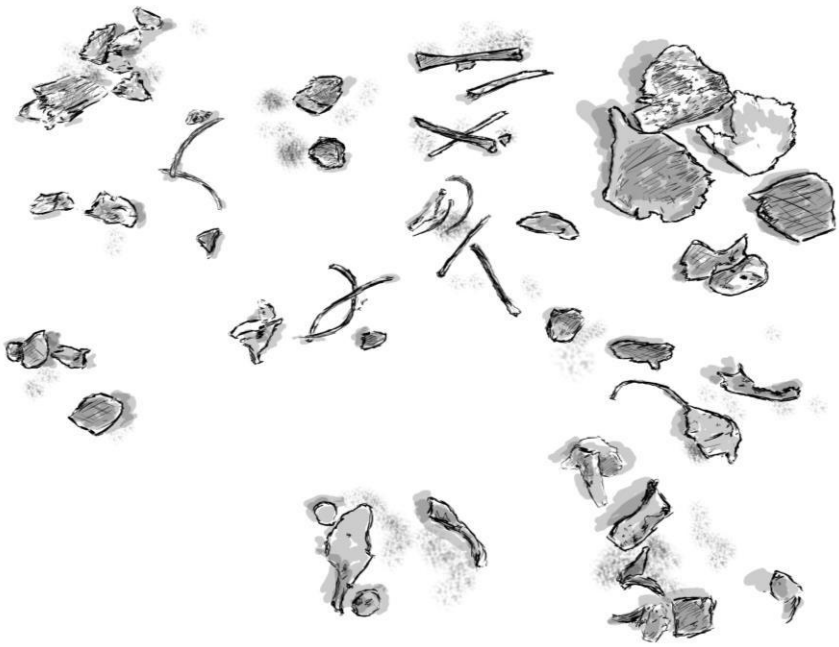
neural arch), a minimum number of 10 ribs, metacarpals / metatarsals, phalanges.

Image Two: Warriston, 22 Weeks Gestation



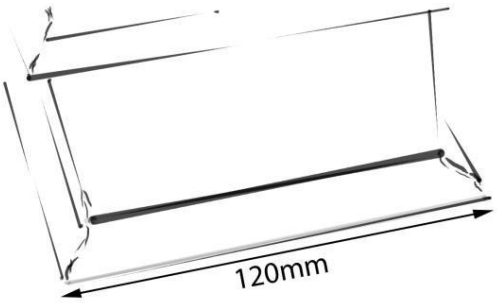
Bones that can be identified in Image Two include the femur, tibia, fibula, ilium, humerus, possible mandible and tooth crowns, metacarpal / metatarsals, a minimum number of 10 ribs.

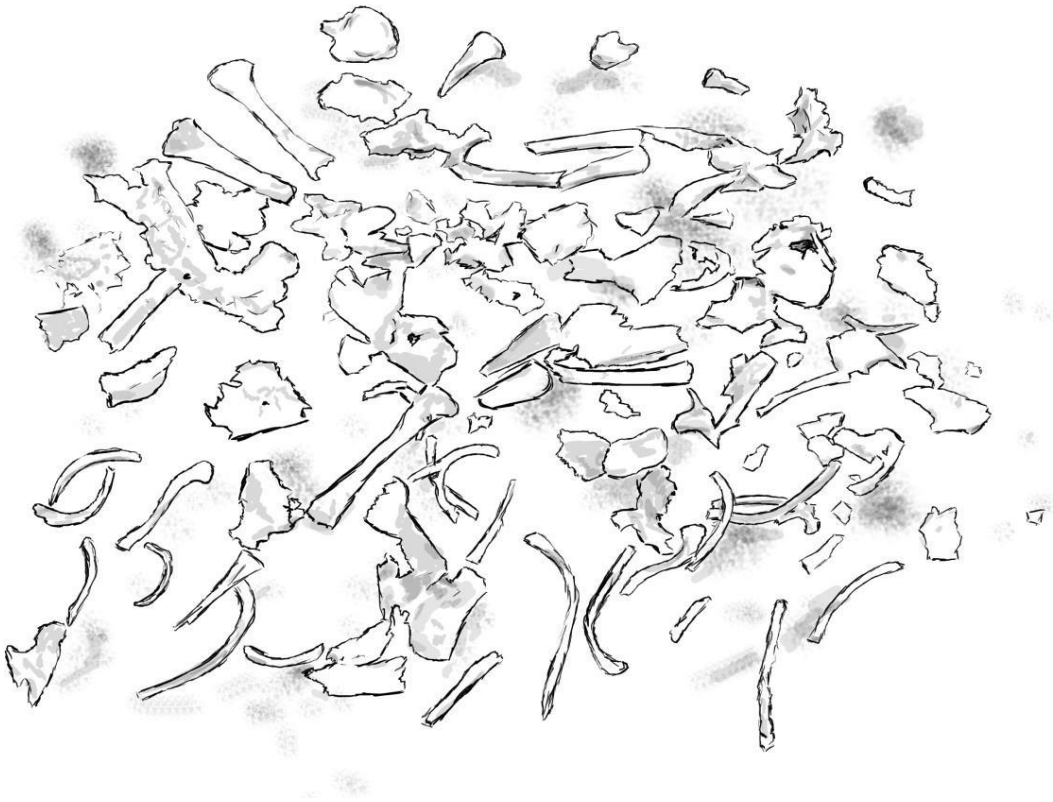
Image Three: Parkgrove 27 weeks



Bones that can be identified on Image Three include cranium (frontal and parietal), right and left mandible, femur, probable humerus, fibula, a minimum number of 7 ribs.

Image Four: Parkgrove 9 months Gestation





Bones that can be identified on Image Four include cranium (cranial vault and *pars basilaris* of occipital), mandible, clavicle, scapula, femur, humerus, tibia, fibula, possible radius, possible calcaneus (heel bone), a vertebra, a minimum number of 19 ribs.

The reproduced images above were selected on the basis that they illustrate a range of ages from a number of different crematoria where foetal and neonatal bones are clearly distinguishable post-cremation. The inference that can be drawn from this is that if remains from foetuses as young as 22 weeks *in utero* can be clearly distinguished then the bones of infants up to two years should be easily identifiable.

Metric data relating to the sizes of unburnt and burnt bones of infants aged 40 weeks to two years, which supplement the visual representations, can be found in Table Eight below. It presents metric data taken from the neonatal remains at Seafield, Warriston and Parkgrove and compares it to published reference data from neonates of approximately the same age (the full-term stillborn remains from Warriston referred to in the Table Seven are not shown in the drawings above). The original photographs on which the drawings were based were taken at different scales and so in order to take comparable measurements from them they were reproduced at the same scale using a number of different methods.

The images from Seafield and Warriston were reproduced with reference to a ruler which appeared in the original photograph of the cremated foetal remains at 22 weeks gestation from Warriston. The ruler was used to measure the fixed distances between the metal grooves visible on the cremation tray in the images of the full term remains from Seafield and Warriston and these measurements were extrapolated so that the photographs could be reproduced at a scale of 1:1. In the image of the 9 month gestation neonate from Parkgrove, the base of the coffin was used as a known measured distance (provided to me by Claire Soper) in order that the photograph could be reproduced at a scale of 1:1. It was then possible to take measurements of the identifiable bones in all the enlarged photographs using a standard ruler.

It should be emphasised, that the measurements taken from the photographs are approximate and that in some instances the position of the bones, for e.g. if they were placed at an angle or not lying flat, may have slightly reduced the accuracy of the measurement. Where obvious distortion could be seen, caused either by thermal damage (warping and cracking), or the angle of the photograph or bone, the measurement was not recorded and the corresponding data field was left blank.

With regard to the age and sex of the neonates from whom the data in Table Eight was derived, the sex of those from the crematoria and all the published reference data, except Trotter and Pearson, is unknown. The term “neonate” has been used for all of the babies as their ages were all described differently as follows; “full term stillborn” (Seafield and Warriston), “9 months gestation” (Parkgrove), 40 weeks (Fazekas and Kosa), “perinatal” (Trotter and Pearson).
Table Eight: Measurements of bones taken from rectified 1:1 scale photographs of full-term cremated neonates from Seafield (SE), Warriston (WA) and Parkgrove (PG) Crematoria, compared to published reference data of unburnt bone.

Skeletal Element	**Maximum Length (mm)**				
	WA	**SE**	**PG**	**Published Reference Data**	
Clavicle			36	44.1	(Fazekas and Kosa, 1978)
Humerus		53.5	54	64.9 65.2 (m) 61.2 (f)	(Fazekas and Kosa, 1978 (Trotter and Pearson, 1969) (Trotter and Pearson 1969)
Pelvis (iliac	35	28.5		34.5 31.5	(Fazekas and Kosa, 1978) (Appuzzio et al, 1992)
Femur	71	59		74.4 75.4 (m) 70.7 (f)	(Fazekas and Kosa, 1978) (Trotter and Pearson, 1969) (Trotter and Pearson, 1969)
Tibia	65			65.2 66.8 (m) 60.8 (f)	(Fazekas and Kosa, 1978) (Trotter and Pearson, 1969) (Trotter and Pearson, 1969)
Occipital Bone (*Pars Basilaris*)			10	13.1	(Fazekas and Kosa, 1978)
Rib*	59		56	61.6	(Fazekas and Kosa, 1978)

*6th rib selected as typical rib from Fazekas and Kosa reference data. Not possible to accurately determine middle rib numbers accurately from Parkgrove photograph therefore a typical rib (not the 1st, 2nd, 3rd, 10th, 11th or 12th) was selected.

It can be seen from the table above that the measurements of the bones from Warriston were broadly comparable with the published reference data. At Seafield and Parkgrove, however, the measurements were consistently shorter, most noticeably in the humerus and femur. These results have not been statistically analysed and the sample size is small, so it is difficult to interpret the findings. They could be a true reflection of the pre-cremation smaller size of the foetuses or they could indicate that a greater degree of shrinkage took place during cremation, at least in the remains from Seafield and Parkgrove.

Harsanyi (1993) reported that the diaphyses of long bones of infants and foetuses contracted by some 10% in length after cremation, while Muller et al. (1952) reported that even more shrinkage occurred in the youngest individuals (Smith *et al.* 2011). If shrinkage was responsible

for the shorter length of the bones at Seafield and Parkgrove it did not have a detrimental effect on the preservation of the bones in question, as they appear from the images to be in a good state of preservation, and recognisable, with

minimal fracturing caused by thermal or mechanical damage. If the explanation is a pre-cremation smaller size, it could be an indication that the foetus was small for its gestational age or it may even have died *in utero* some time before the spontaneous abortion or stillbirth occurred.

The above analyses within the context of the National Cremation Investigation provides direct, visual evidence that multiple individual skeletal elements can be recognised following cremation in individuals as young as 22 weeks. Visual evidence for the survival of skeletal remains in a cremated foetus aged 17 weeks from Seafield Crematorium was presented in my report for the Mortonhall Investigation (The City of Edinburgh Council, 2014) and reference to this was made in Lord Bonomy's recommendations (The Scottish Government, 2014; 2015). By comparing the metric data to a documented reference collection it can also be seen that in the majority of instances, if cremation is conducted carefully, there is little alteration to the size and shape of the foetal and neonatal bones.

7.3 Percentage of Bone Ash Remaining following Cremation

Experimental research has been undertaken to quantify the percentage of bone (bone ash or calcined bone) remaining in human skeletons following cremation. Trotter and Hixon (1974) studied skeletons from an early foetal period through to old age. This included 124 male and female foetuses of American Caucasoid and Negroid ancestry, which ranged in age from 16 to 44 weeks gestational age. It was possible to record the ash in even the youngest and lightest skeletons, the lightest being a white male of 16 weeks gestation which weighed 3.4 g pre- cremation. Individual percentage ash weights ranged from 58%, a white female, to 72.3% a white male (Trotter and Hixon, 1974: 13). The mean percentage ash weights showed a slight, but significant increase with age, but no statistically significant differences were found with regard to sex and ancestry (*ibid*). Trotter and Hixon found that during the foetal period, the percentage ash weight increased slightly in the total skeleton and in some bones, but there was no significant trend thereafter. In the context of this investigation, this would mean that we could expect to see the same ratio of bone ash weight to total weight of skeleton in neonates and infants up to two years of age and it follows logically then, that there would be more ash remaining from a two year old infant than there would be from a neonate.

Although Trotter and Hixon removed any soft tissue from their subjects before cremation, their results for adults were comparable to the findings in research conducted by Bass and Jantz

(2004)5 on fresh cadavers in modern crematoria. The study by Trotter and Hixon is important because it illustrates that even at 16 weeks gestational age there will be survival of calcined bones or “ashes” following cremation and that this amount will increase proportionally with age.

To further quantify the total ash mass that would be present following the cremation of neonates and infants up to two years of age, data from Tables Nine and Ten were entered into an Ash Calculator. The values shown in the Table Nine were derived from World Health Organisation statistics and are shown as medians due to the fact that their data are expressed as percentiles (World Health Organisation, 2016). The information in Table Ten was provided to me by Mr Silvano (Tom) Amato, Director at FA Albins and Sons.6

The Ash Calculator was designed in Microsoft Excel by Intertek, a UKAS accredited testing company, on behalf of the Funeral Furnishing Manufacturing Association (FFMA) to determine the exact volumes of ash created during cremations. It was designed and built based on research carried out on adults not children.Its purpose is to give an estimate of ash volume after the process of cremation. Its functionality caters for:-1) the differing styles of traditional, eco, and alternative coffins. 2) the differing sizes of adults and coffin sizes7

This work was commissioned as a result of concerns about the trend in “eco/alternative coffins” which produce more ash than a standard coffin (Crampton, 2015). It should be taken into account that there is no facility for coffins made of MDF in the Ash Calculator therefore the ash content of chipboard (1.7%) was used in the equations. This means that for neonates and infants the coffin ash mass and the total ash mass are approximate values. It should also be noted that where an infant age fell at the beginning or end of the age range given for coffin size (see Table Ten), the following weights were used in the Ash Calculator: 3 months = 0-3 month size coffin; 12 months = 3-12 month size coffin; 18 months = 12–18 month size coffin; 24 months = 18–24 month size coffin.

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5 Bass and Jantz looked only at individuals older aged older than 17 years

6 Funeral Directors who have offices in London and who also specialise in international repatriations. Mr Amato informed me that their infant coffins are generally made of MDF which is a dense material. If the coffin is made from chipboard it will be lighter (amount unspecified). If a casket it used then it will be twice the weight of a coffin even if it is made of the same material (Amato, pers comm.).

7 The calculator is lent in good faith by the FFMA and is also available through subscription via the FFMA web site.

Table Nine: Weights and Lengths of Neonates and Infants (WHO, 2016).

Age (months)	**Weight (kg)**		**Length (cm)**	
	Male	*Female*	*Male*	*Female*
0	3.3	3.2	49.9	49.1
3	6.4	5.8	61.4	59.8
6	7.9	7.3	67.6	65.7
12	9.6	8.9	75.7	74
18	10.9	10.2	82.3	80.7
24	12.2	11.5	87.8	86.4

Table Ten: Coffin Sizes and Weights (see footnote 5)

Coffin Weight (kg)	**Coffin Length**	**Age Range of Occupant**
4	61	0-3
8	76	3-12
11	91.4	12-18
13	109.7	18-24

Table Eleven: Results from Ash Calculator (presented in grammes rather than kilogrammes)

Age	Sex	Body Mass	Ash (g)	Coffin Mass	Ash (g)	Total Mass	Ash (g)	Vol Ash Produced (cu cm)
0	Male	184	68		252		230.75	
	Female	182	68		250		228.67	
3	Male	325	68		393		359.40	
	Female	305	68		373		341.68	
6	Male	405	136		541		494.89	
	Female	379	136		515		470.93	
12	Male	510	136		646		590.71	
	Female	482	136		618		565.59	
18	Male	601	187		788		721.29	
	Female	560	187		747		682.93	
24	Male	686	221		907		829.58	
	Female	659	221		880		805.45	

It can be seen from Table Eleven that in all cases the total amount of ash produced would be measurable and visible in terms of both weight and the amount of space it would occupy. The remains of a cremated six month old infant would, for example, weigh on average between 51 and 54g which for reference purposes is approximately equivalent to a pound of flour. It has also been demonstrated in Section 7.2 that the bones would still be easily recognisable even in the lowest weights.

8. The Relationship between Methods of Cremation, Survivability of Remains and Recovery of Ashes

The section below has been taken directly from the report I produced for Dame Elish and the Mortonhall Investigation (The City of Edinburgh Council, 2014). I have reproduced the text here with appropriate amendments as it equally applies to the remains of neonates and infants which should, as previously discussed, be even more evident following cremation than foetal remains.

It has been demonstrated that foetal remains of 17 weeks gestation and older can and do survive complete combustion (report produced for Mortonhall Investigation). It is also apparent from the literature and examination of the images from Seafield, Warriston and Parkgrove Crematoria that individual bones are identifiable to skeletal element from this age. If that is the case, then other explanations must be sought for the stated absence of ashes in individuals aged 40 weeks to 2 years of age. Possible explanations include:

1. The ashes have survived cremation but they have been destroyed during the recovery process or transported to the secondary chamber from where they are not recovered
2. The ashes have survived the cremation and recovery processes but human neonate or infant remains contained within them have not been identified

8.1 The ashes have survived the cremation process but they have been destroyed during the recovery process or transported to the secondary chamber from where they are not recovered

In terms of ashes being transported to the secondary chamber, details relating to this can be found in the expert report of Dr Clive T Chamberlain (The City of Edinburgh Council, 2014; The Scottish Government, 2014; 2015). The aspects of cremation which are most detrimental to neonate and infant remains appear to be the jets of air introduced into the cremation chamber and direct heat in excess of 1000° C from support burners (Dunlop, 2004). Whereas the weight of adult bones ensures that they are not carried out of the cremation chamber into the secondary combustion chamber, neonate and young infant bones are much lighter and so they may be carried through. Ashes are removed from the cremation chamber so if the lighter remains have been blown into the combustion chamber then they will not be retrievable. Clearly

a less vigorous method of cremation would be of benefit when dealing with neonate and young infant remains. Lower temperatures of around 600 to 700° C are recommended by both Dr Chamberlain and Dr Dunlop, a Medical referee at Hull Crematorium. Dunlop also recommends that "no forced air is turned on" (2004: 341) and that the coffin containing the foetus / young infant is placed in a preheated furnace in a corrugated metal tray with sides[8]. Dr Chamberlain refers to modified practices at Seafield Crematoria and trays such as those described by Dunlop can be seen in Images One and Two of this report.

In terms of the process of recovery of ashes, recovery of neonate and infant ashes is closely linked to the issue of how the remains are contained during cremation. Clearly there is going to be a better chance of recovering all the small bones if they are kept together in a small metal tray which restricts dispersal during cremation. The other area of concern is how the ashes are removed once the cremation is complete. As previously discussed bones become more brittle and fragile once the organic component has been combusted and therefore they are more susceptible to mechanical damage. Usual practice is for the ashes to be raked out of the cremation chamber once they have cooled down (Bass and Jantz, 2004; Chamberlain, 2013). This process however, is extremely detrimental to delicate neonate and infant bones which may already be fractured due to thermal damage. Further fragmentation in combination with their already small size, could lead to destruction of the bone or loss amongst any accompanying burnt material. A better means of recovery of neonatal and infant remains would be to lift them out on a small tray once it has cooled down and then retrieve the bones by hand.

8.2 The ashes have survived the cremation and recovery process but human foetal, neonatal or infant remains contained within them have not been identified

The bony parts of the neonatal and very young infant skeleton might not necessarily be recognisable as skeletal remains to the untrained eye or inexperienced member of staff. At birth there are usually approximately 450 centres of ossification; the bony "pieces" of the skeleton (White and Folkens, 2005: 47) and whilst some skeletal elements such as the long bones, cranium and ribs are relatively easy to recognise, others such as the incomplete vertebrae, the tarsal bones and any newly developed epiphyses could be confused with other burnt debris. In older infants whilst some of the centres of ossification will have started to fuse, new ones will also have appeared so there will still be a large number of individual bones present that do not yet resemble their adult form. Despite this, a significant proportion of the

8 This is standard practice at Hull Crematorium

bones will be recognisable in the older infants, they will be larger than those of the neonate and as such, even untrained staff should be able to distinguish them from coffin and other debris.

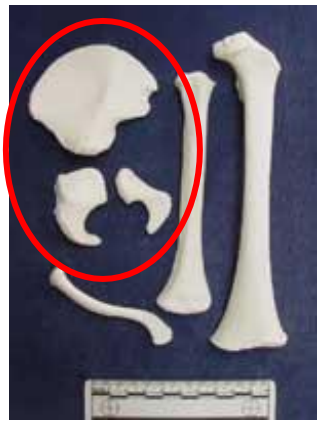
As with cremated foetal remains it may be difficult to recognise all the components of the neonatal skeleton therefore there is still a potential risk that crematoria staff might inspect the contents of the cremation chamber and wrongly conclude that there are no bones surviving. This should not happen with the infants, particularly those at the upper end of the range being considered. If there are still members of staff involved in the cremation of juveniles who have not had awareness training specifically in the appearance of cremated neonatal and infant remains, then this needs to be addressed as a matter of priority.

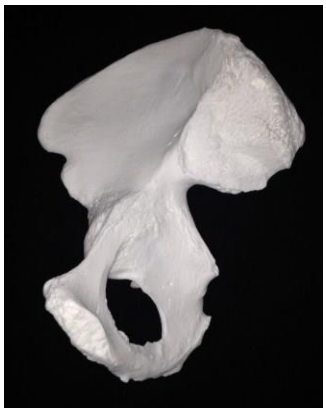
9 Distinguishing between Adult, Neonatal and Infant Remains that were Cremated Together

Section 5 describes the development of the human skeleton from ossification *in utero* to development and closure of the secondary centres of ossification. Sections 6 and 7 provide detailed information on the changes caused to the body by the cremation process and the appearance of cremated neonatal and infant bone. The information provided in these sections includes detail relating to the differences in the appearance and size of neonate, infant and adult bones. These differences are retained and still evident following cremation even if the bones become highly fragmented due to subsequent mechanical damage. Key differences are as follows:

- The cortical bone of infant and neonate remains will be far thinner than that of adults and instead of smooth joint surfaces at the ends of the bones (or fragments of) there will be undulating, unfused epiphyseal surfaces which are entirely different in appearance.
- In the infant and neonate, the major long bones such as the femur and humerus will have the same diaphyseal shape as in the adult, but they will be missing their ends, the epiphyses (for e.g. the ball part of the ball and socket joint, see Image Five).
- In the neonate and infant there will be multiple small bones, such as vertebrae and developing pelvic bones, which are still in “component parts” and as such, bear little resemblance to their adult form (See Image 5).

Image Five: a) Reference casts of bones from an infant aged 1-2 years, includes unfused bones of the right pelvis (encircled in red), humerus, femur (on right of picture) and clavicle; b) reference cast of adult right side of pelvis; fully formed and development completed; c) reference cast of adult femur, fully formed and development completed.





a) b) c)

Source of Images: a) and b) France Casting (http://www.francecasts.com), c) Bone Clones (https://boneclones.com)

It is also possible to distinguish between infant and adult teeth and in the neonate and infant there will be deciduous dentition present that will not be there in the adult. If these have erupted they may not survive the cremation process but if they are un-erupted within the jaw, they may well be preserved. If the infant is slightly older there may also be developing permanent dentition in the jaws, which will look different from erupted adult dentition which has completed its growth and development.

The differences described above can be used to determine whether infant remains have been cremated together with those of an adult, even if they have become commingled and fragmented as a result of the jets of air and direct heat in the cremation chamber. In addition to this, if more than one individual was cremated at the same time, regardless of whether they were adult or infant, there would be repeated skeletal elements, for example two right femurs or two left clavicles (or parts of). If this was the case, then it could be stated with confidence that at least two individuals had been present at the time of cremation. This could be applied to any of the identifiable bones in the skeleton, although it would not be sensible to try and count multiple bones such as ribs or vertebrae, rather than bones which are paired.

10. Conclusions

I was asked to provide information and commentary on the following for the purposes of this report:

- The skeletal development of infants aged 40 weeks to 24 months.
- The size and appearance of the remains of infants within the above age range
- The amount of ash that would be produced from the cremation of those infants
- Whether it would be possible to distinguish between adult and infant skeletal remains if they had been cremated together
- Whether it was possible that the skeletal remains of infants up to two years of age might not survive the cremation process.

The skeletal development of neonates and infants within the specified age range has been described in Section 5 and reference data has been provided on the average lengths of easily identifiable bones (Tables One to Six). Section 7 dealt specifically with the effects of cremation on neonatal and infant bones, and images of foetal and neonatal cremated remains from three crematoria, Warriston, Seafield and Parkgrove were reproduced for reference purposes. The metric data relating to these images was compared to reference standards in Table Eight.

Published standards on average weights and lengths of neonates and infants were entered into an Ash Calculator (provided to me by Claire Soper), together with data obtained from a Funeral Directoron average weights of coffins for infants of the specified ages. This enabled the approximate body ash mass, coffin ash mass and total ash mass to be calculated for neonates and infants aged 40 weeks, 3, 6, 12, 18 and 24 months (Table Eleven).

All of the above demonstrated unequivocally that the skeletal remains of infants of the specified ages would survive the cremation process and be identifiable. Clearly the older the child the easier it would be to distinguish human remains from extraneous material such as coffin debris, clothing and any personal effects. For example, the femur of a two year old child has a very distinctive form and an average length of 17.2 cm in the male and 17 cm in the female. The cremated remains of a child of that age would weigh approximately 906 grams for a male and 880 grams for a female, which is a considerable amount of material to overlook. Even in the youngest age group analysed, 40 weeks gestation, there would still be approximately 250 to 252 grams of ashes following cremation.

My previous report prepared for Dame Elish provided evidence that the skeletal remains of foetuses as young as 17 weeks can and do survive the cremation process (City of Edinburgh Council, 2014). Taking that into consideration alongside the data presented in this report, it is inconceivable that there would be nothing left of newborn babies and infants aged up to two years following cremation. The “no ashes” or “no remains” policies at the Crematoria of concern must therefore be related to issues surrounding recovery processes, the ability to recognize burnt skeletal remains, and / or individual or corporate management decisions. The same applies to the reasoning that the remains of infants and adults could not be distinguished and separated in instances where they had been cremated together.

It is my understanding that following the publication of the findings from the Mortonhall and Infant Cremation Commission Investigations, the Scottish Government produced some clear guidelines and recommendations which should, if followed, ensure that “no ashes” / “no remains” policies are no longer in place for newborn babies and infants up to the age of two years.

Appendix One:
Diagram of the Neonatal Skeleton (Adapted from Buikstra and Ubelaker, 1994)

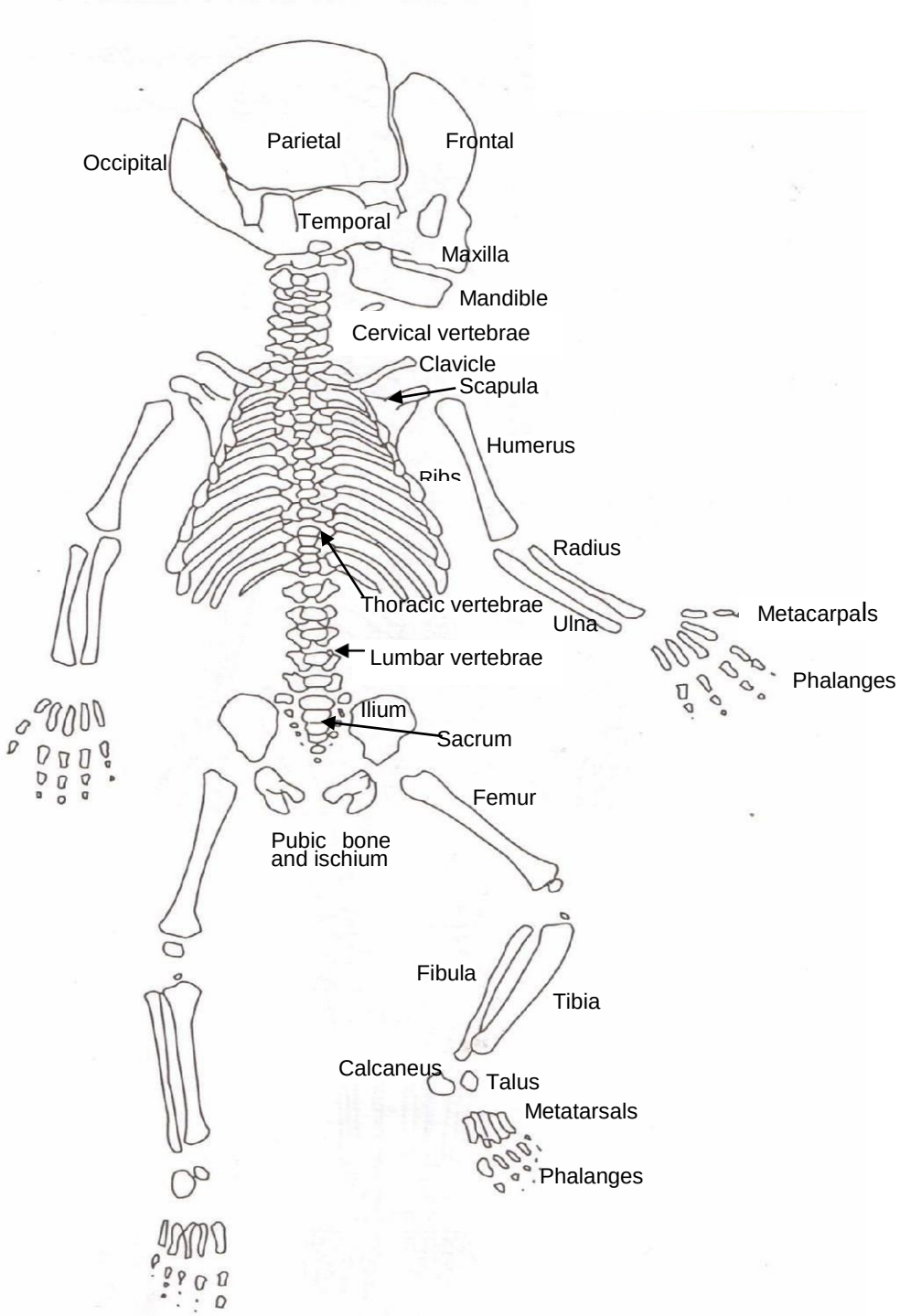
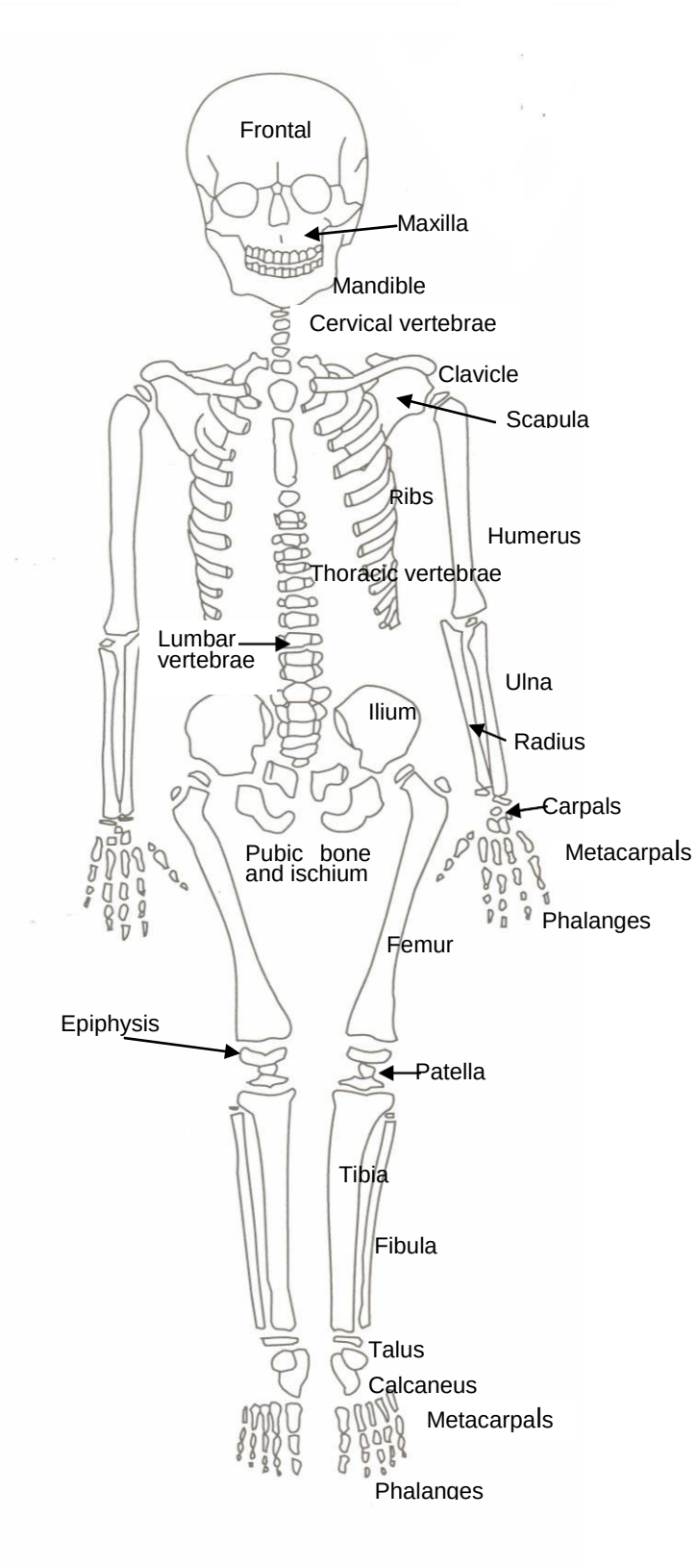


Diagram of Juvenile Skeleton (Adapted from Buikstra and Ubelaker, 1994)



Appendix Two: Glossary of Terminology

i) Terminology Relating to Age

Embryo: The first 8 weeks of intra-uterine life
Foetus: From week 9 to birth

Perinatal: Around the time of birth, from 24 weeks gestation to 7 post-natal days
Neonatal: From birth to 28 days
Infant: From birth to 1 year

Pre-term: from < 37 weeks (258 days) gestation
Full-term: from 37-42 weeks (259-293 days) gestation
Post-term: > 42 weeks (294 days) gestation
Stillbirth: Infant born after gestational period of 24 weeks who shows no signs of life

Gestational age: The number of days or weeks that have passed since the first day of mothers last menstrual period
Conceptional age: The number of days or weeks that have passed since conception i.e. fertilization of the egg.
(Scheuer and Black, 2000, Appendix 1)

Infancy: First 3 years of life (Bogin, 1999; Black and Maat, 2010)

ii)General Terminology

Articulate(s) Adjacent to and joins with, e.g. The bottom end of the femur articulates with the top end of the tibia to form the knee joint or the base of the skull articulates with the 1st cervical vertebra of the neck.

Basi-cranium The bones of the base of the skull

Body of vertebra Main part of the vertebra that constitutes the weight-bearing portion of a vertebra
Cancellous bone
/Trabecular bone Spongy, porous, lightweight bone with a honeycomb structure, found under compact bone e.g. within vertebrae, in the ends of long bones,

filling short bones and sandwiched within flat bones.The spaces in cancellous bone are filled with marrow

Chondrocytes The only cells within cartilage, they produce and maintain the cartilage matrix
Collagen chains Chains of the specific amino acids which form collagen

Collagen The major protein of the white fibers of connective tissue, cartilage, and bone

Compact bone/
Cortical bone Solid, dense bone found in the walls of bone shafts and on external bone surfaces including joint surfaces

Cranium Bones of the skull excluding the mandible (lower jaw) Deciduous dentition The first set of teeth, (milk teeth)
Dentine The calcified tissue beneath the enamel in a tooth

Diaphysis Shaft of a long bone

Enamel The calcified tissue covering the outer layer of the crown of the tooth (smooth outer layer of the tooth)

Endochondral The formation of bone within a cartilage model Epiphyseal plate Area of growing tissue at the end of the metaphysis
Epiphysis The secondary centres of ossification that fuse on to the main part of the bone

Foramen magnum Large hole at the base of the skull through which the brainstem passes and turns into the spinal cord

Hydroxyapatite The calcium containing constituent of bone and teeth

Ilium Thin bladelike section of one of the two pelvic bones, the part just above the hip socket

Intermolecular cross-links The bonds between molecules

Intramembranous The formation of bone within a membrane in the absence of a cartilage model

LMP Last Menstrual Period

Mesenchymal Referring to the mesenchyme or mesenchymal tissue

Mesenchyme Meshwork of embryonic connective tissue in the mesoderm (the middle of the three cell layers of the developing embryo) from which are formed the connective tissues of the body (including cartilage and bone) as well as blood and the lymphatic vessels

Metacarpals Long bones of the hand, between the wrist and the fingers

Metaphysis The expanded, flared ends of long bones, adjacent to the cartilage growth plate and epiphysis

Metatarsals Long bones of the mid-foot

Neural arch of vertebra The part of the vertebra which forms the arch behind the body enclosing the spinal cord in life

Occlusal cap The structure of enamel and dentine when the crown is complete prior to the formation of the root of the tooth

Ossification centre The site where bone begins to form within the membrane or cartilaginous model as a result of the accumulation of osteoblasts in the connective tissue.

- Primary the first site where bone begins to form in the shaft of a long bone or in the body of an irregular bone
- Secondary centre of bone formation appearing later than a primary centre, usually in an epiphysis

Ossification The process of bone formation

Osteoblast A cell from which bone develops; a bone-forming cell

Osteoclasts A type of bone cell which resorbs bone during bone remodelling and shaping

Pars basilaris Base part of a bone, in the occipital bone it is the thick, square projection in front of the foramen magnum

Pars lateralis Lateral part of a bone, in the occipital bone, the parts which lie either side of the foramen magnum and articulate with the temporal bones

Phalanges Finger or toe bones (see Appendix One)

Tarsals Seven irregular shaped bones which articulate together between the lower leg bones and the metatarsals to form the ankle and posterior foot (calcaneus and talus are shown in appendix one)

Appendix Three: Reference sources, measurements of Neonatal and infant bones

Fazekas and Kosa, 1978, in Scheuer and Black, 2000, pages 61, 147, 243, 250, 270, 288, 373,
393, 414.
Frontal bone, femur, humerus, tibia, clavicle, scapula, pelvis, occipital bone, rib. Reference data for neonate. The study used 138 spontaneously aborted white European foetuses. The sex of the foetuses is not stipulated, measurements were taken from dry bone. Age was taken from maternal history and it is not specified whether it was given in gestational or conceptual weeks.

Yarkoni *et al*, 1985 in Scheuer and Black, 2000 page 250
Clavicle. Reference data for neonate. Measurements taken from ultrasound scans

Trotter and Peterson, 1969 In Scheuer and Black, 2000, pages 288, 394, 415
Femur, humerus, tibia. Reference data for perinate

Apuzzio et al., 1992 in Scheuer and Black, 2000 page 373 Pelvis. Reference data for neonate taken from ultrasound scans.

Gindhart 1973 in Scheuer and Black, 2000, page 415
Tibia. Reference data for infants aged 3 to 24 months. Males and females, diaphyseal length only, measurements taken from radiographs

Hrdlicka, 1942 in in Scheuer and Black, 2000, page 271 Scapula. Reference data for neonate

Maresh, 1970 in Scheuer and Black, 2000, pages 289, 394
Femur, humerus, tibia. Reference data for infants aged 3 to 24 months. Measurements taken from bone, diaphyseal length only, males and females

Young 1957 in Scheuer and Black, 2000, page 108
Frontal Bone. Reference data for infants aged 3 to 24 months (excluding 18 months)

Black and Scheuer, 1996, in Scheuer and Black, 2000, page 252
Clavicle. Reference data for infants aged 3 to 24 months. Sex and sample size not stipulated. Ages are given in ranges of 6 month intervals, e.g. birth to 6 months, 7 months to 1 year, 1 year

to 1.5 years rather than single value ages. In order that the data could be used in this report, the bottom value in the range was cited

Saunders, 1993 in Scheuer and Black, 2000, page 271
Scapula. Reference data for infants aged 6 to 24 months (excluding 18 months). The same method was applied to data as described above (with ref to Scheuer and Black 1996) as these data were also given in ranges

Vallois, 1946 in Scheuer and Black, 2000, page 271 Scapula. Reference data for neonate and 24 month infant

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