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Evaluation of the Universal Health Visiting Pathway in Scotland Phase 1 Report - Routine Data Analysis - Implementation and Delivery

CHILDREN, EDUCATION AND SKILLS

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Evaluation of the Universal Health Visiting Pathway in Scotland

Phase 1 Report – Routine Data Analysis – Implementation and Delivery

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Additional Reports:

- Phase 1 Report – Primary Research with Health Visitors and Parents and Case Note Review (published)
- Phase 1 Report – Routine Data Analysis – Workforce (published)
- Phase 1 Report – Routine Data Analysis – Outcomes (published)

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Executive Summary

This report examined how the Universal Health Visiting Pathway (UHVP) has been implemented in Scotland and how the various elements of the pathway have been delivered. It concludes that since the UHVP was introduced, coverage has increased, and is largely equitable across socio-economic groups. In terms of review context, the majority of child health reviews are carried out in the child's home, and by a qualified health visitor following the guidance set out by Scottish Government. The number of reviews undertaken in the home has also been increasing with highest rates of in-home reviews seen in the most recent years examined by the report. However, for both coverage and context, while the majority of reviews are delivered as set out in the UHVP, some children are still being missed or their reviews delivered out with the home or by other healthcare professionals.

The report also evidenced that the use of the Ages and Stages Questionnaire (ASQ) – the validated tool recommended to assess development during the reviews - has increased. Additionally, changes to the home visiting schedule to include additional child health reviews has demonstrated that these reviews are identifying new concerns for children without previous concerns flagged.

Introduction

The early years of life have a profound impact on an individual's long-term health and wellbeing. Children's emotional, cognitive, linguistic, social and physical development, including the bond they form with parents, can significantly affect their future health and wellbeing as adults.[1] Investing in early years therefore creates opportunities for the future lives of children.[2]

In 2013, the Chief Nursing Officer's Directorate, Scottish Government, undertook a scoping exercise of health visiting practice in Scotland. The findings demonstrated that there was a significant degree of variation across the service in terms of assessment, resources and visiting patterns being delivered by health visitors to families in Scotland. A refocused approach to health visiting was published by the Scottish Government in 2013. The changes took into account the changing policy landscape relating to the early years and children and families, and sought to ensure that workforce capability and capacity would be equipped to successfully deliver these policies. Following substantial investment in the service, the Universal Health Visiting Pathway (UHVP) was introduced in 2015.[3]

The Universal Health Visiting Pathway

The UHVP refocuses the role of the health visitor and includes changes to caseload weighting and management; intervention delivery; education, training and resources; and visiting patterns. The UHVP sets out a structured home visit programme for all families,[3] which includes an increased number of visits from what was previously delivered. All families are entitled to receive at least eleven routine visits from health visitors, eight within the first year of life and three child health reviews between 13 months and 4-5 years. Additional support is also provided according to the level of need in line with a proportionate universalism approach, where the service is provided to all families, but more of the service is provided to those with a greater need. The home visits begin from pre-birth until the child is five years old (or enters school).

The Evaluation of Health Visiting in Scotland

Following the review of health visiting and introduction of the health visiting pathway an evaluation of the service was commissioned by the Scottish Government in 2018. This evaluation of the Universal Health Visiting Pathway will be conducted in two phases. Phase 1 commenced in 2018 and will provide baseline outcomes data and early learning in regard to the processes of implementing the Health Visiting Pathway. Phase 2 will provide evidence in regard to the outcomes that health visiting is contributing towards and to provide further information for the development of the processes health visitors use. The evaluation is comprised of five key components:

- Review of the health visiting logic model and associated desired outcomes[i]
- Analysis of the routine data collected as part of the health visiting role
- Survey of parents and health visitors
- Case note review

[i] The revised logic model with desired outcomes is detailed in appendix 2 of the report - Phase 1 Report – Primary Research with Health Visitors and Parents and Case Note Review Universal Health Visiting Pathway evaluation - phase 1: main report - primary research with health visitors and parents and case note review - (www.gov.scot)

- Qualitative research with parents, health visitors and stakeholders

Aims of the evaluation

The aim of this study is to examine the extent to which the UHVP is implemented and delivered across Scotland and to assess any associated impacts. To achieve this, a robust mixed-methods realist evaluation proposal has been developed to understand 'what works for whom, why and in what circumstances'.

The key aims of the evaluation are:

1. to examine what elements of the UHVP are being implemented in which areas, when and how.

2. to determine the extent to which the UHVP is implemented and delivered across Scotland and assess any associated impacts over the longer term.

3. to identify and explain to what extent recommendations to fill gaps in the UHVP are delivered and their impacts on services, staff and children and families.

Reporting of the evaluation

The following four reports have been produced as part of the Phase 1 evaluation:

- Phase 1 Report – Primary Research with Health Visitors and Parents and Case Note Review (Published)
- Phase 1 Report – Routine Data Analysis – Workforce (Published)
- Phase 1 Report – Routine Data Analysis – Outcomes (Published)
- Phase 1 Report – Routine Data Analysis – Implementation and Delivery (this report)

Analysis of the routine data

As a key part of their role health visitors are required to routinely collect data about the families and children they visit over the course of the first five years of the child's life. The routine data gathered provides an invaluable source of evidence about children in their earliest years in Scotland.

At present, national data is collected at the four formal assessment points via the Child Health Surveillance Programme (CHSP);[ii] however, the only record of any further visits is within the clinical notes completed by the health visitor. Data for the 6-8 week and 27-30 months assessments have been collected since 2013, and data for the 13-15 month and pre-school assessments have been more recently added.

[ii] The CHSP Pre-School system supports the delivery of the child health programme by facilitating the automated call and recall of children for the agreed schedule of child health reviews for pre-school children. Child health reviews incorporate assessment of children's health, development, and wider wellbeing alongside provision of health promotion advice and parenting support. The CHSP Pre-School system also allows consistent recording of the findings and outcomes of child health reviews. Child Health | Child Health Programme | Child Health Systems Programme Pre-School (CHSP Pre-School) | Health Topics | ISD Scotland

Alongside the CHSP data, other data sources, such as workforce data, are collected by health boards to monitor the health visiting workforce employed to deliver the Universal Health Visiting Pathway. Data collected in educational settings and by social work services in Scotland were also considered as part of this evaluation. The statistical analysis plan for the routine data process evaluation analysis was published in 2020.[4]

Implementation and delivery - Routine Data Analysis

This report presents the findings of the analysis of data relating to the implementation and delivery of the Universal Health Visiting Pathway in Scotland. It examines the timing of the delivery of the child health reviews, changes to health plan indicator allocation and identification of developmental concerns. In addition, routine data are also used to explore the extent to which the guidance set out in the Universal Health Visiting Pathway has been implemented; this includes:

- all child health reviews being delivered by a qualified health visitor, and
- taking place in the child's home, as well as
- the use of the Ages and Stages Questionnaire (ASQ 3) in developmental assessments.

Research questions

The full research context is set out in Phase 1 Report - Primary Research with Health Visitors and Parents and Case Note Review. The specific intended outcomes of the UHVP have also been set out in a programme logic model found in the above-mentioned report. In this report, the following specific research questions are addressed:

- What is the extent to which the universal child health review elements of the pathway are being delivered, the equity of these contacts, and the extent to which this varies by health board?
- What is the extent to which child and family needs are being identified in a timely manner?

Methods

Child health reviews

The Universal Health Visiting Pathway home visit schedule offers eleven home visits to all families in Scotland, eight of which occur in the first year of life. This report focuses on the implementation and delivery of the five visits that include universally offered formal child health reviews (CHRs), where nationally collected data are available from the Child Health Surveillance Programme (CHSP). Health boards introduced reviews at different times; see Supplementary Table 1 in the Appendix for more information regarding which year each review was introduced in each health board.

First visit

This review should be delivered when the baby is 11-14 days old. However, it may be delayed (for example, for if a child is in neonatal care) and therefore some late reviews will be expected. The review is longstanding; data for this report have been provided from 1 January 2011 onwards.

6-8 week visit

This review should be provided by the time the baby has reached 12 weeks. However, note that this review is subject to gestational correction (i.e. children born prematurely – at less than 37 weeks gestation – are scheduled for review by their due date rather than their actual date of birth). Again, this review is longstanding and data for this report have been provided from 1 January 2011 onwards.

13-15 month review

This review should be delivered by the time the child is aged 18 months, although it is also subject to gestational correction (see above). The review should have been provided by health boards from 1 April 2017 (i.e. for children born from 1 April 2016 onwards); in practice, some health boards have implemented this review later than anticipated (i.e. after 1 April 2017). (See Supplementary Table 1 for information on when reviews were introduced in health boards.)

27-30 month review

This review should be provided by the time the child is aged 32 months (gestational correction is not required for this review). The review has been provided from 1 April 2013 (i.e. for children born from 1 January 2011 onwards).

4-5 year review

This review should be delivered after the child's 4th birthday and before the child starts school (thus maximum age of child at review is 5.5 years). The review is not subject to gestational correction. Health board implementation of this review varied: whilst all children aged 4-5 years from April 2020 onwards (i.e. for children born from April 2016 onwards) should have received this review; in practice, some health boards implemented this review as early as April 2017 and other boards implemented it in 2020 (see Supplementary Table 1).

Data

Years of available data

In this report, nationally available data relating to the provision of child health reviews for the period from 1 January 2011 to 31 March 2019 have been used. January 2011 was selected as the start date of the evaluation, because children born in that month were the first group eligible to receive the 27-30 month contacts in April 2013.

Data sources

The source for all child health data included in this report is the Child Health Surveillance Programme – Pre-School (CHSP-PS); data were extracted in May 2020, from Public Health Scotland. The source for live births is the National Records of Scotland (NRS)[5] data for live birth statutory registrations were also extracted in May 2020 from NRS.[5]

Aggregate data have been used throughout this Phase 1 Process evaluation report. The birth data from NRS and the child health review data have not been linked, but have been compared for context and comparison

There are a number of limitations associated with this approach. For example, in the review coverage analyses, children who moved to Scotland after birth can subsequently appear in the numerator (i.e. 'number of children born in month X with a subsequent record of a review'), but are excluded from the denominator (i.e. 'number of live births in month X'); children who died or moved out of Scotland are not removed from the denominator; and children are assumed to remain in their birth board of residence until the date of their review. For example, a child living in Grampian at the time of their 27-30 month review is assumed to have been born in Grampian, and hence contributes to the birth cohort review coverage for Grampian. However, it is probable that these numerator/denominator mismatches balance out, and the estimates generated using an unlinked approach are likely to be reasonable.

The number of live births in specified quarters was taken from the National Records of Scotland (NRS) live birth registrations and was based on the date of birth, not the date of registration.

For analyses relating to the numbers of each review recorded and the coverage of each review, data are available for the whole of Scotland and for individual health boards; data are also stratified according to Scottish Index of Multiple Deprivation (SIMD) quintiles, based on the child's home postcode. For the 27-30 month review and the 4-5 year review, coverage will refer to the tables published by Public Health Scotland (PHS), which are based in the year in which the review was conducted and the residence of the child at that time. This is because by 27-30 months and 4-5 years, a substantial proportion of children had moved home, and this was not evenly distributed across the SIMD quintiles i.e. more children from the least deprived group moved than children in the most deprived group, which made the analysis based on birth cohorts of children inaccurate when findings were explored by SIMD group at these stages. Earlier reviews did not appear to be affected in the same way as families were largely residentially stable.

In order to try to align the live birth data (from NRS) with the child health data (without the data sets being linked) for the birth cohort analyses (i.e. the figures where the x-axis is

'month in which babies or children born') in a specific month, for the 13-15 month, 27-30 month, and 4-5 year reviews, the postcode at birth was used to derive the NHS health board of residence wherever possible. However, if this postcode was missing, then the postcode on the CHI in the quarter following birth was used instead, if available. This was not done for the first visit and the 6-8 week visit, as these take place so close to birth. For these first two visits, the postcode at the review was used first, and if this was missing, then the postcode at birth or postcode on CHI in the quarter following birth has been used.

For all the cross-sectional analyses (i.e. figures where the x-axis is 'number of reviews in a month or year'), the postcode at review has been used to derive the NHS health board of residence; if this is not available, the postcode on CHI is used for the later three reviews or the postcode at birth for the first two visits.

Child health surveillance review records

Child Health Surveillance Programme – Pre-School (CHSP-PS) national data have been used to explore delivery of each of the five universal child health reviews (see above) where national child surveillance data are collected. The CHSP-PS national information system supports delivery of child health reviews and some screening contacts for pre-school children. The system works by facilitating the invitation of children for reviews/contacts as they reach the appropriate age, and recording and reporting the outcomes of reviews/contacts.

Generally speaking, when a child is due for a child health review, the CHSP-PS system sends an invitation to the family and sends the appropriate review form to the relevant health professional (e.g. health visitor). In some instances, the health visiting team will arrange the appointment locally with the family. During the child's review, the health professional completes the form, which then provides a summary record of their discussion with the family as well as findings and actions required. A copy of the completed review form is returned to the relevant NHS health board's child health department, where administrative staff then key the information provided into the child's electronic CHSP-PS record. Any issues listed on the form are also "Read coded" at this stage. This allows any problems to be followed up and further reviews scheduled, if necessary.

Quarterly extracts are taken from the CHSP-PS system (in February, May, August, and November) and data transferred to the Information Services Division (ISD)[6] for statistical analysis purposes until March 2020; data are now transferred to Public Health Scotland.

These data provide information on the extent to which the child health review elements of the programme have been implemented within each health board by:

- month and year
- reach of these contacts (including in terms of inequalities)
- information about delivery (e.g. which professionals are delivering contacts, where these take place, whether agreed developmental assessment tools are used as part of reviews).

In addition, data are recorded on the Health Plan Indicator (HPI) for each child (indicating level of ongoing need, see below), any concerns identified for the child or family (in

particular, concerns about the child's development at 6-8 weeks, 13-15 months, 27-30 months, and 4-5 years), as well as plans for future support.

Descriptive statistical analyses

The analyses included in this report are all descriptive, with data presented graphically in the form of line graphs and bar charts, as most appropriate.

Coverage of child health reviews

In this section, coverage of each of the five formal child health reviews is examined from two perspectives:

1. the number of reviews provided by practitioners each month for Scotland; and

2. the percentage of children born in Scotland in each month who have been recorded as having received a review.

A strong emphasis exists throughout the UHVP policy documentation about the provision of services consistently to *all* families, together with an aim to reduce inequalities through early and appropriate intervention.[3] These data are therefore explored separately by SIMD quintile. This enables assessment of the extent to which children from different deprivation groups are receiving the UHVP. The absolute difference in coverage that is, the coverage for children living in least deprived areas (SIMD 5) compared with the coverage for children living in most deprived areas (SIMD 1)) are calculated. The relative differences (coverage in SIMD 5 / coverage in SIMD 1) are also calculated, where appropriate.

Context of reviews

Key elements of the UHVP guidance states that the reviews should primarily take place in the family home, and be delivered by qualified health visitors.[3.] This section of the process evaluation report explores the percentage of reviews that were undertaken in the child's home and delivered by a qualified health visitor.

Developmental assessment of children

A key aspect of the UHVP is the promotion of strong early child development (particularly social/emotional and language/cognitive development) within the family context.[3] The universal approach to child development within the health visiting pathway includes routine development assessments using validated tools, at fixed time points for all children.

The UHVP specifies that the ASQ should be completed for all children as part of their 13-15 month, 27-30 month, and 4-5 year reviews (or at least that their parents should be offered the opportunity to complete it). Other validated measures of specific aspects of children's development may also be used as clinically indicated, and the guidance provides a list of approved measures and tools. Prior to the implementation of the UHVP, a variety of assessment tools were used across the Health Boards from an as part of the 27-30 month review. Therefore prior to 2016, data collected in relation to developmental concerns at the 27-30 months review was collated using a variety of assessment tools.

The extent to which ASQs (and other measures) have been used in the 13-15 month, 27-30 month, and 4-5 year developmental assessments is examined in this section.

To ensure that needs are being detected early, and children and families who require it receive additional timely and proportionate support, the HPI (health plan indicator, see below) allocated to a child, together with developmental concerns detected, are explored in Phase 1 of this evaluation. In addition, the levels of new developmental concerns raised are investigated at the relevant review points.

Health Plan Indicator (HPI)

The Health Plan Indicator was created in 2005, prior to the UHVP implementation, and at the 6-8 week review the health visitor would allocate the child a status to indicate whether the family required more frequent health visitor input, or no health visitor input, unless requested by the family. The HPI status was recorded on the CHSP-PS system. However, by 2010 concerns were raised that HPI allocation at 6-8 weeks was not being used effectively in identifying children with future difficulties, for example, that HPI was not being reassigned based on need on a continuous basis. This led to some children who later experienced developmental delay (for example, speech and language delay) not coming to the attention of health services in a timely manner to receive appropriate support.[7.]

In 2015, in the outline of the Universal Health Visiting Pathway,[3] the HPI definition was redefined to include an emphasis on wider family health:

> An additional HPI indicates that the child (and/or their carer) requires sustained (>3 months) additional input from professional services to help the child attain their health or development potential. Any services may be required such as additional HV support, parenting support, enhanced early learning and childcare, specialist medical input, etc.

At the end of each child health review, an updated HPI is requested. Until February 2016, there were three available HPI categories, plus ‘unknown’:

- ‘core’,
- ‘additional’ (see definiton in the paragraph immediately above),
- ‘intensive’ indicating the need for interagency input, and
- ‘unknown’, before the health visitor has had an adequate opportunity to assign an HPI.

From March 2016 it was recognised that both intensive and additional were actually definitions of situations in which a family had an additional need, so the categorisation was simplified to ensure that all additional needs were considered in a more holistic way when identifying any support needs of a family.

Results

The results are organised into sections that build on each other to present an overarching view of the Child Health Review Data. First, the number of births occurring each month between 1 January 2011 and 31 March 2019 are presented (in Figure 1), and the distribution of births over the eight financial years, stratified by SIMD quintiles, are explored (in Figure 2). Delivery of the reviews is evaluated in two ways: first, the raw number of reviews delivered each month and, second, the review coverage (which is the percentage of children born in a specified month who have received the relevant review). In Figures 3 and 4 below, delivery is summarized for all five reviews.

Second, each review is investigated individually, in greater depth: that is, the number of reviews delivered, the overall coverage of the review, the coverage stratified by SIMD quintile, and the difference (absolute and relative) between children living in the most and least deprived areas (SIMD 1 and SIMD 5 respectively).

The context of each review is also examined: this includes the location of the review and the practitioners involved in the review.

Finally, the developmental assessment of the children is investigated: the developmental tools used in the later reviews (13-15 month review onwards); the Health Plan Indicator (HPI) allocated at end of each review; and any developmental concern raised for the final four reviews.

Births

Data on the number of live births recorded each month, from 1 January 2011 to 31 March 2019, in Figure 1, shows that there is an annual trough in February, the shortest month of the year, and annual peaks in the summer months. Over the eight-year period, the average number of births per month decreased: between 1 January 2011 and 28 February 2013, the mean number of live births per month was 4,830; between 1 March 2013 and 28 February 2016, the mean number of live births per month had dropped to 4,645; and between 1 March 2016 and 31 March 2019, it had dropped further to 4,390. This pattern should be borne in mind when examining all the graphs of the number of reviews delivered.

When births are explored by SIMD quintile (Figure 2), differences in the number of births in each quintile can be observed. There are 67% more births in the SIMD 1 (most deprived) quintile (n = 15,239) compared with SIMD 5 (least deprived, n = 9,132) in the financial year 2011/12, and 44% more in SIMD 1 than SIMD 5 in 2018/19 (n = 12,434 and 8,625 respectively). The annual numbers of births in the other quintiles lie between these two extremes, with number of births decreasing as affluence increases; in the least deprived quintile, however, there is an increase in births between March 2014 and March 2015, after which births decrease again. The decrease in annual births over the course of the period is most apparent in the three quintiles in the more deprived areas.

Figure 1 Distribution of live births in Scotland each month, from January 2011 to March 2019

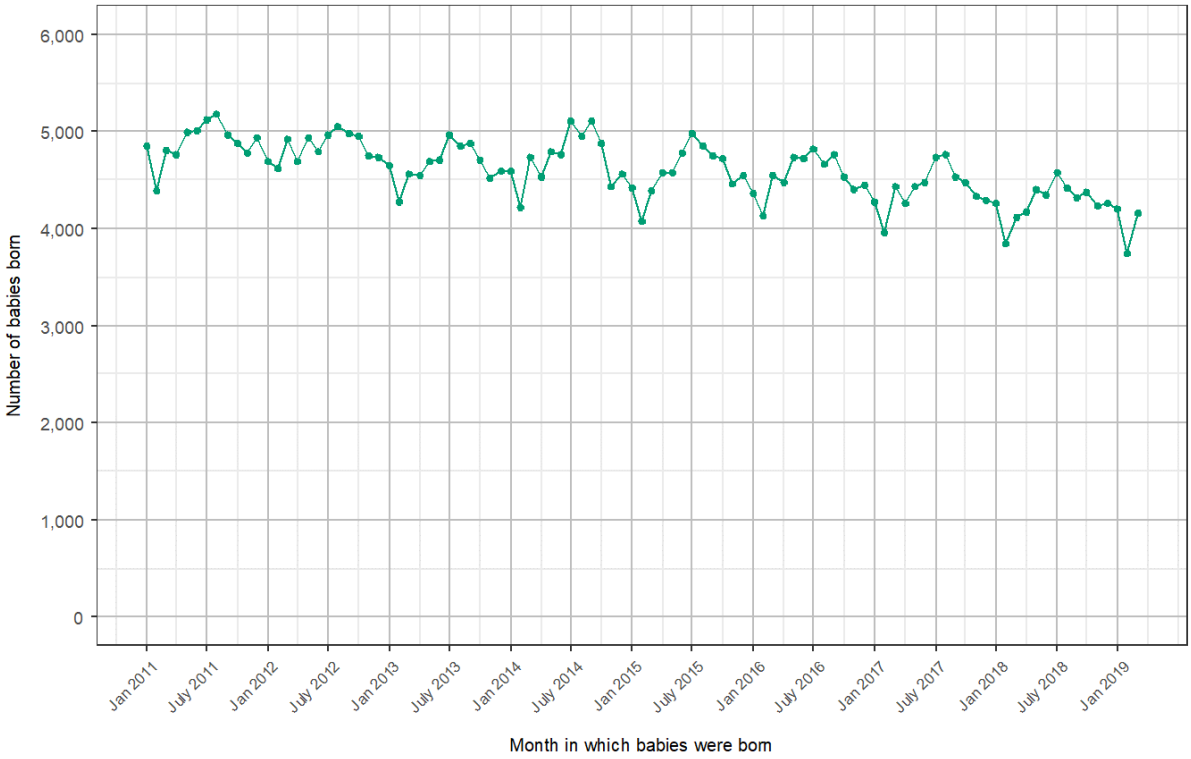
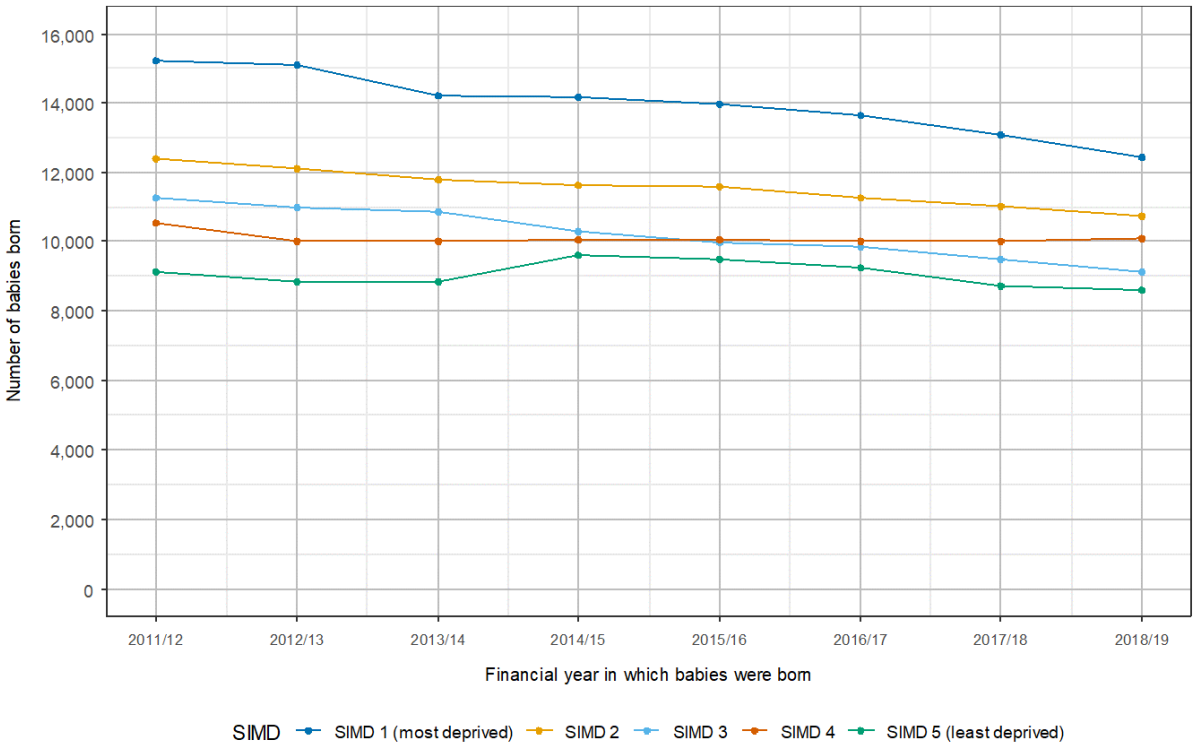


Figure 2 Distribution of live births in Scotland from financial year 2011/12 to 2018/19, stratified by SIMD quintile



Child health review coverage

The numbers of the different child health reviews delivered each month, between 1 January 2011 and 31 March 2019, are presented in Figure 3. The mean number of first visits and 6-8 week visits provided each month over this period are 4,509 and 4,300 respectively. The 13-15 month visit was introduced in April 2017, and mean number of visits after that date was 2,635 per month. The 27-30 month review began on 1 April 2013: a monthly average of 4,157 reviews have been delivered between then and 31 March 2019. The 4-5 year review was introduced early by certain health boards, although it was intended to begin on 1 April 2020. Between 1 April 2017 and 31 March 2019 an average of 1,094 reviews were delivered each month.

Figure 4 displays the coverage for each review (that is, the percentages of children born in a specific month for whom a relevant review has been recorded), for babies born between 1 January 2011 and 31 March 2019. Over this entire period, an average of 98.1% of babies received a first visit and 93.0% the 6-8 week visit. Of babies born between 1 May 2016 and 31 December 2018 (babies born later will not have had their visit recorded on CHSP-PS by the time of the May 2020 extraction), 74.0% received a 13-15 month review. Similarly, of babies born between 1 January 2011 and 31 July 2017, 91.0% have a 27-30 month review recorded. Mean coverage of the 4-5 year review is very low at 35.6% for children born between 1 April 2013 and 31 March 2016, but this review was intended to start with babies born on or after 1 April 2016 therefore the data presented indicate early implementation of this review.

The number of each of the child health reviews provided in each financial year is displayed in Table 1. In the financial year 2017/18, the number of 13-15 month reviews recorded was 25,182; these reviews were delivered to children born between 1 October 2015 and 28 February 2017. In contrast, the number of reviews recorded for each birth cohort are displayed in Table 2. In 2017/18, there were 52,494 live births, 38,544 of whom were recorded as having received a 13-15 month review.

Number of reviews, review coverage and coverage by SIMD are explored in greater depth for each individual CHR below.

Figure 3 Total number of child health reviews that were provided each month in Scotland, from January 2011 to March 2019

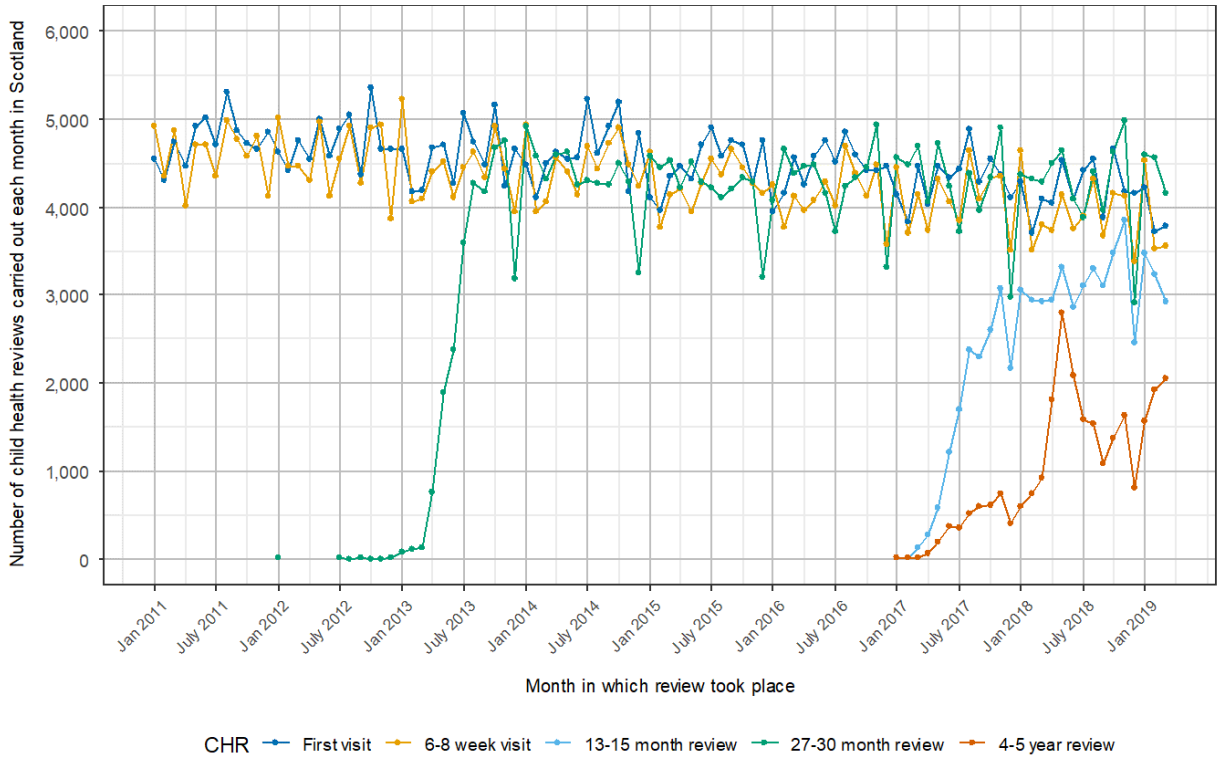
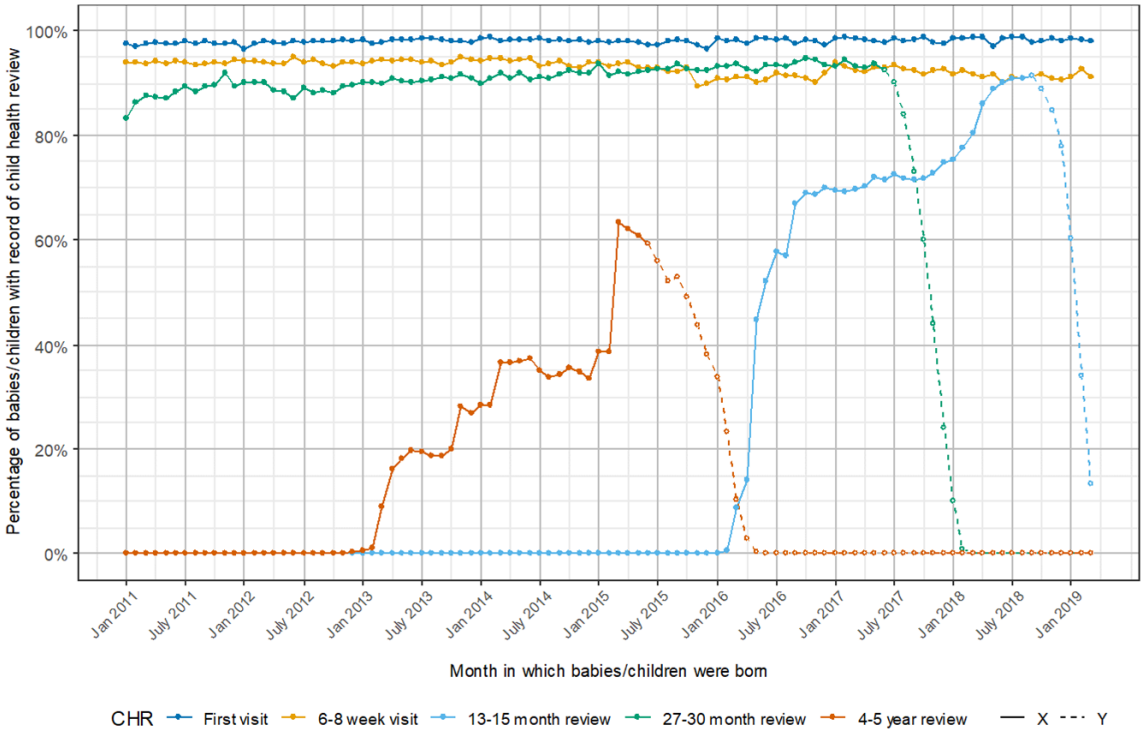


Figure 4 Child health review coverage in Scotland, for birth cohorts from January 2011 to March 2019



X All members of birth cohort were eligible for review to have been delivered by December 2019
Y Dashed lines represent data that are likely to be incomplete because not all children will have received that review yet, due to their age (i.e. they were not old enough to have received that review at the time of data extraction in May 2020).

Notes to Figure 1-4

1. Overall coverage equals the number of children born in month with subsequent record of a health visitor first visit on CHSP-PS (by May 2020) divided by the number of children born in month eligible for review.

2. The **first visit** should be delivered by the time the baby is 14 days old. However, in certain instances, it may be delayed; for example, for sick children in neonatal care. Thus some 'late' reviews will be expected (and are clinically appropriate). The review is deliverable from January 2011 and should therefore be delivered to all children born from January 2011 onwards.

3. The **6-8 week review** should be provided before the child reaches 12 weeks. However, gestational correction is required when scheduling reviews for children aged up to 24 months. Thus children born prematurely (at <37 completed weeks gestation) are scheduled for the 6-8 week review by their due date rather than their actual date of birth. Some 'late' reviews will therefore be due to appropriately delayed provision of reviews for preterm babies. The review is deliverable from January 2011 and should therefore be delivered to all children born from January 2011 onwards.

4. The **13-15 month review** should be provided before the child reaches 18 months. Gestational correction is required when scheduling reviews for children aged up to 24 months, and thus children born prematurely (at <37 completed weeks gestation) are scheduled for the 13-15 month review by their due date rather than their actual date of birth. Some 'late' reviews will therefore be due to appropriately delayed provision of reviews for preterm babies. The review

is deliverable from April 2017 and should therefore be delivered to all children born from April 2016 onwards. Note some babies born after June 2018 may have had this review after the data-extraction date, and therefore their data may not be included in this figure (dashed line).

5. The **27-30 month review** should be provided before the child reaches 32 months. The review is deliverable from April 2013 and should therefore be delivered to all children born from January 2011 onwards. However, some babies born after April 2017 may have had this review after the data-extraction date, and therefore their data may not be included in this figure (dashed line).

6. The **4-5 year review** should be provided before the child reaches 5.5 years. It was intended that the review would be deliverable from April 2020, when the first children who had been fully exposed to the UHVP were of an age to receive the review. Despite full implementation of the UHVP being delayed in most health boards, conversely the 4-5 year review was introduced early in some health boards. In the financial year 2017/18, more than 6,000 reviews are recorded and more than 20,200 are recorded in the following year. This report is based on data extracted in May 2020 (and therefore the 4-5 year review would not have been included in this report, had it not been provided early). The dashed line represents data that are likely to be incomplete because not all children will have received the review at the time of data extraction (May 2020), due to their age.

Source for Figures 1-4
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Table 1 Number of child health reviews provided in each financial year, from 2011/12 to 2018/19

Financial year	First visit	6-8 week visit	13-15 month review	27-30 month review	4-5 year review
2011/12	57,324	55,001	0	0	0
2012/13	56,101	54,236	0	296	0
2013/14	55,067	52,663	0	43,467	0
2014/15	55,132	53,130	0	51,911	0
2015/16	54,126	51,039	0	50,493	0
2016/17	53,302	49,887	125	51,809	19
2017/18	51,541	48,850	25,182	50,260	6,043
2018/19	50,216	46,758	38,048	51,357	20,220

Note

This table presents the number of each CHR delivered in each financial year, i.e. 1 April to 31 March in the following year.
13-15 month review was to be introduced by April 2017, however, some health boards delayed implementing the review
27-30 month review was to be introduced by April 2013
4-5 year review was to be introduced by April 2020

Source:
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Table 2 Number of child health reviews delivered to children born in each financial year, from 2011/12 to 2018/19

Financial year	Number of live births in year	First visits delivered to children born in this year		6-8 week visits delivered to children born in this year		13-15 month reviews delivered to children born in this year		27-30 month reviews delivered to children born in this year		4-5 year reviews delivered to children born in this year	
		n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
2011/12	58,817	57,424	97.6%	55,284	94.0%	0	0%	52,510	89.3%	3	0%
2012/13	57,296	56,123	98.0%	53,867	94.0%	0	0%	50,942	88.9%	548	1.0%
2013/14	55,953	55,005	98.3%	52,795	94.4%	0	0%	50,801	90.8%	12,994	23.2%
2014/15	55,983	54,975	98.2%	52,512	93.8%	0	0%	51,353	91.7%	21,286	38.0%
2015/16	55,258	54,045	97.8%	50,768	91.9%	428	0.8%	51,269	92.8%	25,170	45.5%
2016/17	54,201	53,244	98.2%	49,653	91.6%	31,901	58.9%	50,710	93.6%	141	0.3%
2017/18	52,494	51,594	98.3%	48,542	92.5%	38,544	73.4%	29,900	57.0%	0	0%
2018/19	51,201	50,311	98.3%	46,694	91.2%	38,704	75.6%	1	0%	0	0%

Note

This table presents the number of live births in each financial year, and the number of child health reviews subsequently delivered to these children. For example, in the financial year 2011/12, there were 58,817 live births recorded; 57,424 of these babies received a first visit, 55,284 a 6-8 week visit, and 52,510 a 27-30 month review.

The first visit and 6-8 week reviews are long-standing reviews; these reviews could be recorded for all children born in the financial years under consideration.

The 27-30 month review was introduced in 2013, and was thus available for children born from 1 April 2011. However, the data extract used in this report was May 2020, and therefore not all reviews for children born from 2017/18 and 2018/19 had taken place or been recorded on CHSP-PS by then.

First visit

Reviews provided each month

Over the course of 8.25 years, almost 446,400 first visits were recorded, averaging just over 4,500 visits per month (Figure 5). Some fluctuation is apparent, and there is a slight downward trend over the course of the period: the monthly average for the first two years (January 2011 to February 2013) is about 4,725 reviews, then 4,550 reviews per month (March 2013 to February 2016), and 4,310 reviews per month (March 2016 to March 2019). However, this downward trend can be seen to mirror the number of live births each month (Figure 1).

Overall coverage

Mean coverage for this review over the time period is 98.1%. Although Figure 6 shows some months have lower coverage, this never drops below 96%. Since this usually falls for births in December or January, it is probably attributable to staff holidays over the festive period.

Figure 5 Number of first visits that were provided each month in Scotland, from January 2011 to March 2019

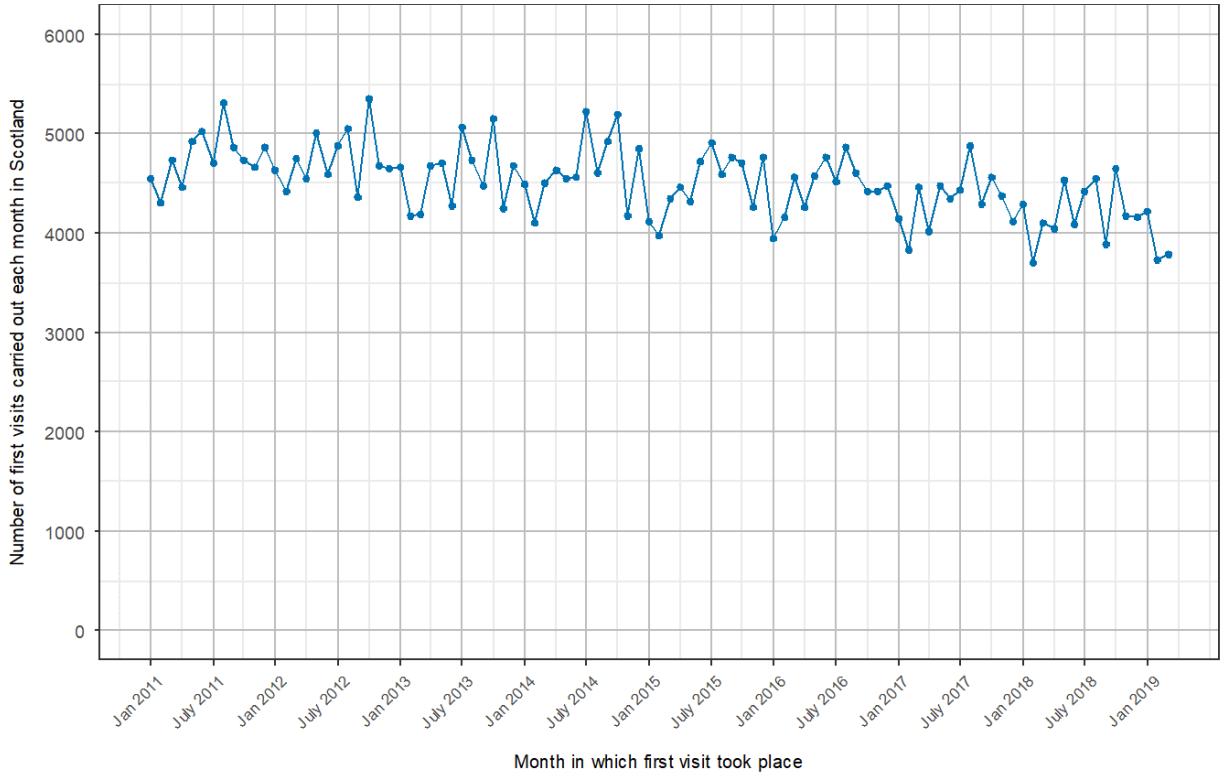
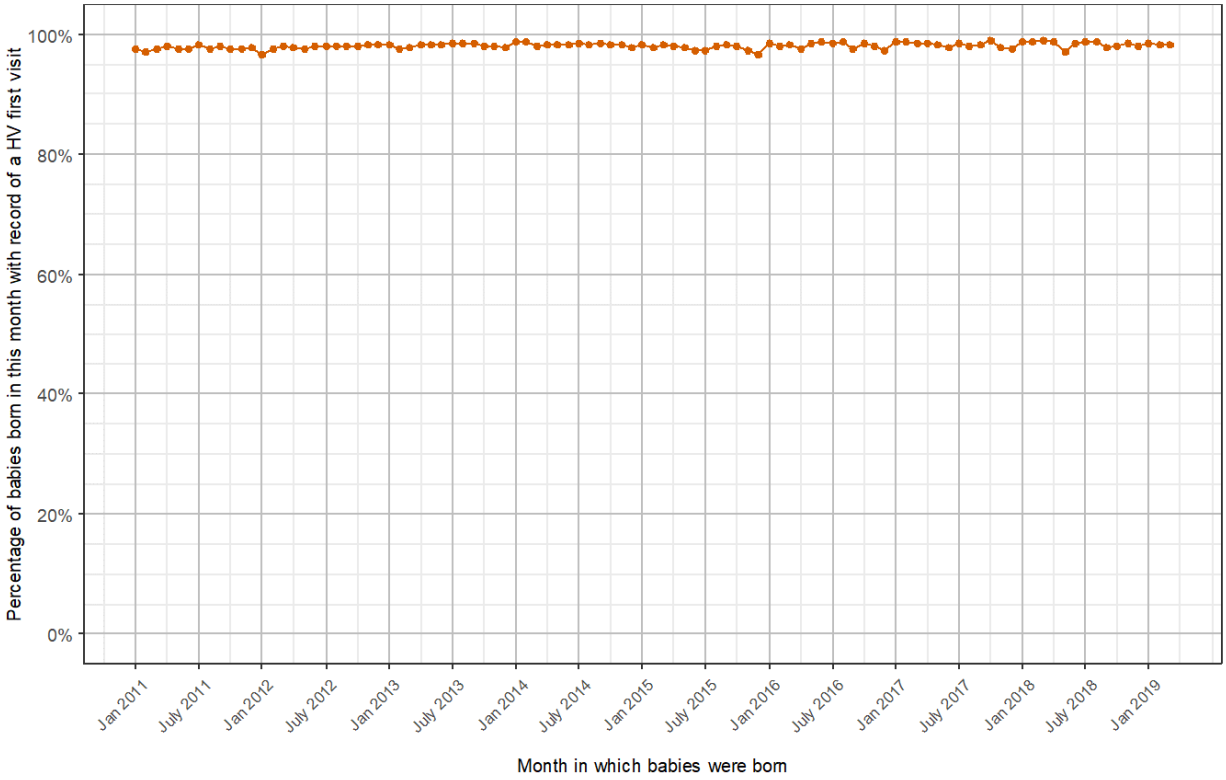


Figure 6 Overall coverage of first visit for babies born in Scotland between 1 January 2011 and 31 March 2019



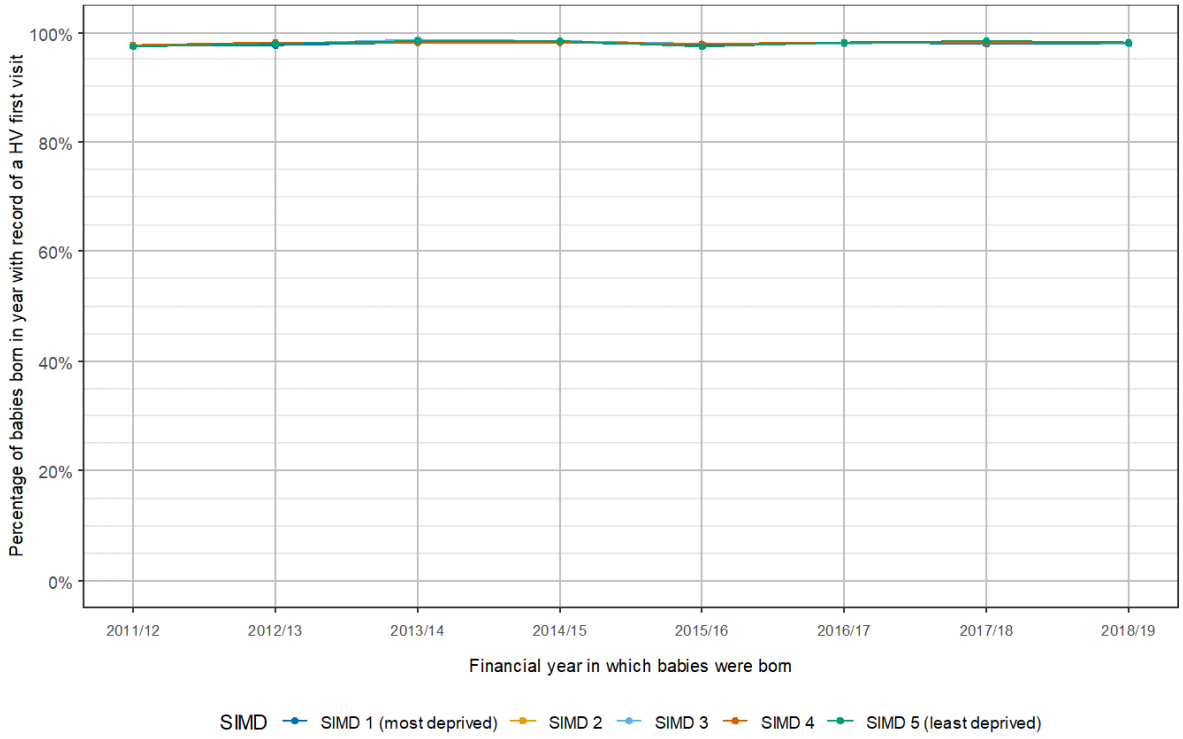
Coverage of first visit stratified by SIMD quintile

Annual coverage of the first visit stratified by SIMD quintile is displayed in Figure 7. The average annual coverage is 98% for each SIMD quintile. The lowest coverage is 97.5% (SIMD 1, SIMD 3 and SIMD 5 for babies born in 2011/12 and SIMD 5 in 2015/16); the highest is 98.6% (SIMD 3 for babies born in 2013/14) (see Table 3 below). Thus coverage does not vary systematically by SIMD for this review.

Comparison of first visit coverage between SIMD 1 and SIMD 5

A comparison of the difference in coverage – both absolute and relative – for the health visitor's first visit to babies living in the most and least deprived areas is presented in Table 3. As can be observed, for six of the eight birth cohorts, the 95% confidence intervals (95% CI) for the absolute difference between least and most deprived quintiles include 1, thereby demonstrating that there is no significant difference between the coverage for the two quintiles in these years.

Figure 7 Coverage of first visit for babies born in Scotland during financial years 2011/12 to 2018/19, stratified by SIMD



Notes to Figures 5-7

1. The first visit should be delivered by the time the baby is 14 days old. However, in certain instances, it may be delayed; for example, for sick children in neonatal care. Therefore some 'late' reviews will be expected (and are clinically appropriate).

2. The review is deliverable from January 2011 and should therefore be delivered to all children born from January 2011 onwards.

3. Overall coverage = Number of children born in month with subsequent record of a health visitor first visit on CHSP-PS (by May 2020) / Number of children born in month.

4. Coverage of SIMD 1 reviews = Number of children born in financial year in SIMD 1 area with subsequent record of a health visitor first visit on CHSP-PS (by May 2020) / Number of children born in financial year in SIMD 1 area.

Source for Figures 5-7

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Table 3 A comparison of the difference (absolute and relative) in coverage for the health visitor's first visit to babies living in least deprived and most deprived locations

Birth cohort (i.e. births occurring in financial year ending March 20XX)	Coverage of first visit (%)					Absolute difference in coverage (SIMD 5 – SIMD 1)	Absolute difference in coverage: 95% CI	Relative difference in coverage (SIMD 5 / SIMD 1)
	SIMD 1	SIMD 2	SIMD 3	SIMD 4	SIMD 5			
March 2012	97.53	97.63	97.46	97.70	97.47	-0.06	-0.476 to 0.352	0.9994
March 2013	97.73	97.98	97.88	98.06	98.01	0.28	-0.107 to 0.662	1.0028
March 2014	98.18	98.42	98.60	98.13	98.29	0.11	-0.243 to 0.471	1.0012
March 2015	98.06	98.30	98.49	98.26	98.34	0.29	-0.064 to 0.637	1.0029
March 2016	97.60	97.80	97.97	98.00	97.50	-0.10	-0.515 to 0.310	0.9989
March 2017	98.17	98.26	98.01	98.13	98.12	-0.05	-0.415 to 0.316	0.9995
March 2018	97.94	98.44	98.30	98.14	98.35	0.42	0.045 to 0.786	1.0042
March 2019	97.80	98.19	97.84	98.20	98.25	0.45	0.065 to 0.841	1.0046

Source:
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

6-8 week visit

Reviews provided each month

The number of 6-8 week visits provided each month are displayed in Figure 8. For the first two years the mean number of visits is 4,590; this decreases to 4,390 for the following three years, and 4,045 visits for the final three years, as the number of births also decreases.

Overall coverage

From Figure 9, it can be observed that coverage for the 6-8 week review is slightly lower and more varied than for the first visit. For the first half of the period (babies born between 1 January 2011 and 31 January 2015), average monthly coverage of the 6-8 visit is 94.1%. There is a distinct trough in coverage for babies born between 1 November 2015 and 31 December 2016, when the average coverage in this period falls to 90.9%. This trough coincides with the transition to the new 6-8 week child health review forms in February 2016: there were teething problems until staff got used to the new layout, and some staff continued to use the old version of the forms, which could not be entered easily into new screens as some data fields differed. Coverage then increases again to 93.9% in January 2017 before slowly declining each month to 91.1% at 31 March 2019

Figure 8 Number of 6-8 week visits that were provided each month in Scotland, from January 2011 to March 2019

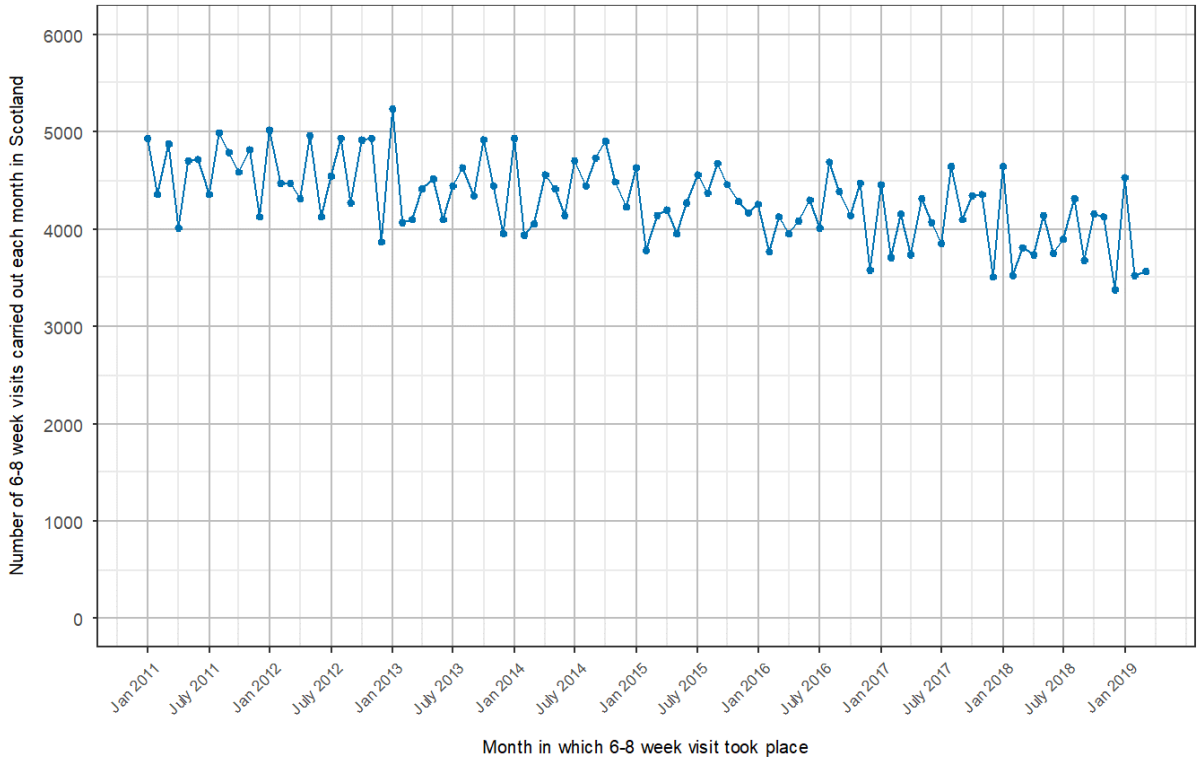
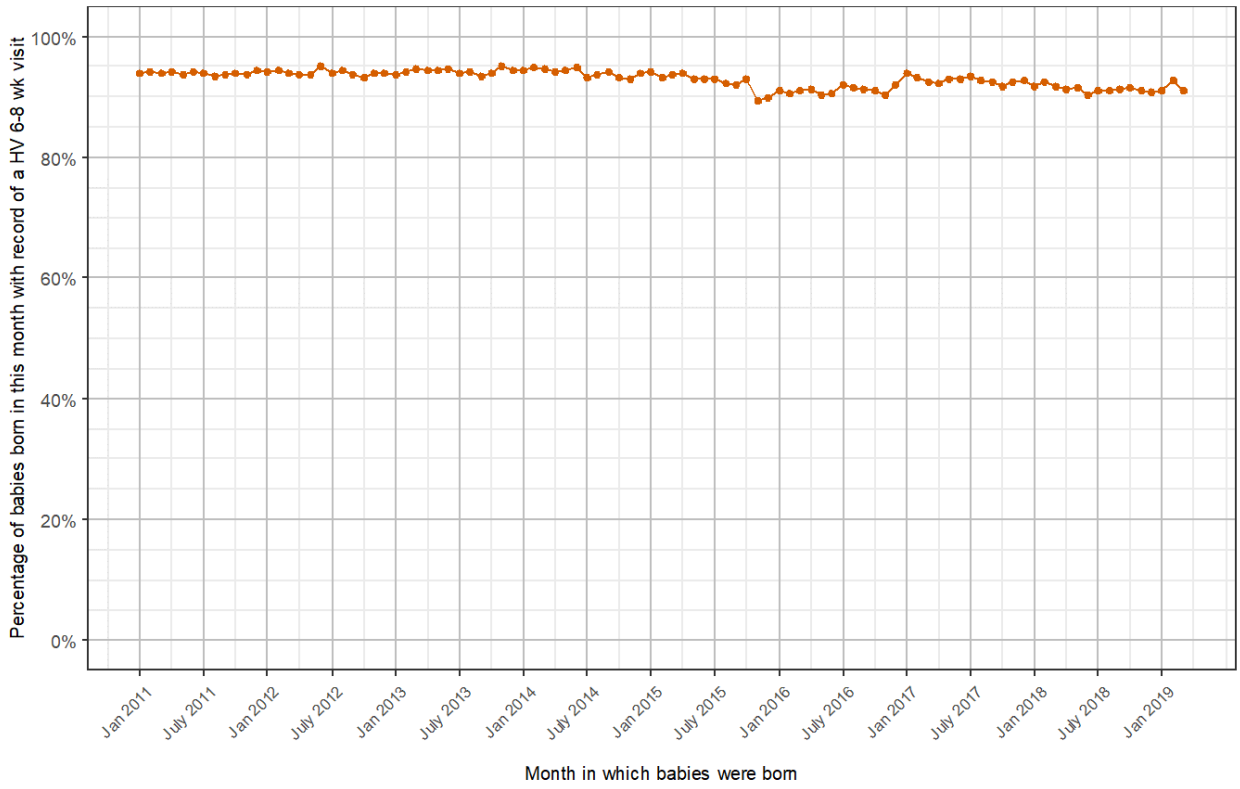


Figure 9 Overall coverage of 6-8 week visit for babies born in Scotland between 1 January 2011 and 31 March 2019



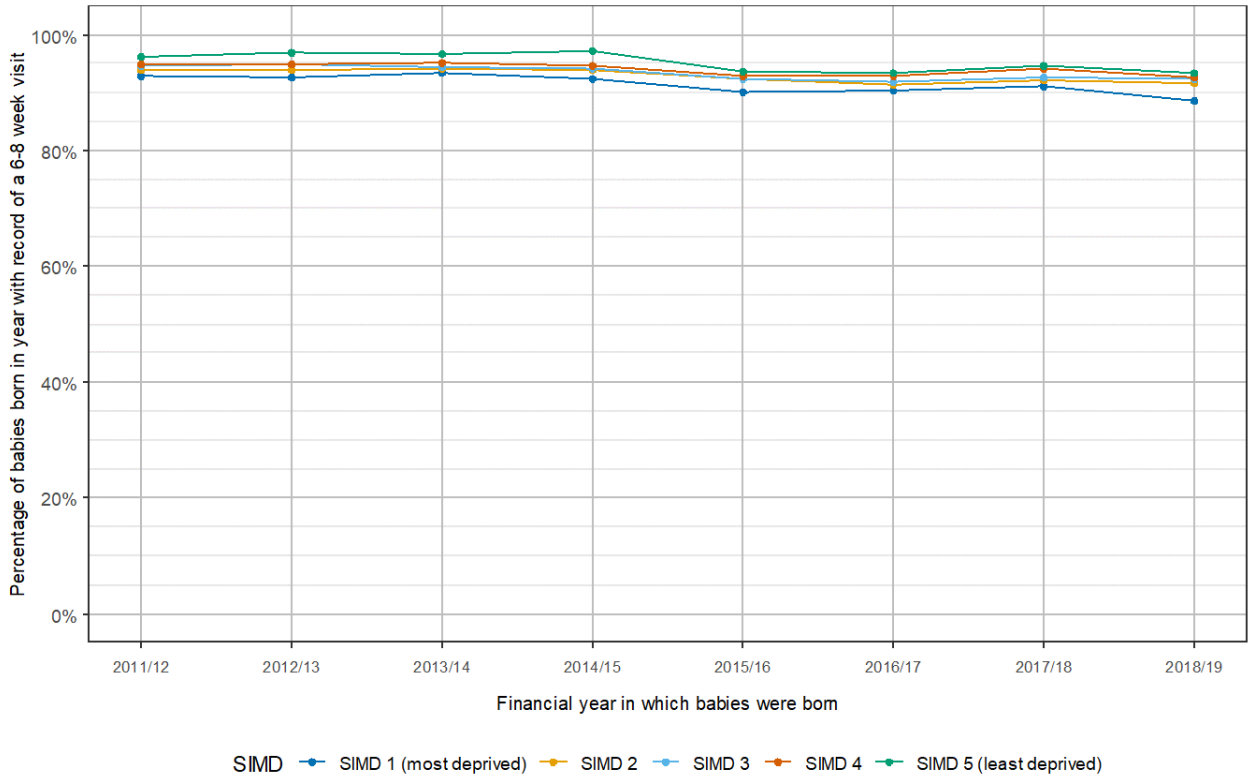
Coverage stratified by SIMD quintile

In Figure 10, the coverage is displayed by SIMD quintile. The highest and lowest quintiles are broadly parallel; babies born in the financial year 2011/12 have 96.0% coverage for children in the least deprived quintile (92.9% for those in the most deprived), and those born in 2018/19 coverage is 93.3% for those in SIMD 5 (88.6% in SIMD 1). Coverage for SIMD 2-4 quintiles lie between these two points.

Comparison of visit coverage between SIMD 1 and SIMD 5

As is apparent from Figure 10, the absolute difference between quintiles SIMD 1 and SIMD 5 is more pronounced for the 6-8 week visit compared to the first visit: it ranges from 3.1 percentage points for babies born in year 2011/12 to 4.7 percentage points for those born in 2018/19, with a mean of 3.8 percentage points (see Table 4). Relative difference (SIMD 5 / SIMD 1) is more constant, ranging from 1.03 to 1.05.

Figure 10 Coverage of 6-8 week visit for babies born in Scotland during financial years 2011/12 to 2018/19, stratified by SIMD



Notes to Figures 8-10

1. The 6-8 week review should be provided before the child reaches 12 weeks. However, gestational correction is required when scheduling reviews for children aged up to 24 months. Thus children born prematurely (at <37 completed weeks gestation) are scheduled for the 6-8 week review by their due date rather than their actual date of birth. Some 'late' reviews will therefore be due to appropriately delayed provision of reviews for preterm babies.

2. The review is deliverable from January 2011 and should therefore be delivered to all children born from January 2011 onwards.

3. Overall coverage = Number of children born in month with subsequent record of a health visitor 6-8 week visit on CHSP-PS (by May 2020) / Number of children born in month eligible for review.

4. Coverage of SIMD 1 reviews = Number of children born in financial year in SIMD 1 area with subsequent record of a health visitor 6-8 week visit on CHSP-PS (by May 2020) / Number of children born in financial year in SIMD 1 area who are eligible for review.

Source for Figures 8-10

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Table 4 A comparison of the difference (absolute and relative) in coverage for the health visitor's 6-8 week visit to babies living in least deprived and most deprived locations

Birth cohort (i.e. births occurring in financial year ending March 20XX)	Coverage of 6-8 week visit (%)					Absolute difference in coverage (SIMD 5 – SIMD 1)	Absolute difference in coverage: 95% CI	Relative difference in coverage (SIMD 5 / SIMD 1)
	SIMD 1	SIMD 2	SIMD 3	SIMD 4	SIMD 5			
March 2012	92.87	93.81	94.65	94.87	96.00	3.13	2.55 to 3.71	1.034
March 2013	92.50	93.85	94.80	94.93	96.98	4.48	3.92 to 5.04	1.048
March 2014	93.38	94.19	94.43	95.17	96.62	3.24	2.67 to 3.80	1.035
March 2015	92.43	93.75	94.02	94.61	97.00	4.57	4.00 to 5.13	1.049
March 2016	90.10	92.42	92.38	92.94	93.64	3.55	2.84 to 4.25	1.039
March 2017	90.38	91.27	91.77	92.93	93.45	3.08	2.36 to 3.79	1.034
March 2018	91.05	92.01	92.47	94.01	94.71	3.66	2.97 to 4.34	1.040
March 2019	88.56	91.53	92.21	92.57	93.26	4.71	3.93 to 5.49	1.053

Source:
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

13-15 month review

Reviews provided each month

The 13-15 month review could have been provided from April 2017 onwards (that is, when the children born after the UHVP was intended to be implemented - on 1 April 2016 - reached an appropriate age for the review); however, some health boards delayed implementing the review. This situation is displayed graphically in Figure 11. Between August 2017 and March 2019, the mean number of 13-15 month reviews delivered in a month was 2,975.

Overall coverage

Data for this evaluation were extracted in May 2020; allowing time for completed paper reports to be returned to the relevant health board and the contents keyed into the CHSP-PS system, this extract can be considered to provide complete information on reviews provided to the end of December 2019. However, although the review is recommended for children aged 13-15 months, the maximum age of a child receiving the review is 18 months; therefore the last birth cohort reliably to be able to make a complete contribution to the data extraction would have been born in June 2018. In practice, most children born up to about September 2018 should have had their 13-15 month review in time for their data to be included in the current extract.

The monthly coverage for this review was much lower than that for the two earlier visits (see Figure 12). For children born in September 2016, coverage was 67.0% and slowly rose for each birth cohort, until reaching a peak for children born in September 2018 (91.4%). The coverage after this point is not reflective of the birth cohort as most children born in subsequent months have their review recorded on CHSP-PS after the date of this extract. The low overall coverage can be explained by the fact that several health boards introduced this review later (see Supplementary Table 1 in the appendix for dates when health boards introduced each review).

Figure 11 Number of 13-15 month reviews that were provided each month in Scotland, from January 2017 to March 2019

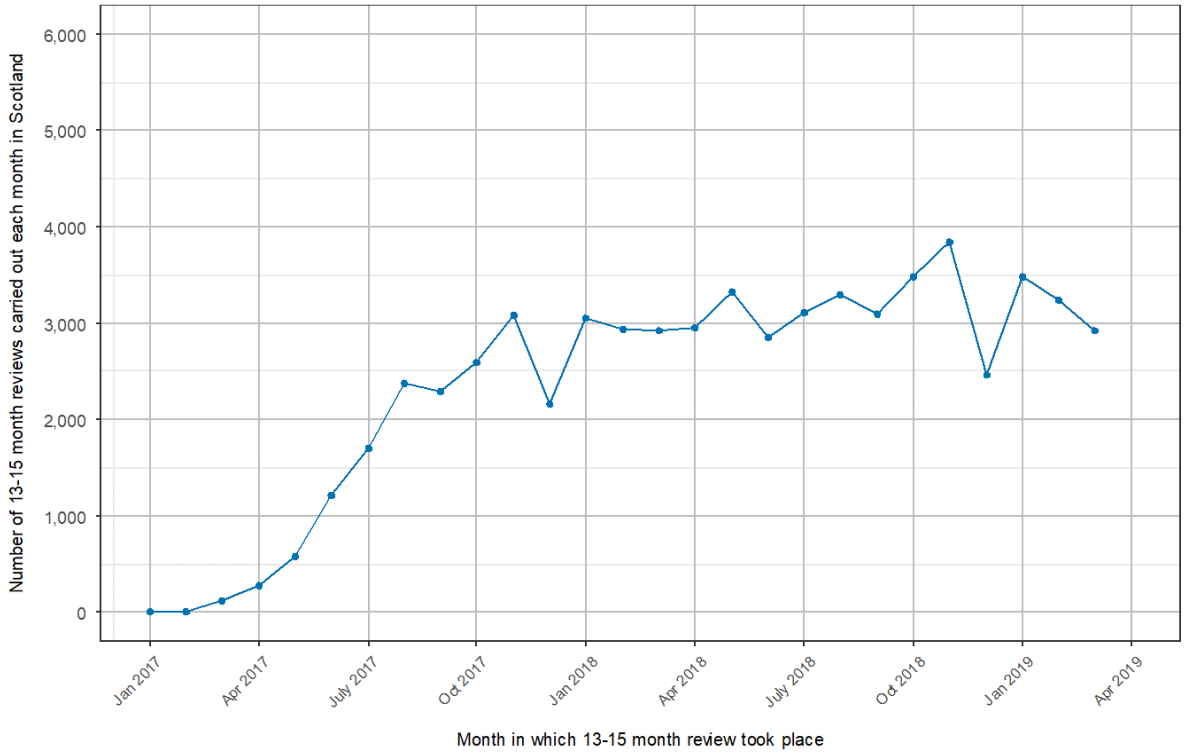
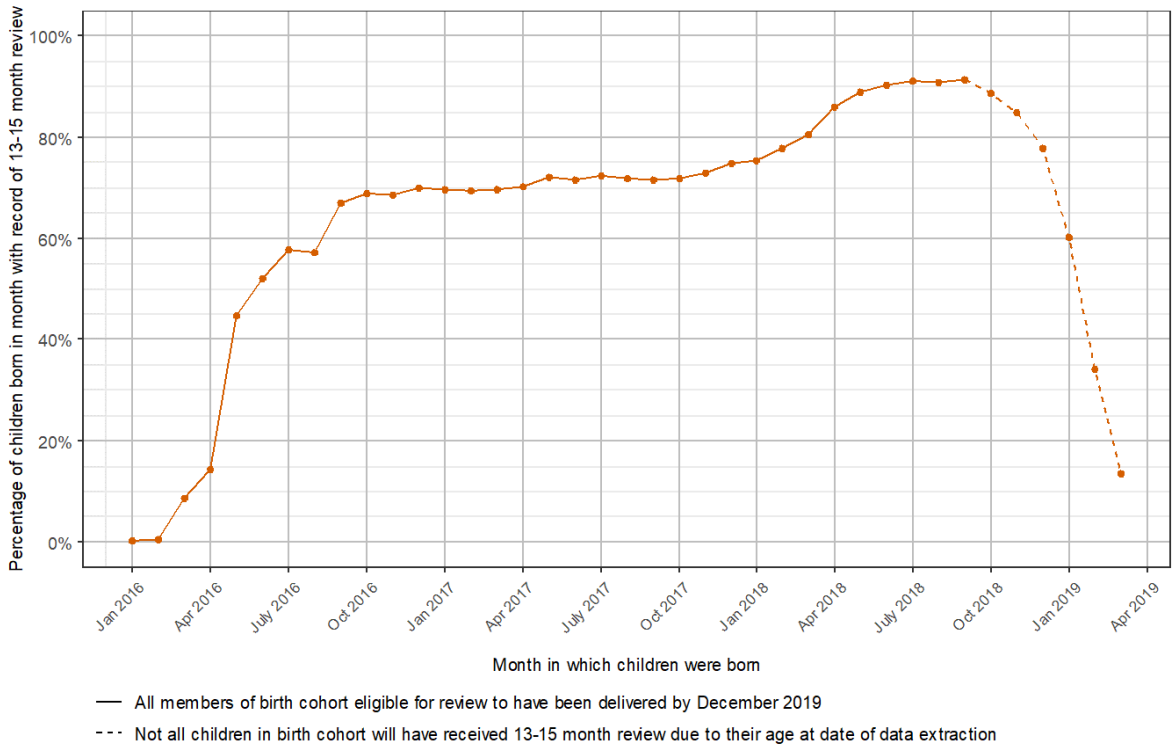


Figure 12 Overall coverage of 13-15 month review for children born in Scotland between 1 January 2016 and 31 March 2019



Coverage stratified by SIMD quintile

Figure 13 presents 13-15 month review coverage, stratified by SIMD quintile. As can be observed, during the first three years after introduction coverage was less than 80%. Low coverage can be explained, in part, by the fact that the largest health board (NHS Greater Glasgow & Clyde) only started to introduce this review for children born on or after 1 January 2018. In addition, data for children born after about September 2018 may not have been keyed into the CHSP-PS system by the time the data were extracted in May 2020. Therefore after September 2018 figure 13 is not reflective of overall coverage for this review.

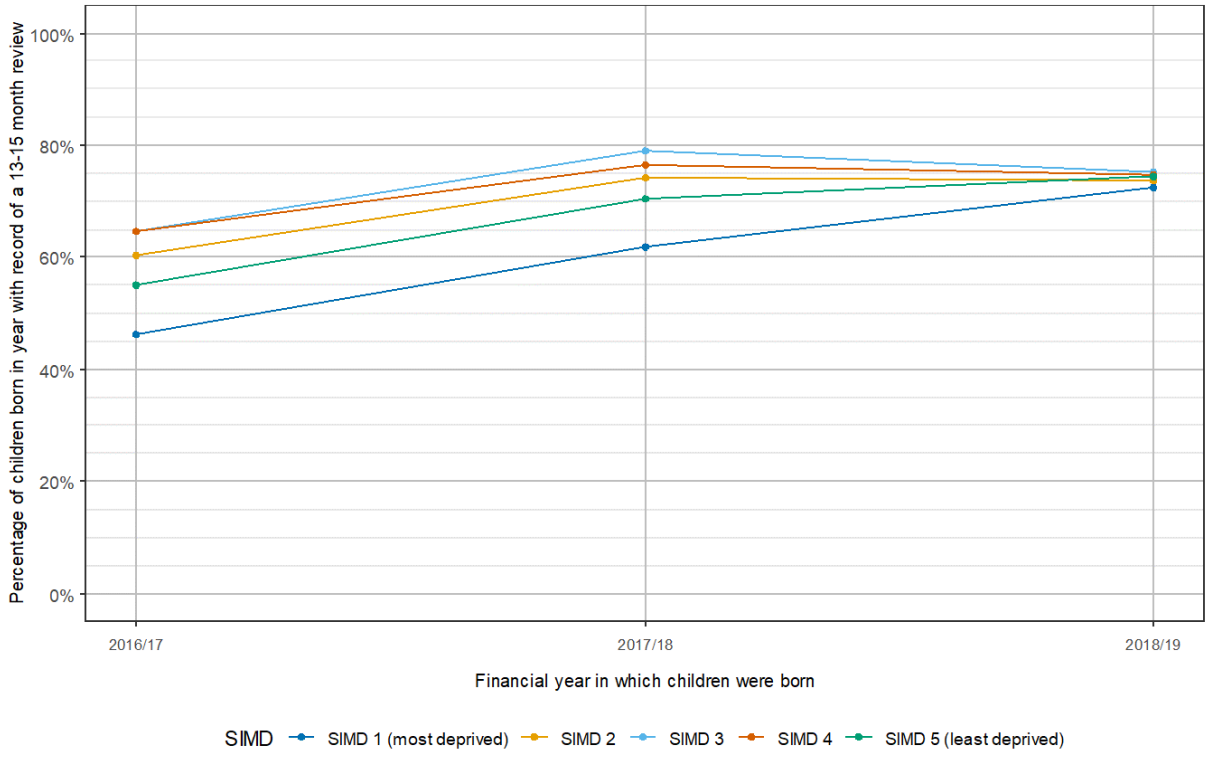
Over the three years of implementation of this review, children living in the most deprived areas had the lowest coverage, although children in the least deprived areas had the second lowest coverage. There is considerable disparity in the number of live births in each SIMD quintile (see Figure 2): the mean number of births per year over the three-year period is 13,060, 11,000 and 8,875 in SIMD 1, SIMD 2, and SIMD 5 respectively, although the difference in size between the quintiles has decreased over time.

The pattern in Figure 13 almost certainly reflects the fact that different health boards implemented the review at different times, and their resident populations have different deprivation profiles. Thus early inequalities primarily reflect the fact that some children are not being offered the review as the health board had not yet rolled out the full pathway. For those children born in 2018/19, the difference between highest and lowest coverage rates in terms of SIMD quintiles had decreased to 2.6 percentage points (SIMD 3 was 75.2%, SIMD 1 was 72.6%); however, it should be borne in mind that follow-up for this year is not complete (due to the date of the data extract in May 2020) and this gap could narrow or widen.

Comparison of review coverage between SIMD 1 and SIMD 5

Review coverage was only available for the last three years of the period and is displayed in Table 5. The first and last years are likely to be incomplete for reasons outlined above. Although the absolute difference between children living in most and least deprived areas is wide for the first two years, the absolute difference in the final year is 1.9 percentage points (this can be observed in Figure 13, where the lines converge).

Figure 13 Coverage of 13-15 month review for children born in Scotland during financial years 2016/17 to 2018/19, stratified by SIMD



Notes to Figures 11-13

1. The 13-15 month review should be provided before the child reaches 18 months. However, gestational correction is required when scheduling reviews for children aged up to 24 months. Thus children born prematurely (at less than 37 completed weeks gestation) are scheduled for the 13-15 month review by their due date rather than their actual date of birth. Some 'late' reviews will therefore be due to appropriately delayed provision of reviews for preterm babies.

2. The review is deliverable from April 2017 and should therefore be delivered to all children born from April 2016 onwards. However, some babies born after June 2018 may have had this review after the data extraction date, and therefore their data may not be included in this figure.

3. Overall coverage = Number of children born in month with subsequent record of a health visitor 13-15 month review on CHSP-PS (by May 2020)/ Number of children born in month eligible for review.

4. Coverage of SIMD 1 reviews = Number of children born in financial year in SIMD 1 area with subsequent record of a health visitor 13-15 month review on CHSP-PS (by May 2020) / Number of children born in financial year in SIMD 1 area who are eligible for review.

Source for Figures 11-13
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Table 5 A comparison of the difference (absolute and relative) in coverage for the 13-15 month review coverage for babies living in least deprived and most deprived locations

Birth cohort (i.e. births occurring in financial year ending March 20XX)	Coverage of 13-15 month review (%)					Absolute difference in coverage (SIMD 5 – SIMD 1)	Absolute difference in coverage: 95% CI	Relative difference in coverage (SIMD 5 / SIMD 1)
	SIMD 1	SIMD 2	SIMD 3	SIMD 4	SIMD 5			
March 2012	-	-	-	-	-	-	-	-
March 2013	-	-	-	-	-	-	-	-
March 2014	-	-	-	-	-	-	-	-
March 2015	-	-	-	-	-	-	-	-
March 2016	-	-	-	-	-	-	-	-
March 2017	46.20	60.28	64.56	64.71	55.07	8.87	7.55 to 10.19	1.19
March 2018	61.98	74.12	78.99	76.57	70.44	8.46	7.18 to 9.74	1.14
March 2019*	72.56	73.72	75.15	74.77	74.45	1.89	0.67 to 3.11	1.03

Notes
The 13-15 month review was deliverable from April 2017 onwards: that is, for babies born from March 2016 onwards.
*March 2019 shows part-year data which is likely to increase as more reviews are inputted onto the data system.

Source:
The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

27-30 month review

Reviews provided each month

The 27-30 month review was deliverable from 1 April 2013, and thus it was available for babies born from 1 January 2011 onwards. In Figure 14, seasonal variation in the number of reviews delivered is apparent, with a consistent trough every December, which is likely to be a reflection of fewer working days in that month as a result of the winter holiday period. From July 2013, the number of 27-30 month reviews undertaken is reasonably constant each month with a mean number of 4,265 per month.

Overall coverage

As noted for the 13-15 month review above, data extraction for Phase 1 took place in May 2020, but there is a time-lag between the review taking place and the information being available on the CHSP-PS system. Thus this extraction can be considered to provide complete information reliably on reviews undertaken by the end of December 2019. The review is recommended for children aged 27-30 months and should have taken place by the time the child is 32 months. Therefore the last birth cohort that can contribute complete review data to this data extraction is April 2017 (although in practice most children born by June 2017 will be included in this extract).

In Figure 15, review coverage for children born in January 2011 is 83.3%; this steadily increases to a maximum of 94.5% for children born in February 2017. The mean monthly coverage for children born between 1 January 2011 and 31 July 2017 is 91.0%. After this point data are likely to be incomplete.

Figure 14 Number of 27-30 month reviews that were provided each month in Scotland, from January 2013 to March 2019

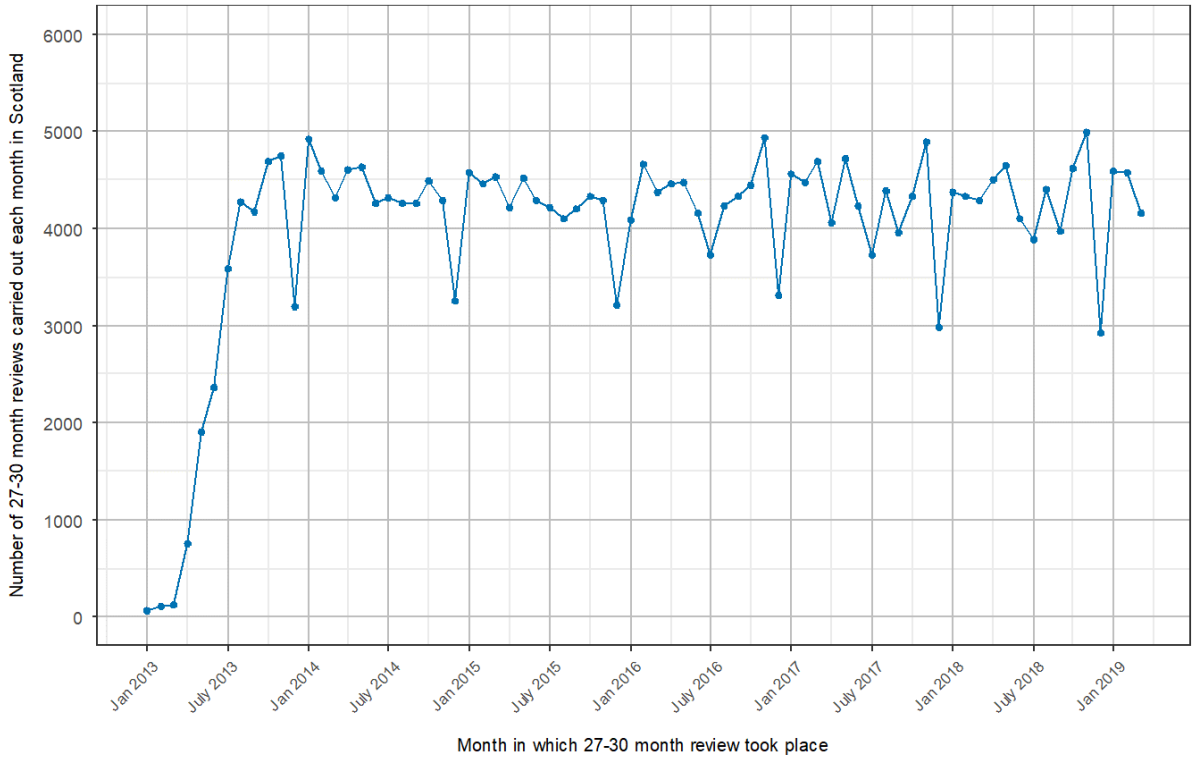
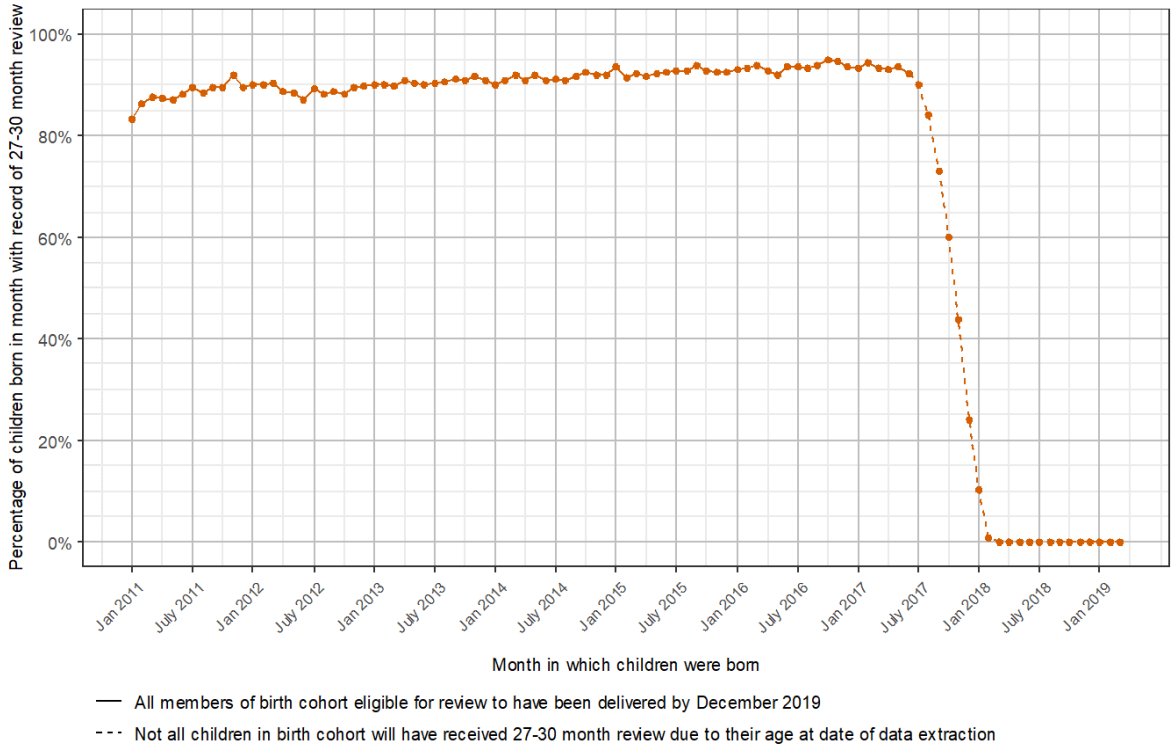


Figure 15 Overall coverage of 27-30 month review for children born in Scotland between 1 January 2011 and 31 March 2019



Coverage stratified by SIMD quintile

Coverage of the 27-30 month review by level of deprivation is not presented in this report due to the unlinked nature of these data. This means that, when a child has moved house, we do not know where they have moved to, and whether this represents a change in the level of area deprivation in which the family are living. Discussions with PHS indicate that by 27-30 months and 4-5 years, respectively, a larger proportion of children have moved than was initially assumed; however, this is not equal across SIMD groups. For example, exploratory analyses by PHS indicate that, for children eligible for the 27-30 month review in 2016/17 (i.e. cohort extracted based on SIRS as at May 2017), 85% of children were born in the same health board area where they live now, whereas in the least deprived quintile this reduces to 77%. Within health boards we do not know the scale of movement across SIMD domains. For this reason, at the 27-30 month coverage, we refer readers to the PHS published statistics on coverage: Child Health Pre-School Review Coverage 22 February 2022.

Coverage in the PHS publication is based on the SIMD in which children currently live, as opposed to where they are born. Data indicate that review coverage between SIMD quintiles 1-4 increased in a similar pattern between 2013/14 and 2018/19: in 2013/14, coverage for these four quintiles was 86.0-87.5% and this increased to 91.0-92.3%. For children in the least deprived quintile, coverage in 2013/14 was a little higher (89.4%), and by 2018/19 it was 91.8% (i.e. within the range of review coverage for the other four quintiles).

4-5 year review

Reviews provided each month

The 4-5 year review was intended to be provided from April 2020 (for children born from 1 April 2016 onwards: that is, from the intended date of UHVP implementation). In practice, a number of health boards introduced this review early, from April 2017 (see Figure 16).

There was a peak of 2,799 reviews delivered in May 2018, but in the financial year 2018/19 the mean number of reviews delivered in a month was 1,685. As seen in the other reviews the trough in December 2018 may be due to staff holidays and fewer working days in the month as well as other factors. However, it should be borne in mind that the review was not originally intended to be delivered before April 2020.

Overall coverage

As can be observed in Figure 17, the overall coverage of this review in the early implementation phase was very low: it reached a peak of 63.5% for children born in March 2015, the cohort for whom NHS Greater Glasgow and Clyde and NHS Lothian introduced the review, and exceeded 40% for cohorts born in the following eight months. However, as stated above, the original intention was to introduce the review on 1 April 2020 (so that children born after the date of intended implementation of the UHVP would be eligible for the review). Therefore this data should be used with caution and viewed as experimental data until the 4-5 year review is bedded into practice. It is also likely that some health boards may aim to deliver this review at certain points in the academic year so there may be an element of ‘queuing’ in the coverage data.

Figure 16 Number of 4-5 year reviews provided each month in Scotland, Jan. 2017 to March 2019

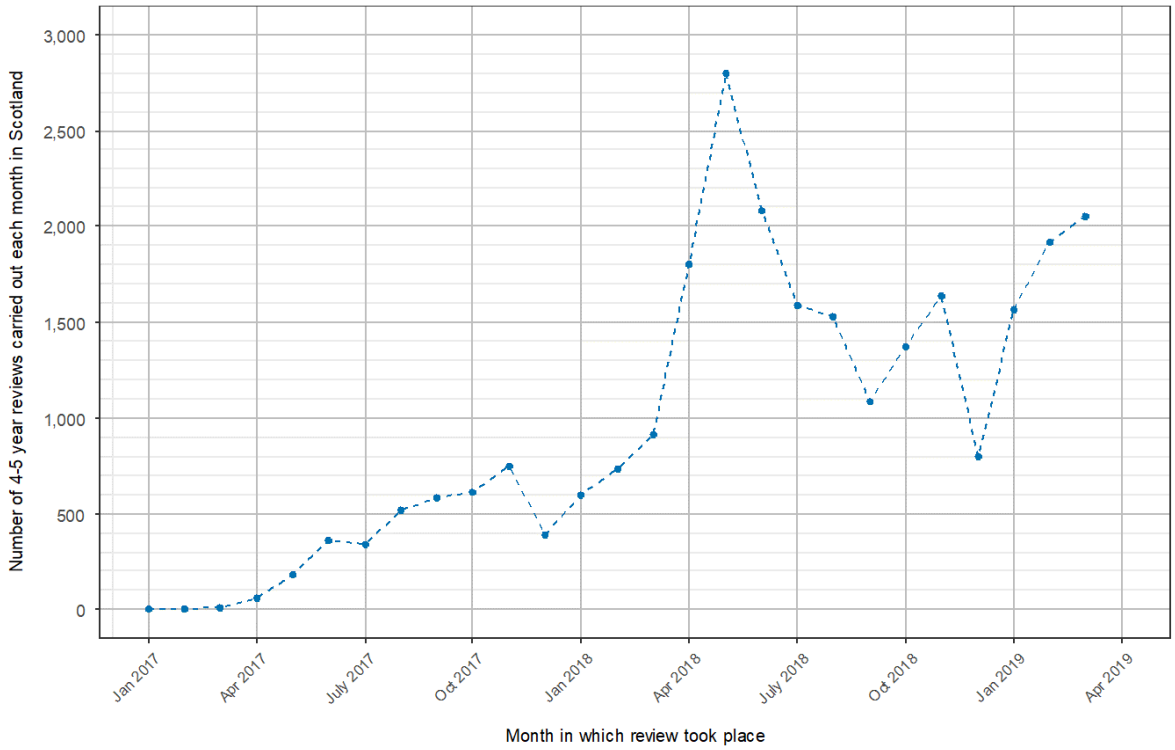
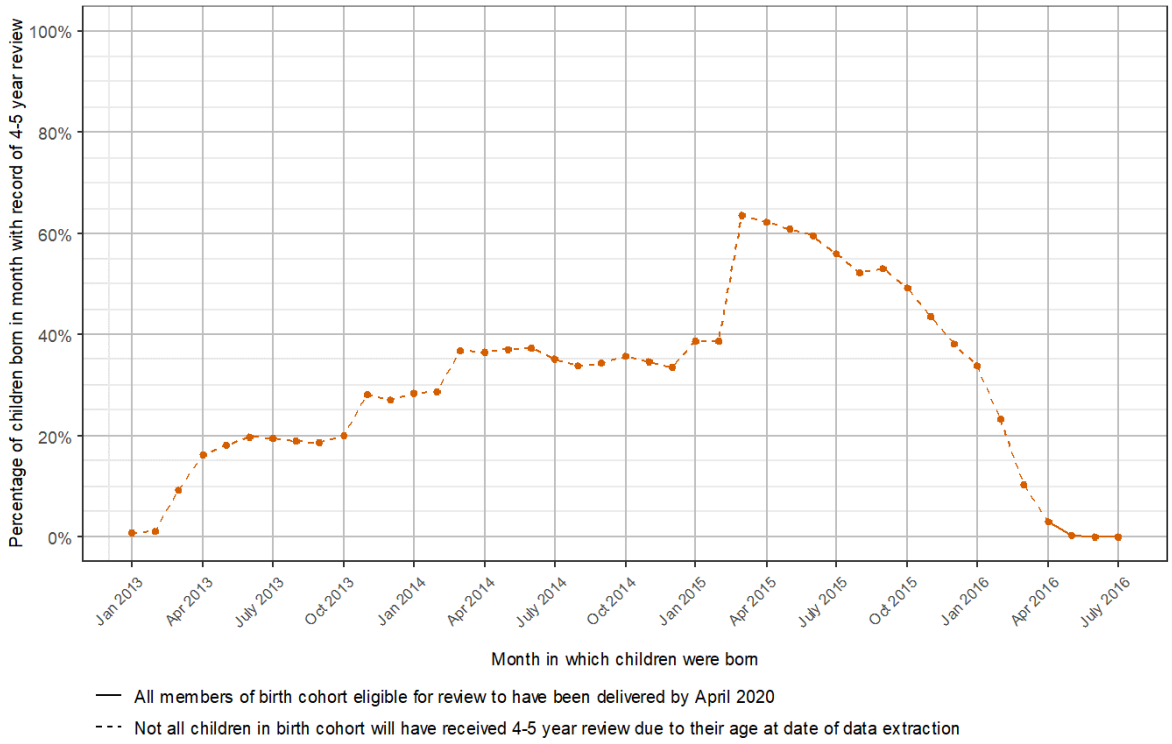


Figure 17 Overall coverage of 4-5 year review for children born in Scotland between 1 January 2013 and 31 July 2016. This review was not intended to be implemented until April 2020, i.e. for children born in/after April 2016



Coverage stratified by SIMD quintile

As with the 27-30 month data, we refer readers to the PHS published tables to explore coverage for the 4-5 year review (Child Health Pre-School Review Coverage Statistics). For reasons described in the section above, coverage of this review was very low for children receiving reviews between April 2017 and March 2019.

Coverage varied between SIMD quintiles in these two years, with no stable pattern seen between the groups. In 2018/19 (when the last cohort of children in this study were turning 4-5 years), coverage was highest in SIMD quintiles 3 and 4 (41.1% and 41.6% respectively), and lowest among children in the least deprived quintile (35.1%); 37.2% children in the most deprived group received a 4-5 year review.

Location of review

The pathway is based on evidence which indicates that all visits should be undertaken by a health visitor in the home. Health visitors are, however, advised to use professional judgement in assessing where this may not be appropriate, such as in cases / suspected cases of domestic abuse.[3] Visits could be recorded as taking place in more than one location.

First visit

The location of the first visit was not able to be recorded by the health visitor until February 2016. In the financial year ending March 2016, 16% of all reviews conducted in that year were recorded as taking place in the baby's home, 0.5% another location, and 83.4% were missing (see Figure 18). In the subsequent three years, the percentage of first visits taking place in the home increased from 95.9% to 97.7%.

6-8 week visit

Similarly for the 6-8 week visit (see Figure 19), the location was not recorded for the first four years; in 2015/16, about 8% of 6-8 week reviews were recorded as taking place at the child's home and a further 8% at another location. In the final three years, the number of reviews taking place in the baby's home steadily increased, from 68.0% in 2016/17 to 87.6% in 2018/19. This review is more complex however as it is intended to be a shared two-stage review between health visitor and GP, with the health visitor component provided at home, and the GP component provided in the surgery. This has resulted in multi-coding of the location of reviews with reviews being coded as occurring in the home and clinic/GP practice. This inconsistency in recording can make it difficult to disentangle if all sites are recording both locations i.e. home and GP surgery.

13-15 month review

This review was only provided from April 2017, and hence there are only two years of data available. In Figure 20, the review location has been recorded for most reviews: the percentage being delivered in the home increased from 65.0% in 2016/17 to 67.6% in 2018/19.

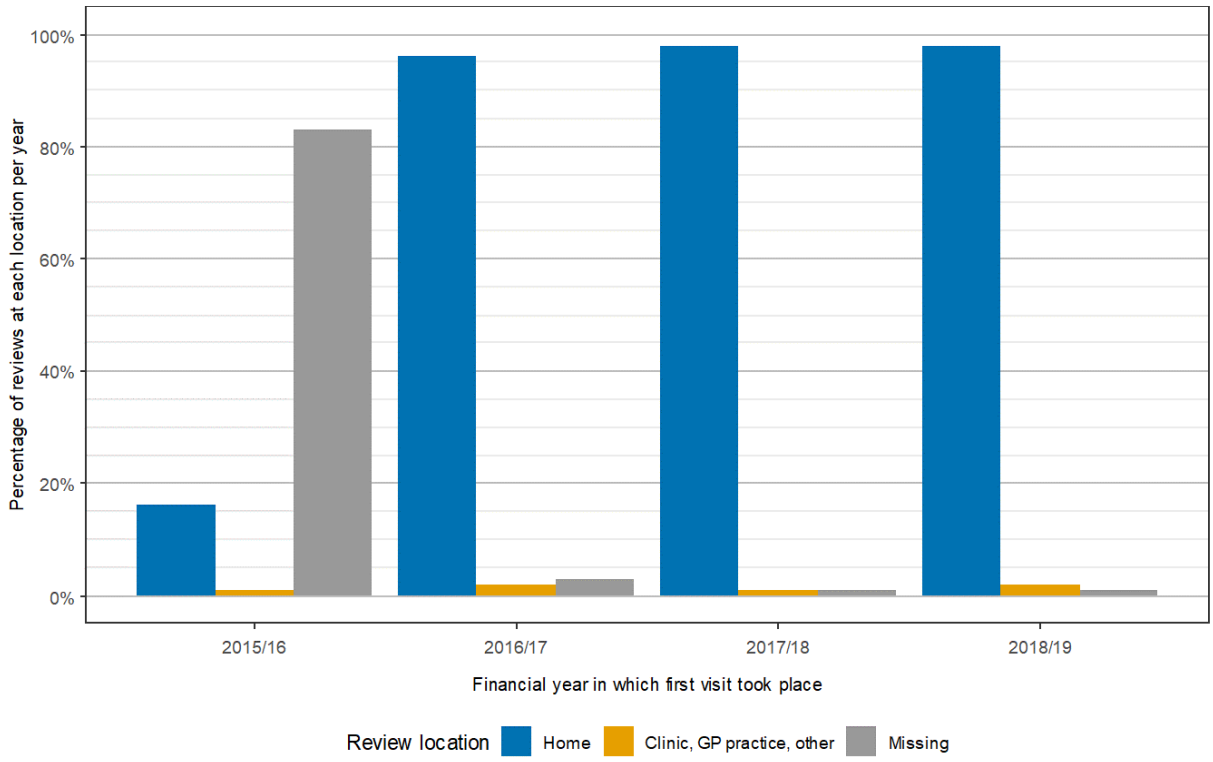
27-30 month review

The 27-30 month review was provided from April 2013 onwards and the location of the review was reported in most instances. Historically, the 27-30 month review was conducted in clinics, however the introduction of the UHVP in 2016 provided guidance that these reviews should be taking place in the home. This is reflected in data from 2013/14 to 2015/16 when slightly more than 30% of reviews were conducted in the child's home (see Figure 21); this increased subsequently as the UHVP was rolled out with 54.5% reviews taking place in the family home by 2018/19.

4-5 year review

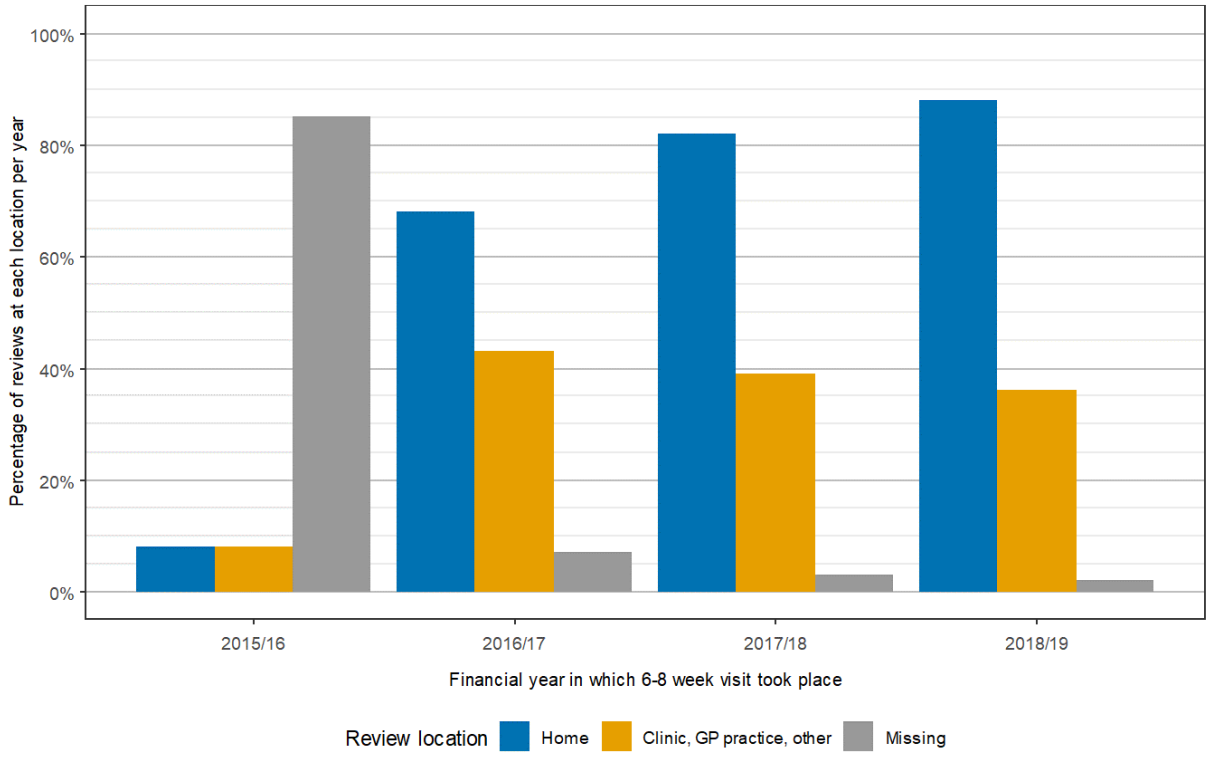
This review was provided in April 2017 by some health boards, although it was not intended to be introduced until April 2020: some 6,043 reviews have been recorded for the year 2017/18 and 20,220 for 2018/19. In 2017/18, 38.7% of reviews took place in the child's home and 59.7% took place elsewhere (Figure 22); in 2018/19, 45.2% of reviews took place in the child's home.

Figure 18 Percentage of first visits that took place in the baby's home, between financial years 2015/16 to 2018/19



Note
Location of first visit started being recorded on the new CHSP form during February 2016, i.e. a few weeks before the end of financial year 2015/16.

Figure 19 Percentage of 6-8 week visits that took place in the baby's home, between financial years 2015/16 to 2018/19



Note
Location of 6-8 week visit started being recorded on the CHSP form during February 2016, i.e. a few weeks before the end of financial year 2015/16.

Figure 20 Percentage of 13-15 month reviews that took place in the child's home, between financial years 2017/18 and 2018/19

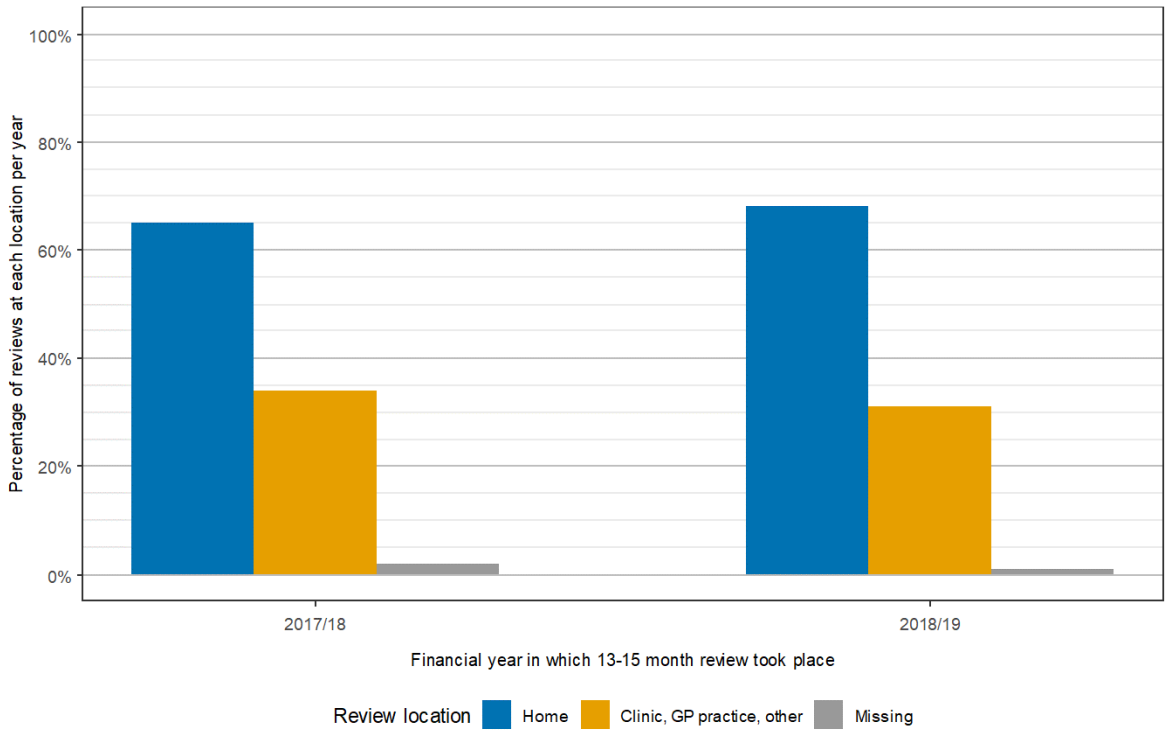


Figure 21 Percentage of 27-30 month reviews that took place in the child's home, between financial years 2013/14 to 2018/19

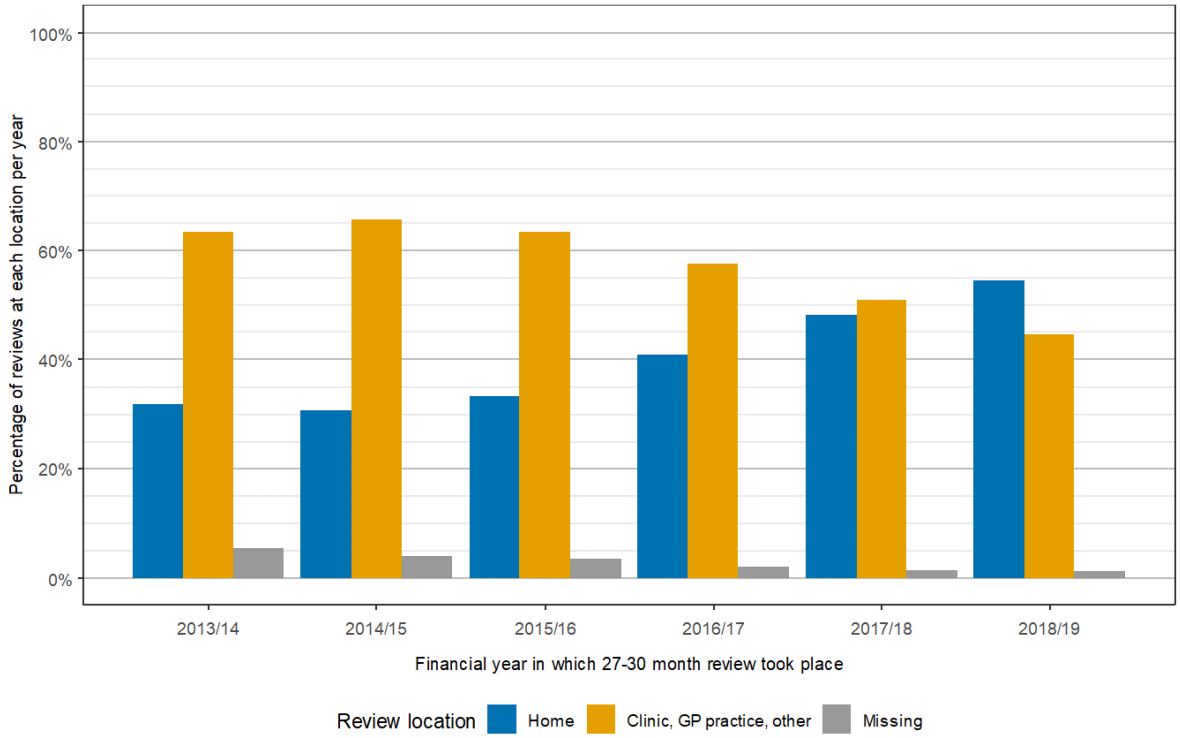
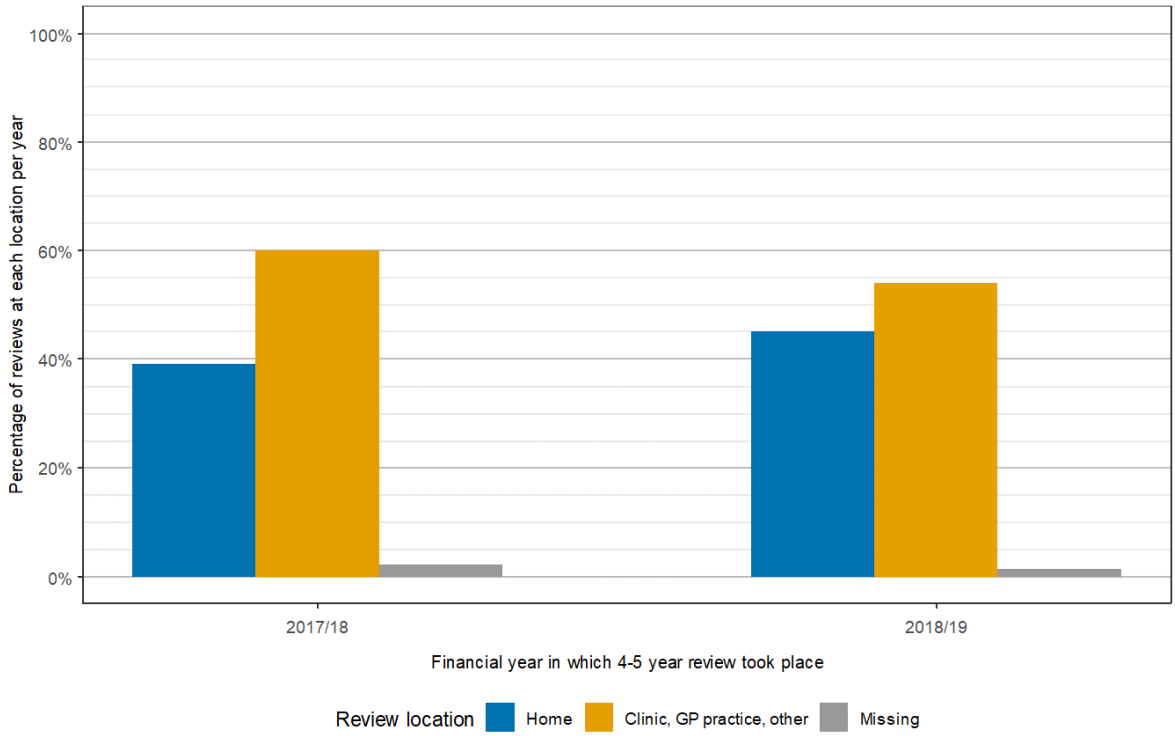


Figure 22 Percentage of 4-5 year reviews that took place in the child's home, between financial years 2017/18 and 2018/19



A total of 6,043 4-5 year reviews were delivered in the financial year 2017/18, when the review was introduced; 20,220 reviews were delivered in 2018/19

Notes to Figures 18-22

1. See Table 1 above for the number of reviews delivered in each financial year. If fewer than 1,000 reviews were delivered in a financial year, data for that year have not been analysed (e.g. for the 13-15 month review, 125 were conducted in 2016/17; for the 27-30 month review, 296 were provided in 2012/13; and for the 4-5 year review, 19 were provided in 2016/17).

Source to Figures 18-22

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Practitioner involved in review

The UHVP policy documentation emphasises the importance of delivery of the programme by a qualified health visitor. This differs from previous guidance for health visiting (Hall 4 guidance) which stated that many aspects of the service could be delivered by any member of the primary care or wider child health support team, including general practitioners, staff nurses, early years support workers or health visitors.[3] Occasionally, however, more than one practitioner would be involved in a review: for example, a health visitor and a GP or staff nurse or nursery nurse or family support worker might be present. Additionally, the 6-8 week review has always been intended as a two-stage review involving both GP and health visitor. The presence of all practitioners at a review could be recorded and therefore in some years the sum of the bars in Figures 23-27 may slightly exceed 100%.

First visit

As with the location of the first visit, information regarding the practitioner involved in the visit was not able to be recorded for the first four years, and sparsely recorded in 2015/16 as the field was introduced in February 2016 (health visitor was recorded as being involved for 17.4% of visits; practitioner involved in visit was missing for 82.3% of visits). For the final three years and since the introduction of the UHVP (2016/17 to 2018/19), a health visitor was involved in more than 94% of visits (see Figure 23).

6-8 week visit

Information regarding the practitioner involved in the 6-8 week visit was not able to be recorded in the first four years, and only sparsely in 2015/16. In the three years since the UHVP has been implemented, the percentage of visits in which a health visitor was present increased (Figure 24), from 80.3% to 91.0%, and the presence of another practitioner similarly declined, from 58.0% to 50.2%. It should be noted that a GP should be involved in all 6-8 week reviews, although the review is often completed in two separate appointments, which may explain why the rates of other practitioners being present is not always accurately recorded.

13-15 month review

There are less year-on-year comparator data for the 13-15 month reviews as the review was only deliverable from April 2017 (see Figure 25). In each of the two years, a health visitor was present in about 75% of reviews and another practitioner in about 25%; details of the professional present were missing in less than 1% of reviews.

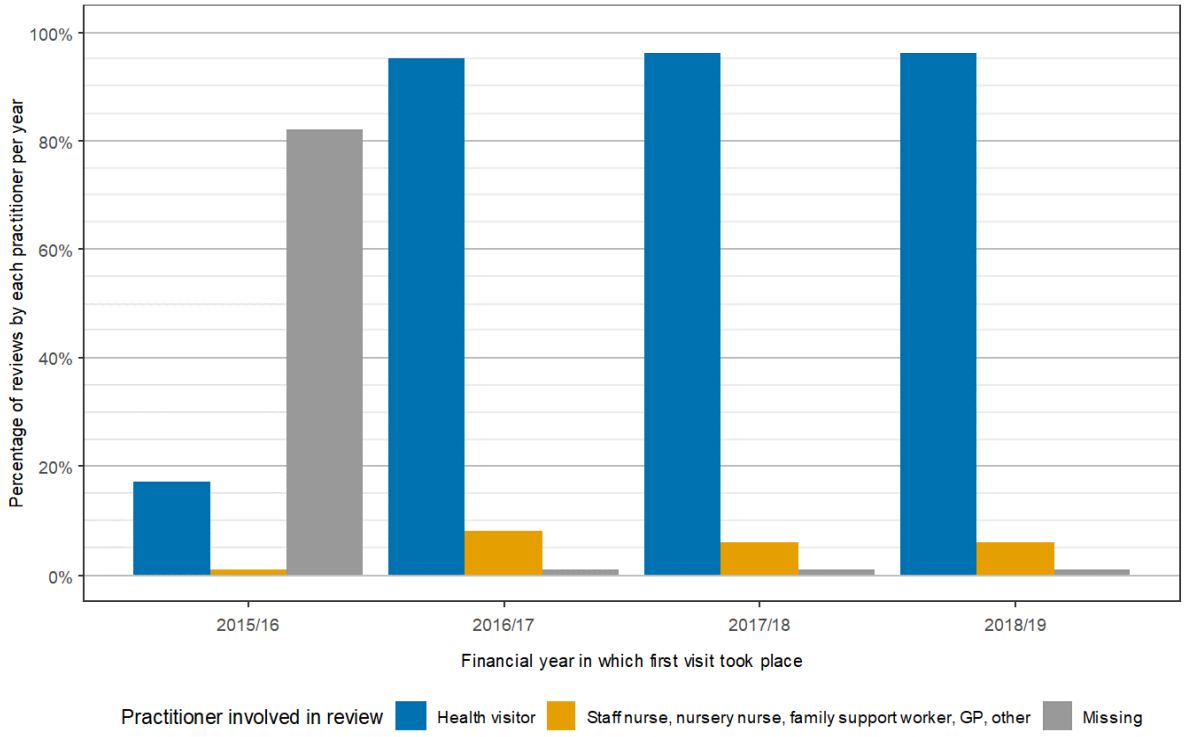
27-30 month review

The 27-30 month review was deliverable from April 2013, so that all babies born from 1 January 2011 were eligible to receive this review. Initially, a health visitor was involved in 72.6% of reviews (in 2013/14); this percentage decreased slightly over the following two years (to 68.4%) prior to the full introduction of the UHVP. From 2016, when the pathway was introduced the percentage of reviews where a health visitor was present steadily increased to 77.8% (see Figure 26). An obverse pattern is observed with other practitioners involved in the review: in the first year, 29.5% were involved, rising to 33.4% in 2015/16, before decreasing steadily to 24.4% in 2018/19.

4-5 year review

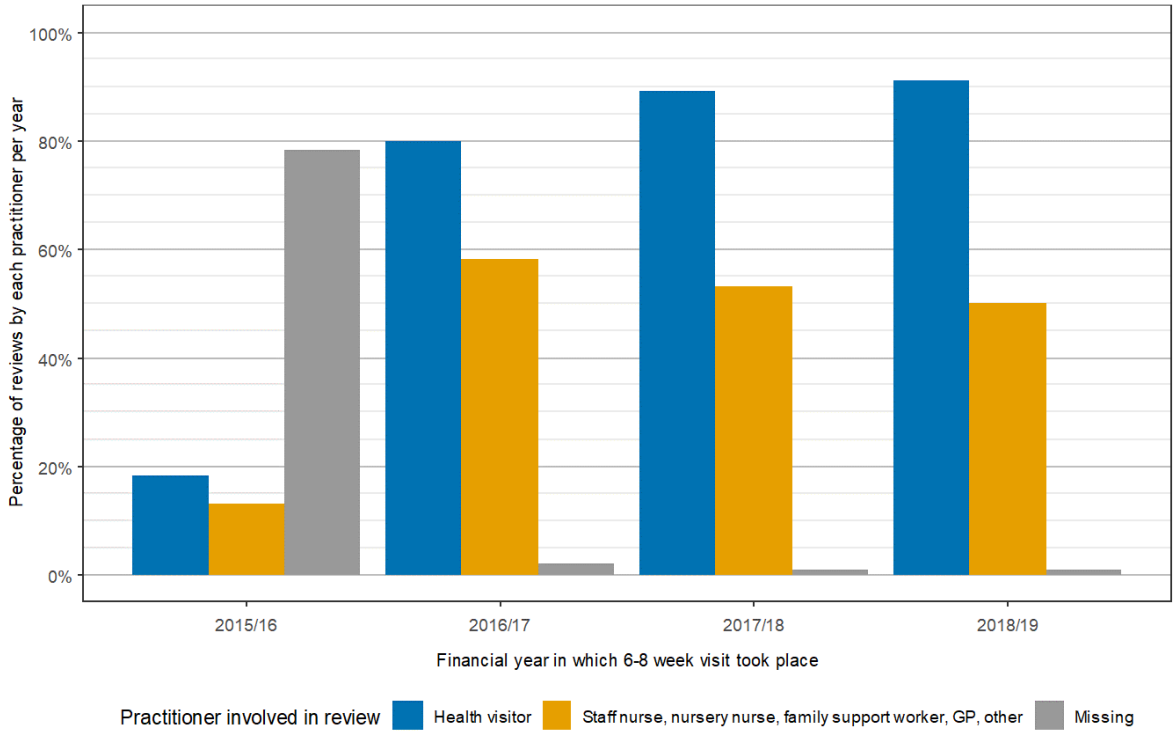
As described elsewhere, limited data are available for this review since its planned introduction was April 2020. Where the review was introduced early, in 90% of reviews a health visitor was involved and in 10% another professional; information about the practitioner involved was missing in about 1% of reviews (see Figure 27).

Figure 23 Percentage of first visits between financial years 2015/16 and 2018/19, stratified by practitioner involved in visit



Note: Practitioners involved in review started to be recorded on the new CHSP form during February 2016, i.e. a few weeks before the end of financial year 2015/16.

Figure 24 Percentage of 6-8 week visits between financial years 2015/16 and 2018/19, stratified by practitioner involved in visit



Note
Practitioners involved in review started to be recorded on the new CHSP form during February 2016, i.e. a few weeks before the end of financial year 2015/16.

Figure 25 Percentage of 13-15 month reviews between financial years 2017/18 and 2018/19, stratified by practitioner(s) involved in review

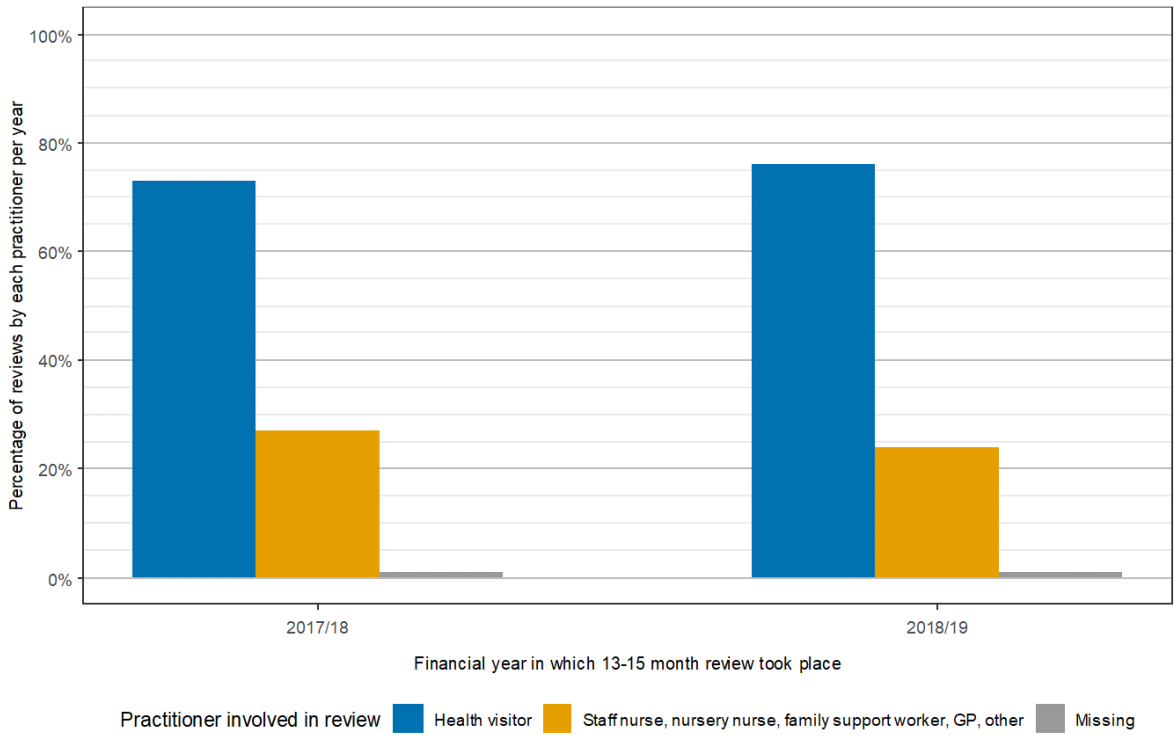


Figure 26 Percentage of 27-30 month reviews between financial years 2013/14 and 2018/19, stratified by practitioner involved in review

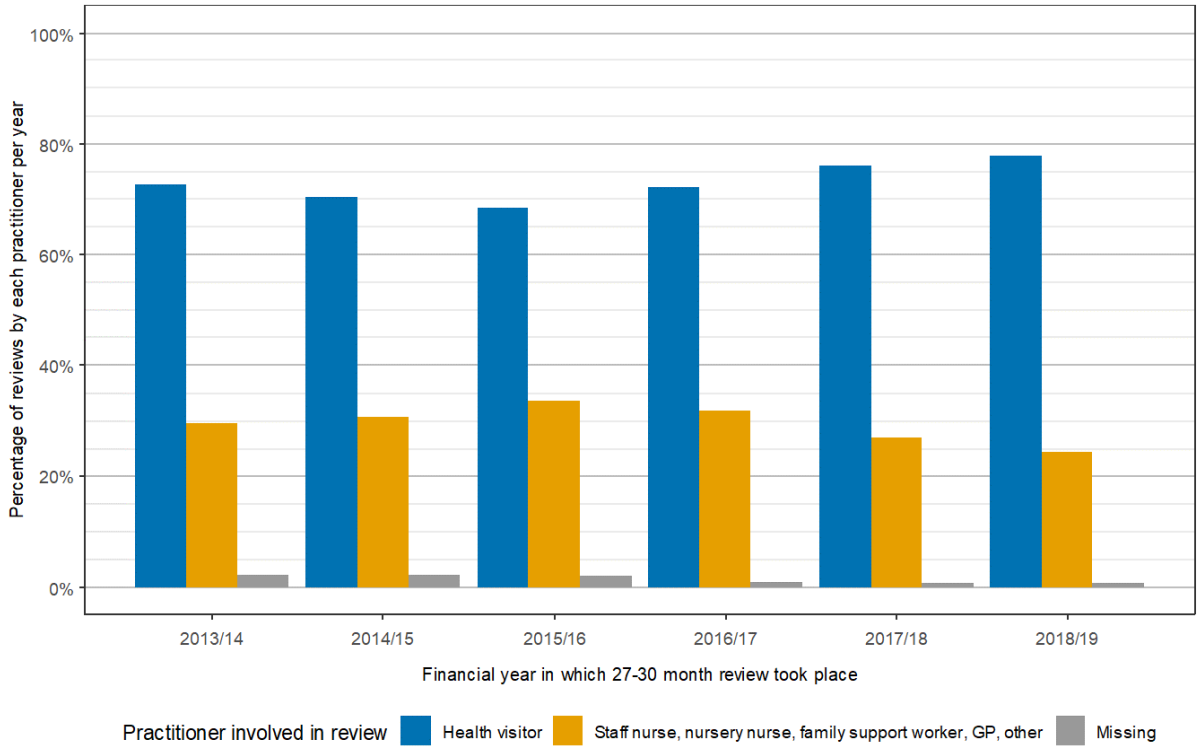
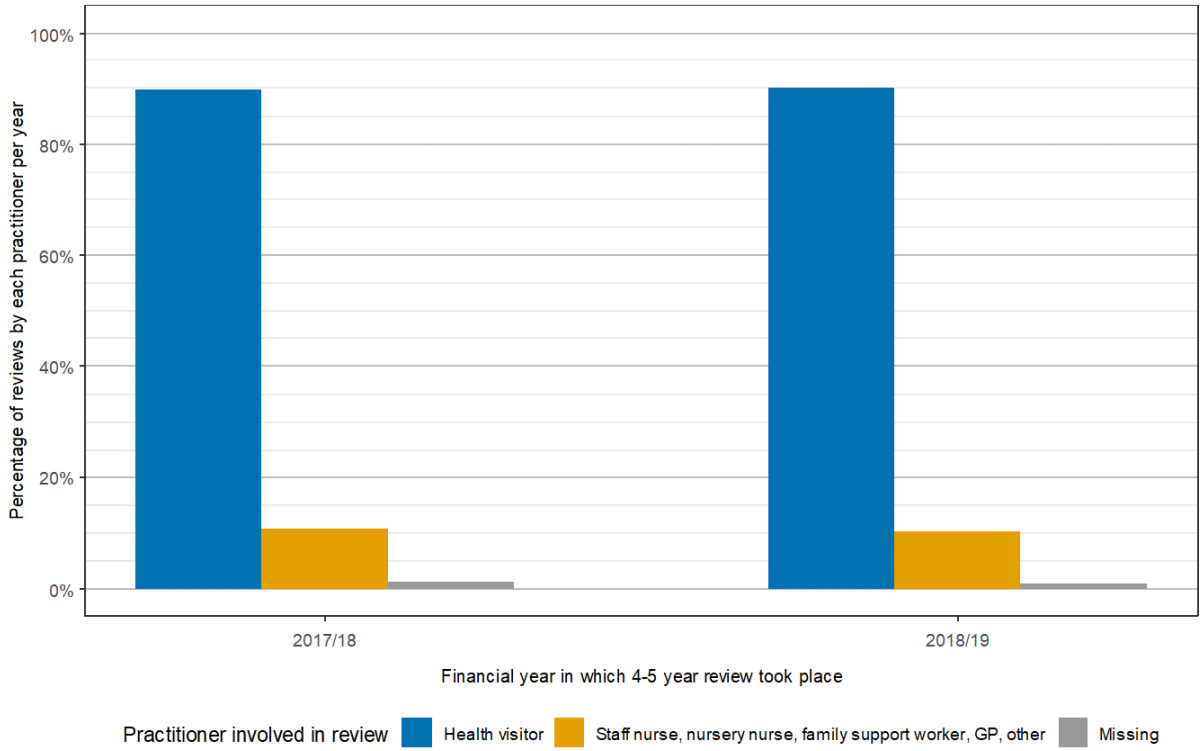


Figure 27 Percentage of 4-5 year reviews between financial years 2017/18 and 2018/19, stratified by practitioner involved in review



Notes to Figure 23-27

1. Multiple practitioners can be recorded as being involved in the delivery of the first visit, hence the total number of practitioners may be greater than the total number of reviews.

2. See Table 1 above for the number of reviews delivered in each financial year. If fewer than 1,000 reviews were delivered in a financial year, data for that year have not been analysed (e.g. for the 13-15 month review, 125 were conducted in 2016/17; for the 27-30 month review, 296 were provided in 2012/13; and for the 4-5 year review, 19 were provided in 2016/17).

Source for Figures 23-27

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Developmental tools used in review

For the last three child health reviews, validated assessment tools were used to assess children's development. Initially, when the 27-30 month review began in April 2013, several developmental tools were approved for use during the review and were described in the clinical guidelines, but no one specific tool was recommended. In practice, prior to the introduction of the UHVP, more than one tool was often used during a review. However, in 2015 the UHVP recommended that the Ages and Stages Questionnaire (ASQ 3) should be used in the assessment of the child's development in the 13-15 month, 27-30 month and 4-5 year reviews. The use of Ages & Stage Questionnaire: Social-Emotional (ASQ-SE 2, which measures additional elements of social and emotional development) was also approved as an additional tool for use in the UHVP.

13-15 month review

As described above, data for this review were only available for two years (see Figure 28). In 2017/18, of 25,182 reviews conducted, 74.9% used the ASQ and 27.7% used ASQ-SE2; less than 6% used another (unknown) tool. In 2018/19, the number of practitioners using ASQ and ASQ-SE had increased to 86.0% and 30.1% respectively; less than 3% used a different tool. It should be noted that percentages do not add to 100% as more than one tool can be used within the reviews.

27-30 month review

The distribution of developmental assessment measures for this review are displayed in Figure 29. Over the six-year period, a developmental assessment tool was used in 83%-91% of reviews. In about 20% of reviews, the Strengths and Difficulties Questionnaire (SDQ) and Sure Start Language Measure (SSLM) were used – this is primarily accounted for by NHS Greater Glasgow & Clyde, where these were the primary assessment tools. The Schedule of Growing Skills (SOGS) was used in 15.1%-17.9% of reviews until 2016/17. The percentage of other tools used in reviews decreased over the six year period, from 10.8% to 3.4%. The use of ASQ was approximately 40% for the first four years until the introduction of the UHVP; in the final two years, a substantial increase in the recorded use of ASQ can be observed, reaching 65.3% in 2018/19.

4-5 year review

Again, data for this review is only available for two years. The percentage of reviews in which a developmental assessment tool was used increased in 2018/19: likewise the percentage of reviews in which the ASQ was used increased from 49.7% in 2017/18 to 68.8% in 2018/19, and the percentage in which other assessment tools were used decreased from 15.1% to 6.3% (see Figure 30).

Figure 28 Developmental tools used during 13-15 month review

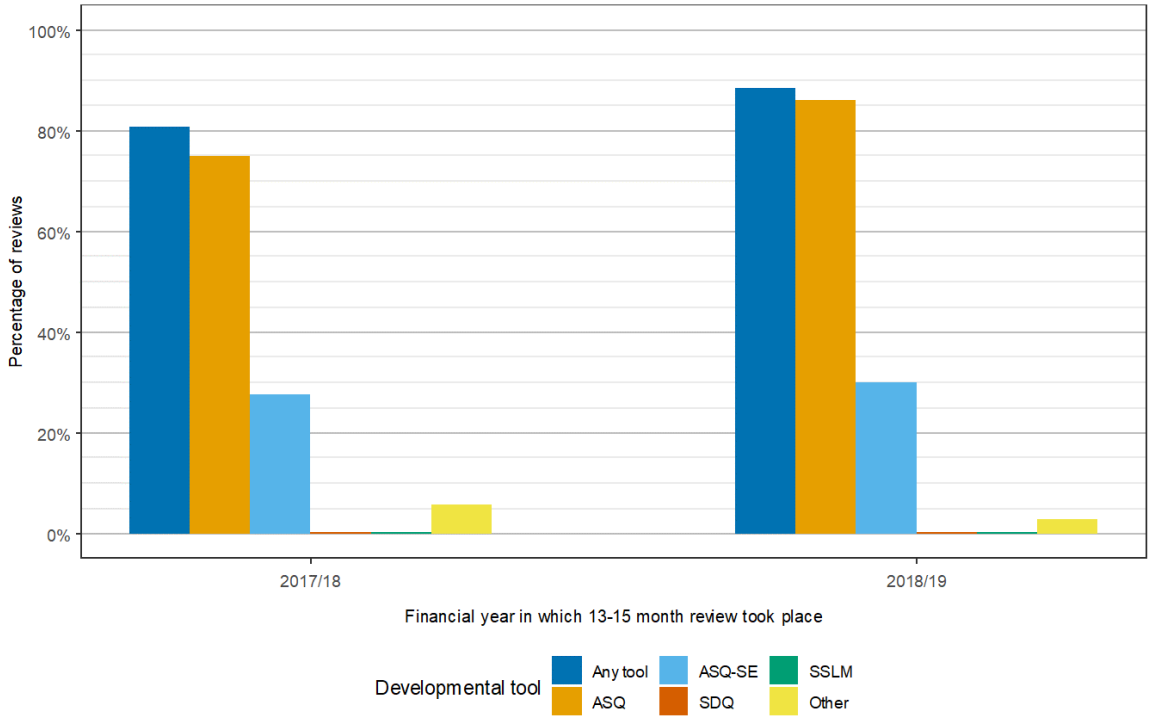


Figure 29 Developmental tools used during 27-30 month review

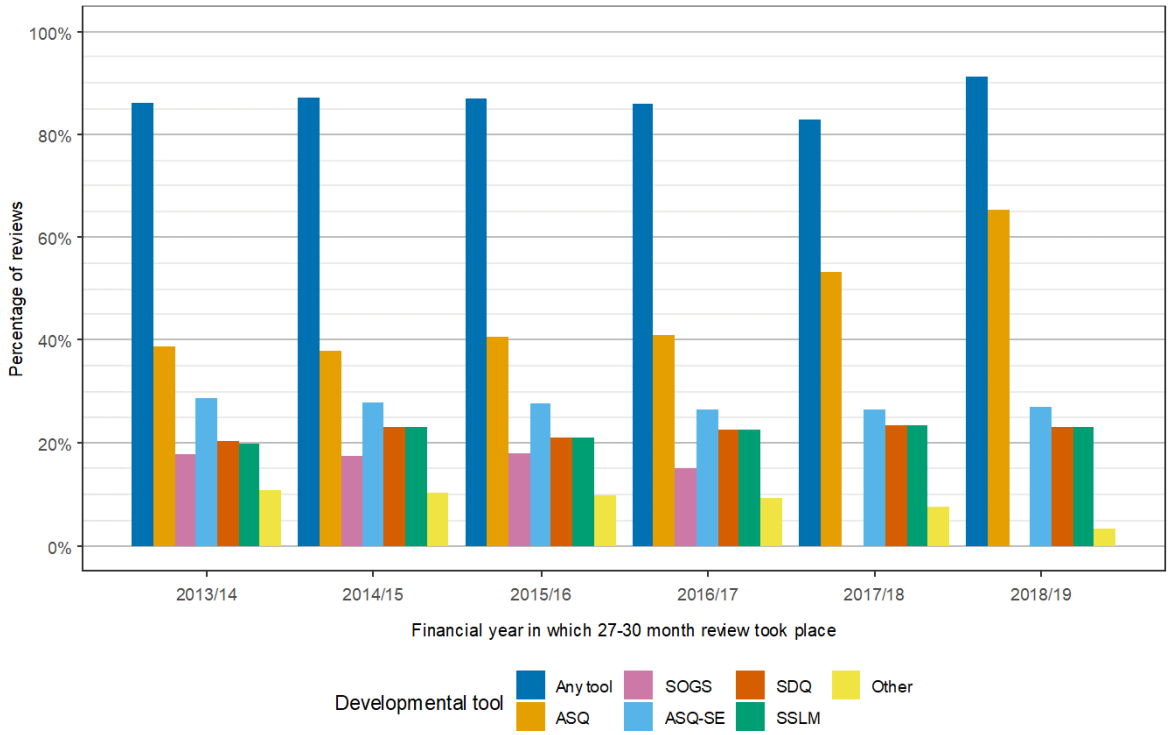
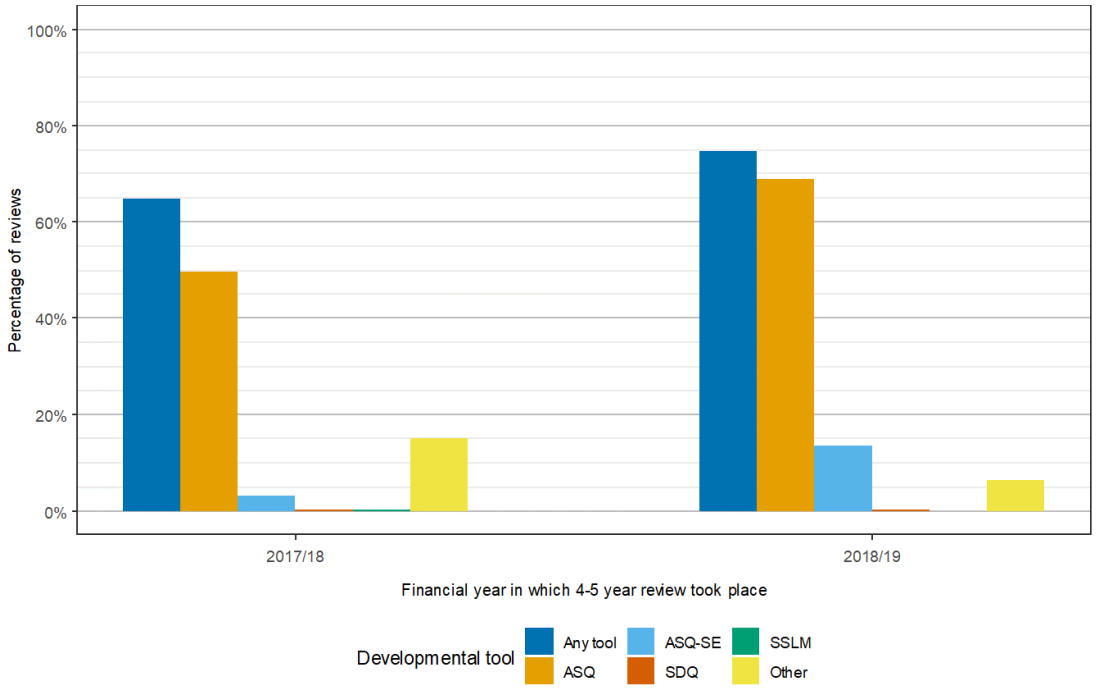


Figure 30 Developmental tools used during 4-5 year review



Notes to Figure 28-30

ASQ	Ages and Stages Questionnaire
ASQ-SE	Ages and Stages Questionnaire: Social and emotional
SDQ	Strengths and Difficulties Questionnaire
SOGS	Schedule of Growing Skills
SSLM	Sure Start Language Measure

1. See Table 1 above for the number of reviews delivered in each financial year. If fewer than 1,000 reviews were delivered in a financial year, data for that year have not been analysed (e.g. for the 13-15 month review, 125 were conducted in 2016/17; for the 27-30 month review, 296 were provided in 2012/13; and for the 4-5 year review, 19 were provided in 2016/17).

Source for Figure 28-30

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Health Plan Indicator (HPI)

First visit

In 2011/12, 20.6% of babies were allocated core HPI status at the first visit (Figure 31); core HPI status increased steadily until it stabilised at just over 60% in the final three years of data analysed (2016/17 to 2018/19). Conversely, additional/intensive status was allocated to 62.4% of babies in 2011/12, and decreased steadily until it reached 10-11% in the final three years. The percentage of babies with missing or unknown HPI status also increased over the study period, from 17% in 2011/12 to 29.3% in 2018/19. This HPI pattern mirrors health visiting practice prior to the introduction of the UHVP. Prior to 2016, health visitors were encouraged to record HPI status by the 6-8 week visit. If a family were recorded as core HPI status, then the family may receive limited or no health visitor support after the 6-8 week check.[7]

The introduction of the pathway saw a revision in the guidance to the recording of HPI status with health visitors encouraged to use professional judgement with provisional recording encouraged in the 11-14 day visit and a further period of time for allocation of the HPI indicator, allowing the Health Visitor time to get to know families. Therefore it became more common for HPI status to be provisional or not recorded at the first visit.

6-8 week visit

The pattern of HPI status allocation for the 6-8 week visit is similar to that in the first visit, although allocation of core HPI status was higher in 2011/12 (37.6%), it stabilises at 80-83% in the final three years (Figure 32). Similarly to the first visit, additional/intensive HPI status was allocated to 56.8% of babies in 2011/12 and declined to 15% and lower from 2016/17; the percentage with unknown or missing HPI status varied over the period although declined in the latter two years (the value ranging from 7.9% in 2013/14 and 2014/15 to 3.5% in 2017/18).

13-15 month review

At the end of the 13-15 month review, almost all children have been allocated either core or additional HPI status (less than 0.5% have unknown status). Due to the timing of the introduction of this review, data are only available for two years (2017/18 and 2018/19): in both years, 86% of children were recorded as having core status and 13% additional HPI status (Figure 33).

27-30 month review

In 2013/14, 31.8% of toddlers have unknown HPI status; this declines to less than 0.5% from 2016/17 onwards indicating that almost all children have an HPI indicator at the 27-30 month review point. The percentage of children with additional HPI status varies a small amount over the course of the six years: from 10.9% in 2013/14 to 15.2% in 2016/17, and then 13.5% in 2018/19 (Figure 34).

4-5 year review

About 0.1% of children have an unknown HPI status at this review. Again, there is very little data available. In 2017/18, out of 6,043 children with reviews, 10.9% had an

additional HPI status; in 2018/19, this had increased to 14.4% (20,220 reviews) (see Figure 35).

Figure 31 Percentage of babies in each HPI group at end of first visit, between financial years 2011/12 to 2018/19

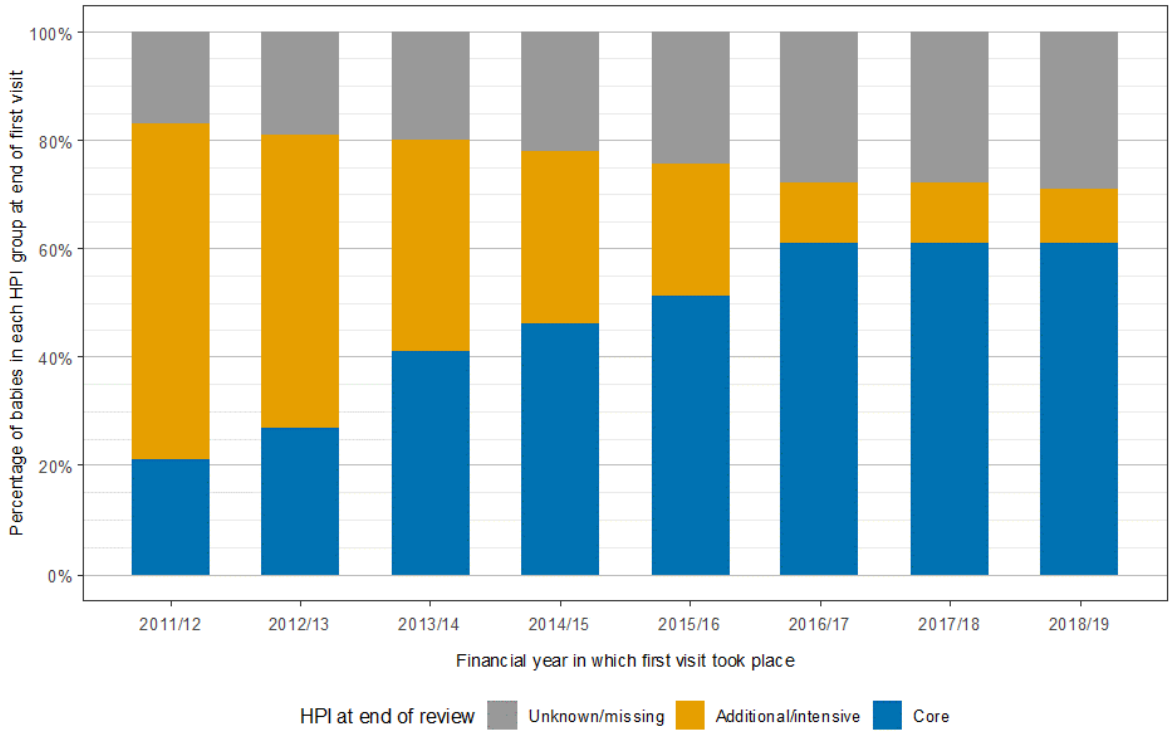


Figure 32 Percentage of babies in each HPI group at end of 6-8 week visit, between financial years 2011/12 to 2018/19

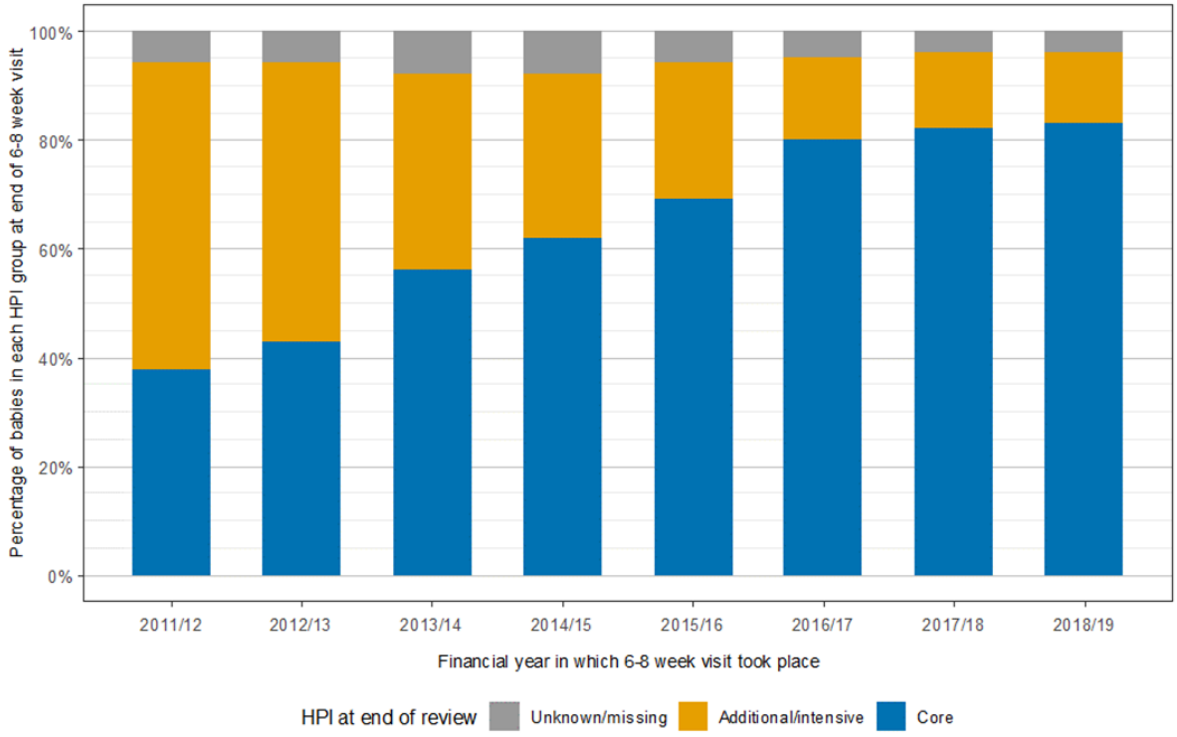


Figure 33 Percentage of children in each HPI group at end of 13-15 month review, between financial years 2017/18 and 2018/19

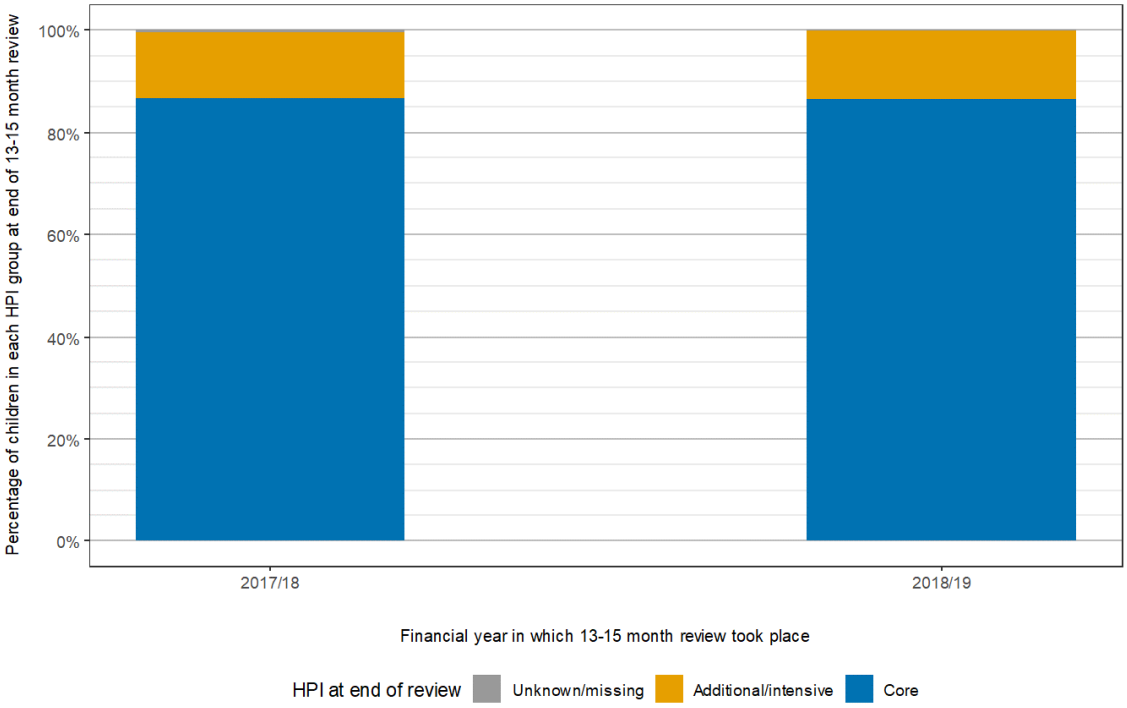


Figure 34 Percentage of children in each HPI group at end of 27-30 month review, between financial years 2013/14 and 2018/19

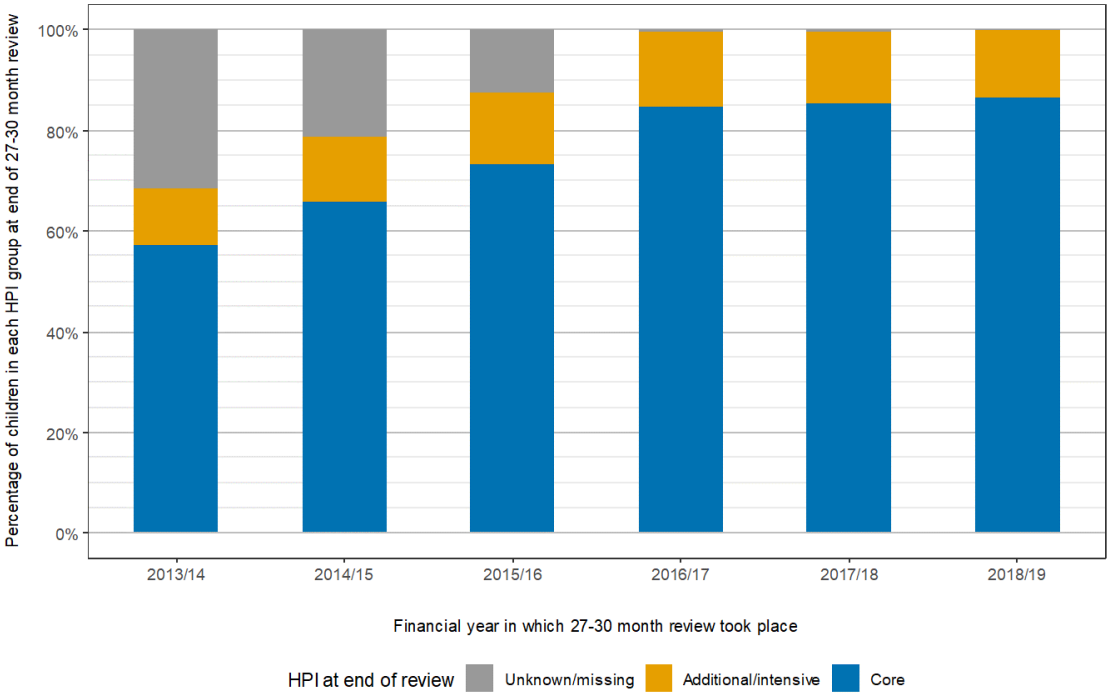
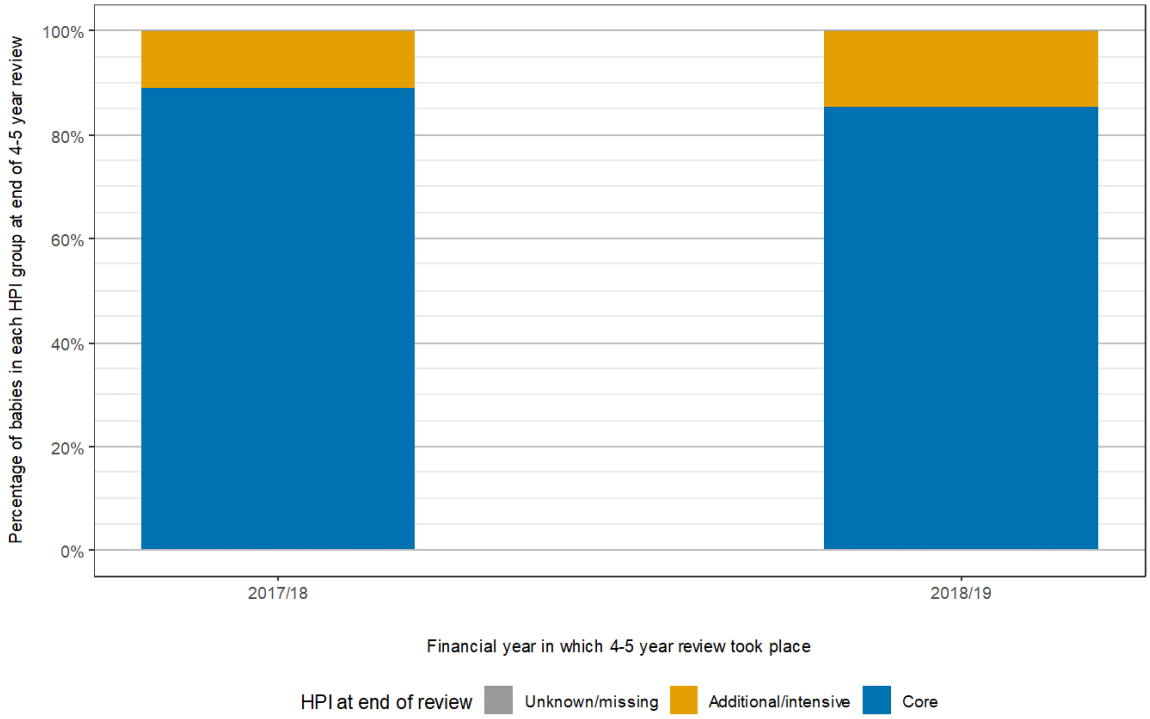


Figure 35 Percentage of children in each HPI group at end of 4-5 year review, between financial years 2017/18 and 2018/19



Notes to Figures 31-35

1. See Table 1 above for the number of reviews delivered in each financial year. If fewer than 1,000 reviews were delivered in a financial year, data for that year have not been analysed (e.g. for the 13-15 month review, 125 were conducted in 2016/17; for the 27-30 month review, 296 were provided in 2012/13; and for the 4-5 year review, 19 were provided in 2016/17).

Source for Figures 31-35

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Developmental concerns

Assessment of children's development forms a core part of all child health reviews. Review records capture the outcome of developmental assessments for a set of domains (e.g. social, emotional, behavioural development – for the full set of domains see Table 6). When the 27-30 month review was introduced in April 2013 there were nine domains being assessed (Table 6). From April 2017, the number of domains has reduced to eight, with some domains being merged, and a new domain added (Problem Solving). The health visitor can record for each domain whether there were no concerns (N), a concern that was newly suspected as a result of the assessment carried out during the current review (from 13-15 months onwards) (C), a concern or disorder that was known prior to the review and is on-going at the time of the following review (P), or if the assessment was incomplete (X).[8]

6-8 week visit

No developmental concerns are recorded at the first visit in line with guidance. Therefore no previous developmental concerns can be reported at the 6-8 week visit. The percentage of reviews in which a practitioner has recorded that there is a developmental concern at 6-8 weeks is about 2.5% per year over the eight years (see Figure 36); the percentage with no concern actively recorded for all domains varies from a maximum value of 93.0% in 2012/13 to a minimum of 86.9% in 2016/17.

13-15 month review

There are only two years for which review data are available, since the review started in April 2017. Developmental concerns had previously been identified in a very small number of children (1.3% of those with reviews) (see Figure 37). This would have been a concern noted at the 6-8 week review. About 10% of reviews recorded children who were identified as having a new developmental concern reported for the first time at this review; a very small percentage (0.2%) of these children had been recorded previously with a concern in a different domain (see Table 6 for domains). In almost 80% of reviews, children were actively recorded as having no developmental concerns (i.e. information was complete for all domains).

27-30 month review

Over the six years for which data are available for this review, the percentage of reviews in which a previous developmental concern has been recorded appears to decline slightly, from 5.4% in 2013/14 to 2.8% in 2018/19 (Figure 38). It should be noted that this is likely to be lower than the level of new concerns recorded at the previous review, because some of these concerns will have been resolved in between reviews and then recorded as 'no concern' going into the 27-30 month review. For the first four years, the percentage with a new developmental concern identified is constant at about 15%: this decreases to 13.2% in 2017/18 and 12.7% in 2018/19. In all years, in approximately 1% of reviews a new concern has been recorded for a child who had previously been identified with a developmental concern in a different domain.

The percentage of reviews in which no concern is actively recorded and no domains have missing data is approximately 72% for the first four years; this value then declines to

53.2% in 2017/18, and then increases to 60.8% in the final year. However, the percentage of reviews where no concern is actively recorded, but some domains are missing increases substantially in these final two years. This coincides with the introduction of the ASQ as the mandatory assessment tool, and changes to the domains that were captured in the CHSP is at least partly related to NHS Greater Glasgow & Clyde using the SDQ/SSLM, which does not contain data for the problem solving domain and thus appears incomplete in the records. Thus the decrease in no developmental concerns being identified is due to the review not being recorded completely and changes to the assessment tools and recording of domains, rather than an increase in developmental concerns.

4-5 year review

Again, data are only available for two 4-5 year reviews. A previous developmental concern has been recorded in about 4% of reviews (see Figure 39). As noted in the previous section, a concern recorded at 27-30 months may have resolved prior to the 4-5 year review, and thus appear as ‘no concern’ at the start of the 4-5 year review. For example, at the 13-15 month review, a child may have no developmental concerns and thus the health visitor will have recorded ‘no concerns’. By the time of the 27-30 month review, the child may have a concern regarding speech, and therefore ‘new concern’ in the speech, language and communication domain will be recorded in this review. However, by the time of the 4-5 year review, the child’s speech is developing fine, so the child will have ‘no concern’ recorded.

A new concern has been recorded in 5.9% of reviews provided in 2017/18 and 7.4% in 2018/19; again, in about 0.9% of reviews, a child with a new concern has also been previously identified with a developmental concern in a different domain. In about 74% of reviews no concern has been actively recorded for all domains; in 15% of reviews no concern has been identified, but recording is not complete for all domains.

Table 6 Definitions of developmental concern domains used on CHSP-PS forms

Reviews recorded using April 2013 – March 2017 CHSP-PS form	Reviews recorded using April 2017 CHSP-PS form
Social	Personal/Social
Emotional	Emotional/Behavioural
Behavioural	
Attention	
Speech, Language & Communication	Speech, Language & Communication
Fine Motor	Fine Motor
Gross Motor	Gross Motor
Vision	Vision
Hearing	Hearing
n/a	Problem solving

Notes
For each domain, the health visitor recorded one of the following responses:

- N no concerns
- C concern newly suspected
- P concern/disorder previously identified
- X assessment incomplete

In some reviews, no concern has been recorded, but not ***all*** the developmental domains have been completed or information is missing; this situation is included separately in Figure 38-41.

Figure 36 Developmental concerns raised in 6-8 week child health review

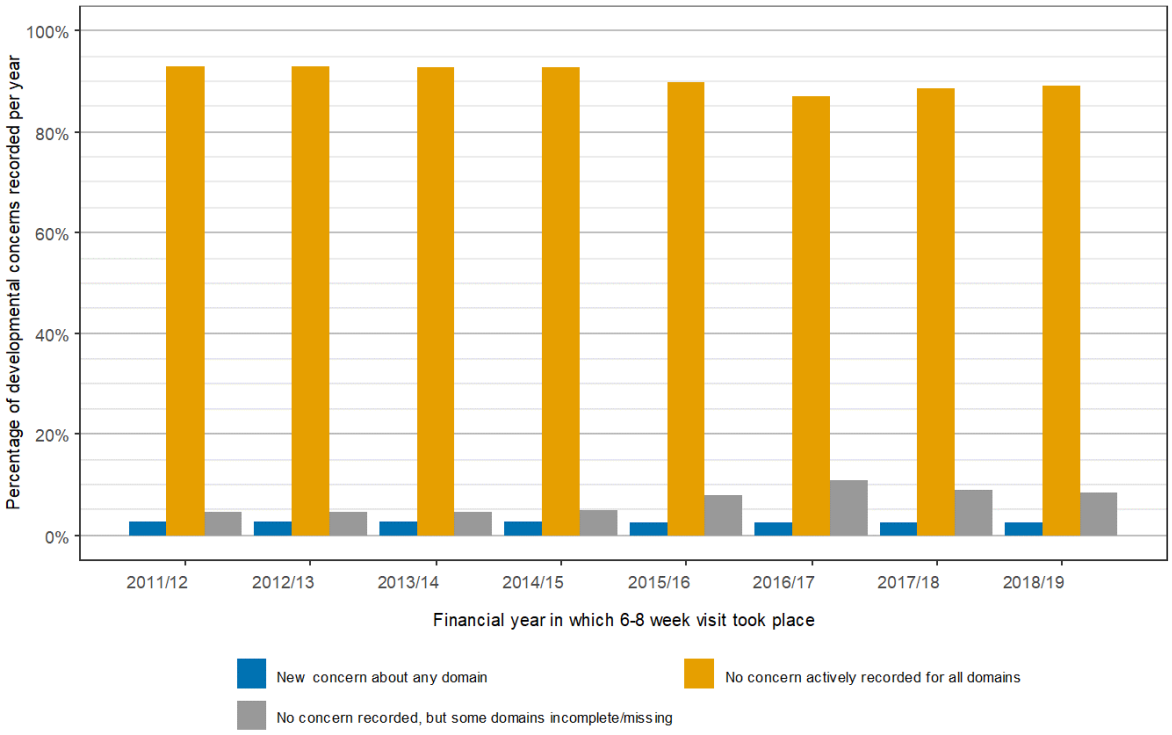


Figure 37 Developmental concerns raised in 13-15 month child health review

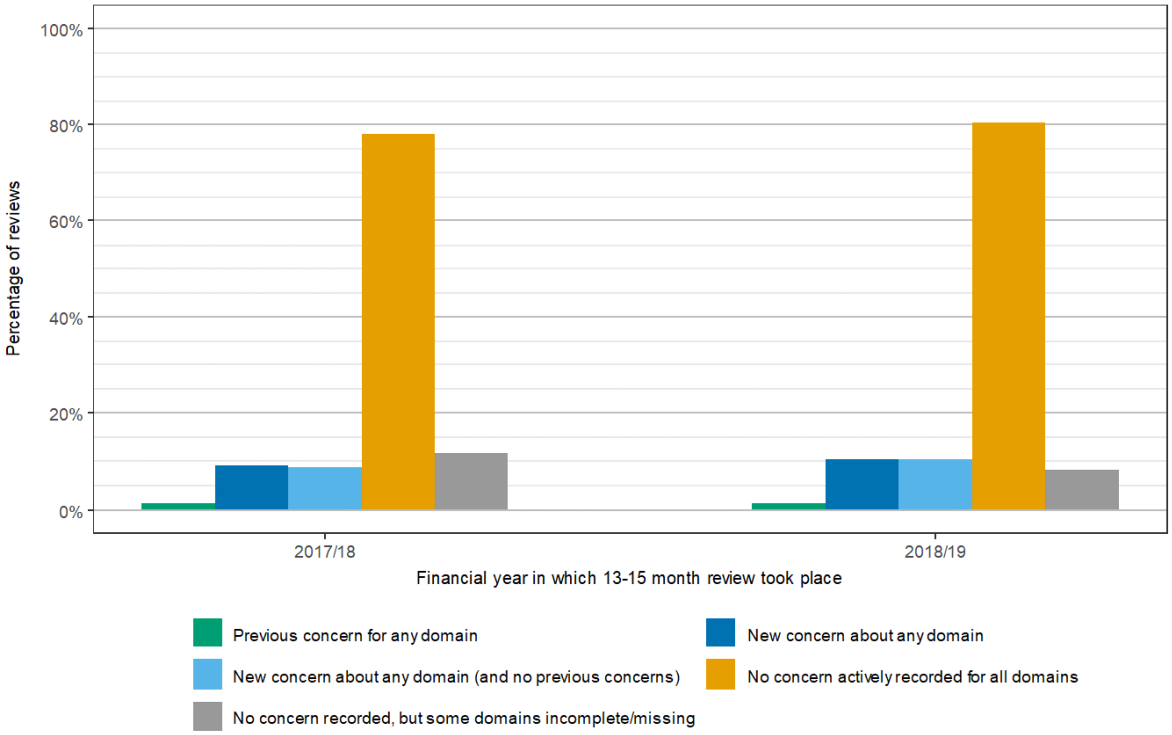


Figure 38 Developmental concerns raised in 27-30 month child health review

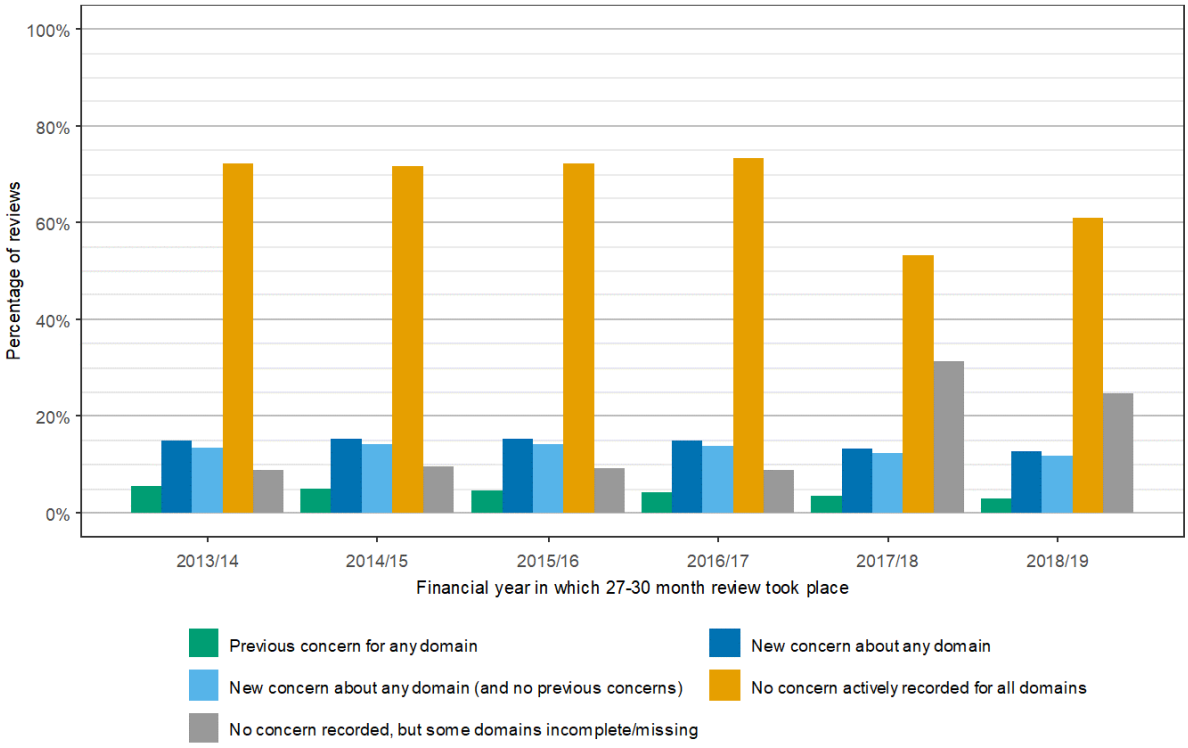
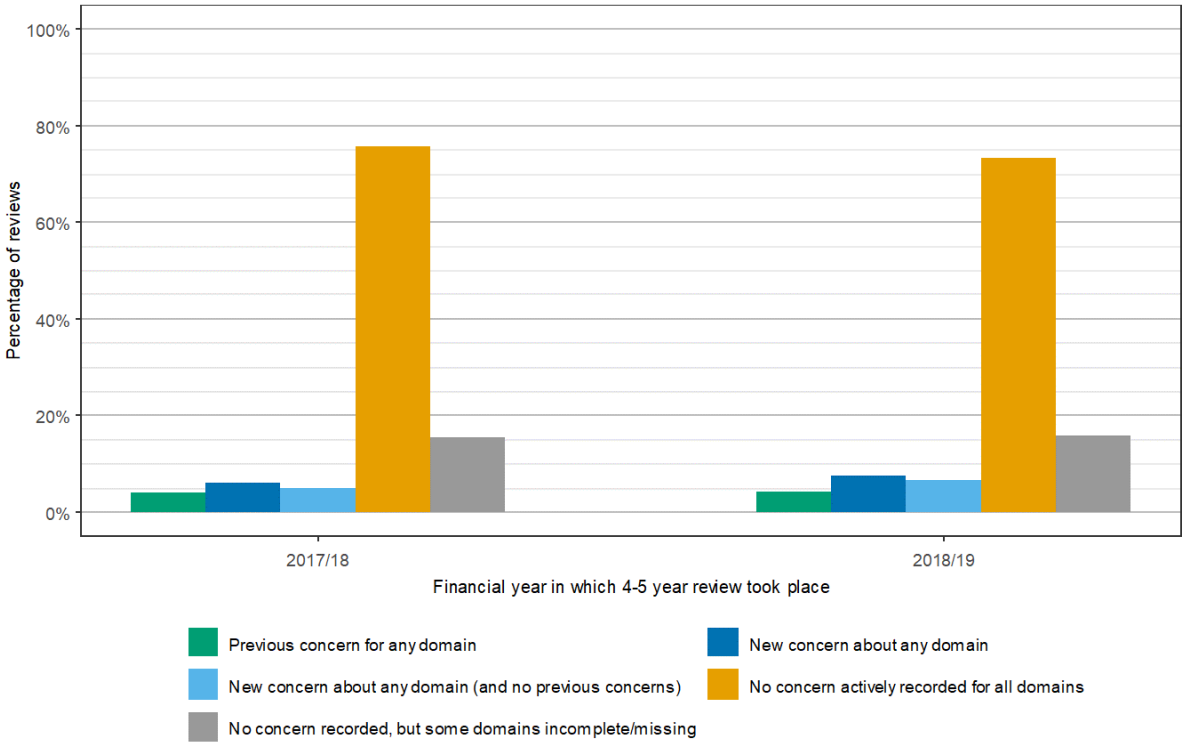


Figure 39 Developmental concerns raised in the 4-5 year child health review



Notes to Figures 36-39

1. See Table 1 above for the number of reviews delivered in each financial year. If fewer than 1,000 reviews were delivered in a financial year, data for that year have not been analysed (e.g. for the 13-15 month review, 125 were conducted in 2016/17; for the 27-30 month review, 296 were provided in 2012/13; and for the 4-5 year review, 19 were provided in 2016/17).

Source for Figures 36-39

The source for all child health data is CHSP-PreSchool May 2020, Public Health Scotland. The source for births data is NRS.

Conclusions

This report set out to evaluate the extent to which child health reviews as part of the UHVP are being delivered and, in addition, whether the delivery of these reviews differed by either health board area or levels of deprivation. To address this, relevant information was compiled about the child health reviews carried out in Scotland for children born between 1 January 2011 and 31 March 2019. This report describes the births in Scotland over this period, the child health reviews that took place, how the reviews were conducted, and the measures used for identifying concerns for children's expected development.

The report aimed to answer the following research questions:

1. What is the extent to which the universal child health review elements of the pathway are being delivered, the equity of these contacts, and the extent to which this varies by health board?

2. What is the extent to which child and family needs are being identified in a timely manner?

The findings of this report in relation to these two questions are summarized below. This will be followed by a discussion of the implications of these findings for health visiting policy in Scotland, and the limitations of these conclusions.

What is the extent to which the universal child health review elements of the pathway are being delivered, the equity of these contacts, and the extent to which this varies by health board?

Delivery of the Programme

Overall, for the three more established reviews (first visit, 6-8 week review and 27-30 month review), coverage is high at over 90%. Average monthly coverage of 98% is recorded for the first review (aged 11-14 days), 93% for the 6-8 week review, and 91% for the 27-30 month review. Two reviews (13-15 month and 4-5 year) were introduced through the UHVP which published in 2015. Coverage for these two reviews is lower initially, as Boards began to roll out the UHVP, but coverage increases over time. The 13-15 month review increased coverage over the initial years of implementation to 91.4% for birth cohort September 2018 (the latest point in the data extracted where children would be eligible for the review). The coverage of the 4-5 year review increased to 63.5% to birth cohort March 2015 (the latest point in the data extracted where children would be eligible for review). However, the 4-5 year reviews relate to an earlier introduction by some health boards only (see Supplementary Table 1), which explains the relatively low coverage in comparison to the other more established reviews. The Phase 2 report will be able to provide a more detailed overview of the implementation of this visit.

The review data also showed evidence of seasonal variations, with consistently lower coverage in December/January over the winter festive period.

In relation to SIMD quintile, at the first visit there was no significant difference in coverage across SIMD quintiles.

At the 6-8 week visit, coverage in the most deprived areas is 3.8 percentage points different, on average, compared to the least deprived areas, with generally the highest coverage in the least deprived areas, and lowest coverage in the most deprived areas.

Referring to PHS published data on coverage of the 27-30 month review for reviews conducted between 2013/14 and 2018/19, coverage in 2013/14 was slightly higher for children in the least deprived quintile, however, in the following five years coverage among all SIMD quintiles slightly increased and no differences could be seen between quintiles.

In the 4-5 year review coverage, published in the PHS data for the two years covered by this report show no discernible pattern between SIMD groups.

Context of reviews

The context of how reviews were delivered was also examined. Both the location and health care professional conducting the review were explored. This evaluated the extent to which the UHVP guidance has been implemented - that where possible, child health reviews should be carried out in a child's home, and by a qualified health visitor – these conditions were met across the reviews.

Location

The available location data shows that for all reviews, the percentage carried out in the child's home has increased year on year. By 2018/19, 97.7% of first reviews, 87.6% of 6-8 week reviews, 67.6% of 13-15 month reviews, 54.5% of 27-30 month reviews, and 45.2% of the 4-5 year reviews were carried out in the child's home. Therefore, the UHVP guidance for carrying out reviews in the child's home is being met for most children in the earlier reviews, but for many children in 2018/19 this key element of the UHVP policy had still not been achieved for the three later reviews, which were also being delivered in a clinic or GP practice.

Practitioner

Guidance states that UHVP reviews should be carried out by a qualified health visitor. While predominantly child health reviews are carried out by one practitioner, occasionally more than one practitioner was present at the reviews. For example, a health visitor and a GP, staff nurse, nursery nurse, student health visitor or family support worker might be present. Similar to the location findings, the practitioner(s) present could not be recorded from the beginning of the study period for the first visit; the field was introduced on the first visit form in February 2016.

Based on the available data, however, by 2018/19, 95.9% of first reviews, 91.0% of 6-8 week reviews, 76.3% of the 13-15 month reviews, 77.8% of 27-30 month reviews and 90.0% of 4-5 year reviews were conducted by a qualified health visitor. The presence of other practitioners was generally lower in the more recent years of reviews. This indicates that for the majority of children the guidance is being followed and these reviews are being conducted by a qualified health visitor.

Development tools

In 2015 UHVP recommended that the Ages and Stage Questionnaire (ASQ) be used to assess children's development in the 13-15 month, 27-30 month and 4-5 year reviews. Prior to the UHVP being published, a range of tools were recommended in the clinical guidance and used for the 27-30 month review. This legacy resulted in a mixture of tools still being used in 2018/19 to assess children's development, with health visitors being encouraged to use professional judgement and continue to use additional tools to assess specific domains in more depth if required.

By 2018/19, the ASQ was used in 86.0% of 13-15 month reviews, 65.3% of 27-30 month reviews and 68.8% of 4-5 year reviews. In NHS Greater Glasgow & Clyde (GGC), the largest health board, 13-15 month and 4-5 year reviews had not been introduced by March 2019, nor was the ASQ used in the 27-30 month review. The ASQ was used in 87.0% of 27-30 month reviews that were delivered in the other health boards in the financial year 2018/19. The use of the ASQ-SE, alongside the ASQ, had also increased in more recent years, whilst the use of alternative measures was reduced in reviews in later years.

Therefore, although the ASQ has been used in more reviews, there are still many reviews (for example, more than 17,800 for the 27-30 month review) in which this standardised tool, recommended by the UHVP, was not being used routinely in 2018/19.

Health Plan Indicator (HPI)

Following the introduction of the UHVP, there are two HPI scores (together with unknown) that can be assigned to a child following their child health review:

- *core,* when the child only requires the core contact from professional services; and
- *additional,* when a child requires sustained additional input from professional services to support the family and child so that the child can reach their full health or development potential; and
- *unknown,* when the health visitor has not had adequate opportunity to make an assessment.

In reviews that took place between 1 January 2011 and 31 January 2016 prior to the introduction of the UHVP, a third category was also used: *intensive.* This category was no longer used after the introduction of the UHVP.

The percentage of children with an additional HPI status after the first and 6-8 week visits declined in the more recent years. In the first visit, the percentage of children with unknown HPI increased steadily over the eight-year period, from almost 17% in 2011/12 to over 29% in 2018/19; however, for the 6-8 week visit, there was no discernable pattern. For the other reviews, the percentage of children with an additional HPI status was similar to that allocated in the 6-8 week visit, although it should be recalled that the 13-15 month and 4-5 year reviews had been recently introduced and thus had been delivered to fewer children.

What is the extent to which child and family needs are being identified in a timely manner?

The evaluation was able to explore the extent to which developmental concerns were recorded at each review. Developmental concerns were not included in the first review form, but a developmental concern was recorded for around 2.5% children at the 6-8 week review, over the 8 years of the study period.

At the 13-15 month review, newly introduced in 2017 as part of the UHVP, a new concern was recorded for on average 10% of children, of whom only 0.02% were recorded as having a previous developmental concern. This is important because this 10% of children would potentially not previously have had a development assessment at this point which may have made it more difficult for health visitors to reliably assess and detect developmental concerns at this earlier stage. Previously the 27-30 month review would have been the point at which concerns would have been assessed. This could have led to a delay in the offer of additional support and guidance from health visitors.

At the 27-30 month review, a new developmental concern was recorded for on average 14.4% of children. Overall, 4.5% of children show as having a previous concern recorded. However, at the 27-30 month review 13% of children with a new concern have no previous concern noted and only 1% of these children with a concern at 27-30 month have a previous concern noted in a different domain.

At the 4-5 year review, on average 6.7% of children have a new developmental concern recorded. Overall, 4.2% of children show as having a previous concern recorded. However, at the 4-5 year review 5.8% of children with a new concern have no previous concerns noted and only 0.9% of these occurring for children with a previous concern noted in a different developmental domain. This demonstrates that new developmental concerns are being picked up by health visitors at all the reviews, which identifies children that may need a referral or additional support to achieve their developmental potential.

Overall the introduction of the 13-15 month review would indicate that this offers an opportunity for health visitors to pick up concerns about children at an earlier development stage than prior to the introduction of the UHVP. Additionally, the 4-5 year review also appears to be picking up additional concerns, albeit fewer new concerns.

Policy relevant findings and implications

This report has found that for all reviews which were offered to all children under the UHVP, coverage in more recent years is high. When reviews have been introduced, coverage has taken time to increase, demonstrating the need for the ‘bedding in’ of the revised programme. Evidence from later years confirms that the child health review elements of the UHVP are being delivered to most children in Scotland in a timely manner.

This report also concluded that the majority of recent reviews have been undertaken in children’s homes and by qualified health visitors. Under UHVP guidance it is stipulated that child health reviews should be carried out where possible in the child’s home and by a qualified health visitor. This report demonstrates that this aim has increasingly been met in successive years since UHVP began. However, there are still some children for whom this

is not the case. To ensure that reviews are delivered as set out in UHVP to all children in Scotland, the reason why some reviews are still not carried out this way should be investigated.

A further aim of UHVP was to identify children and families that may require additional support, but who might be missed in early reviews, as the signs are not apparent until the later stages of development, when children are older. This report has demonstrated that new concerns are being identified in the newly introduced reviews at 13-15 months and 4-5 years. A large proportion of these new concerns are raised for children who previously were not identified as having an area of developmental concern. This implies that the later reviews under the UHVP are picking up children who may have been missed by the previous health visiting provision. It would appear that the extension of UHVP may be achieving its aim of identifying these children who might otherwise have their developmental support needs missed, although the situation may be clearer at the end of Phase 2, when the UHVP has been implemented for longer by all health boards.

Appendix

Supplementary Table 1 Dates/years children became eligible for each review in NHS Board

NHS Board[1]	Health visitor first visit[2]	6-8 week review	13-15 month review	27-30 month review	4-5 year review
NHS Ayrshire & Arran	2002	2002	June 2017	2013	March 2018
NHS Borders	2002	2002	July 2017	2013	April 2018
NHS Dumfries & Galloway	2002	2002	June 2017	2013	May 2020
NHS Fife[3]	2002	2002	April 2017	2013	April 2017
NHS Forth Valley	2002	2002	June 2017	2013	March 2019
NHS Grampian	2010	2010	February 2018	2013	April 2017
NHS Greater Glasgow & Clyde	2002	2002	May 2019	2013	January 2020
NHS Highland	2007	2007	June 2017	2013	August 2020
NHS Lanarkshire	2002	2002	October 2017	2013	March 2018
NHS Lothian	2002	2002	May 2017	2013	July 2019
NHS Orkney	2010	2010	April 2017	2013	January 2018
NHS Shetland	2008	2008	April 2017	2013	September 2018
NHS Tayside	2002	2002	May 2017	2013	July 2017
NHS Western Isles	2006	2006	June 2018	2013	June 2018

Notes

1. The health visitor first visit and the 6-8 week review were implemented before 2002 in many areas, but this is the first year that there is reliable denominator data for national reporting purposes.
2. Certain areas within some NHS Boards may have started offering reviews earlier than the dates stated in the table.
3. NHS Fife partially implemented the 4-5 year review from April 2017, but only for children with additional HPI (Health plan Indicator), indicating that the child/family require some form of additional support. They aim to fully implement the pathway in due course.

Acknowledgement
This table was first published as Table 1 in the Appendices of the Technical report: Child Health Pre-School Review Coverage Statistics 2020/21 (Pre-School Review Coverage Statistics Technical Report)

Source: CHSP-PS November 2021, SIRS, Public Health Scotland

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