

Breastfeeding Statistics Scotland

Financial Year 2015/16

Publication date – 25 October 2016



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Introduction

Nutrition plays a crucial role in the early months and years of life and is important in achieving optimal health. [Improving Maternal and Infant Nutrition: A Framework for Action](#) was published by the Scottish Government in January 2011. It is a framework for action which can be taken by NHS Boards, Local Authorities and others to improve the nutrition of pregnant women, babies and young children in Scotland. Promoting and supporting breastfeeding is a key component of this as breastfeeding rates are low in Scotland. As outlined in the document "The Scottish Government has adopted as policy World Health Organisation guidance recommending exclusive breastfeeding for the first six months of an infant's life. It is recommended breastfeeding should continue beyond six months, alongside the introduction of appropriate solid foods, for up to two years of age or as long as the mother chooses".

Encouraging and supporting breastfeeding is recognised as an important public health activity. There is good evidence that breastfeeding in infancy has a protective effect against many childhood illnesses, and reduces childhood admissions to hospital¹. Breastfed infants are likely to have a reduced risk of infection, particularly those affecting the ear, respiratory tract and gastro-intestinal tract. This protective effect is particularly marked in low birth weight infants. Other probable benefits include improved cognitive and psychological development, and a reduced risk of childhood obesity. There is evidence that women who breastfed have lower risks of breast cancer, diabetes², epithelial ovarian cancer³ and hip fracture later in life⁴.

Support and encouragement for breastfeeding can be provided at many levels. For example: health promotion campaigns at a national level; policies in maternity hospitals at NHS board level and primary care teams working with individual women and groups within the community. While these can support and encourage mothers to initiate and continue breastfeeding, there are a wide range of other factors that influence mothers. Maternal age and deprivation are known to be strongly associated with the likelihood of breastfeeding.

Breastfeeding rates in Scotland are monitored and published annually. Statistics are presented by NHS Board and Local Authority, and also by maternal age, deprivation and smoking status. The information is derived from data collected at routine child health reviews at around 10 days and 6-8 weeks of age, and recorded on the Child Health Systems Programme Pre-School system (CHSP Pre-School). This release provides breastfeeding statistics in Scotland for the latest ten financial years, 2006/07 to 2015/16.

¹ Ajetunmobi A, Whyte B, Chalmers J, Tappin DM, Wolfson L, Fleming M, MacDonald A, Wood R, Stockton DL. Breastfeeding is associated with reduced childhood hospitalization: evidence from a Scottish birth cohort (1997 – 2009). *Journal of Pediatrics* 2015, 166(3): 620–625 [DOI Link](#)

² <http://www.thelancet.com/series/breastfeeding>

³ Hoddinott, P., Tappin, D., Wright, C. (2008) Breast feeding. *British Medical Journal*. 336, 881-887

⁴ *Improving Maternal and Infant Nutrition: A Framework for Action*, Scottish Government (2011)

Main points

- Across Scotland, almost half of babies born in 2015/16 (49.3%) were being breastfed at their Health Visitor first visit (around 10 days of age).
- The proportion of babies being breastfed at their first visit has increased slightly over the last 10 years. This reflects an increase in the proportion receiving mixed breast and formula feeding, and a slight decrease in the proportion receiving breastfeeding only (exclusive breastfeeding).
- Breastfeeding rates decline as babies get older. Across Scotland, 38.9% of babies born in 2015/16 were being breastfed at their 6-8 week review.
- Breastfeeding rates are lower in more deprived areas and among younger mothers.
- Breastfeeding rates vary across Scotland. This may reflect differences in factors such as deprivation and local services.

Methods and Definitions

Data collection

NHS Scotland provides a universal health promotion programme to all children and their families known as the child health programme. The programme includes various elements such as formal screening for specific medical problems, routine childhood immunisations, and a structured programme of needs assessment, health promotion, and parenting support provided through regular scheduled contacts with health visitors, school nurses and other health professionals.

The delivery of the child health programme to pre-school aged children in Scotland is supported by the CHSP Pre-School system. The system facilitates the invitation of children for specific child health programme contacts as they reach the appropriate age and also allows recording of information obtained and/or care given during the contacts.

These statistics are derived from data collected at the child health programme health visitor First Visit review (which takes place at around 10 days of age) and 6-8 week review. At these reviews, the health professional (normally a health visitor) records the type of milk the baby is fed i.e. whether the baby is fed breast milk only, fed formula milk only, or fed both breast and formula milk. These data are then recorded on the CHSP Pre-School system. ISD receive data extracts from the system for the purpose of producing and publishing statistics.

Data Completeness

The target population these statistics aim to cover is all babies born in Scotland each year i.e. the data are not based on a sample. Annual overall estimates of the completeness of the breastfeeding data at the First Visit and 6-8 week reviews at Scotland level are shown in the table below:

Financial year	Number of live births ¹	First Visit reviews with known feeding status		6-8 week reviews with known feeding status	
		Number	%	Number	%
2006/07	56,486	45,919	81	44,478	79
2007/08	58,689	50,266	86	47,764	81
2008/09	59,435	51,422	87	48,769	82
2009/10	59,156	50,902	86	48,479	82
2010/11	58,633	54,946	94	53,448	91
2011/12	58,816	56,800	97	54,570	93
2012/13	57,296	55,602	97	53,241	93
2013/14	55,953	54,592	98	52,247	93
2014/15	55,991	54,604	98	51,793	93
2015/16	55,250	53,572	97	49,258	89

1. Data on live births are sourced from National Records of Scotland birth registrations

Source: National Records of Scotland; CHSP Pre-School Aug 2016

Data completeness has improved over the years presented (2006/07 to 2015/16). See [Appendix A1](#) for more information on factors affecting data completeness and the impact on reported rates.

Definitions

% Exclusively breastfed is calculated as:

$$\frac{\text{Number of babies exclusively breastfed}}{\text{Number of reviews with a valid feeding status}} \times 100$$

% Breastfed (includes mixed breast and formula fed) is calculated as:

$$\frac{\text{Number of babies exclusively breastfed} + \text{number of babies mixed breast and formula fed}}{\text{Number of reviews with a valid feeding status}} \times 100$$

Note this is sometimes referred to as the overall breastfeeding rate.

Differences in definition of exclusive breastfeeding with data from other sources

The World Health Organisation (WHO) defines exclusive breastfeeding as where the baby has only ever been given breast milk and has never been fed formula milk, solid foods, or any other liquids. The data reported here on exclusive breastfeeding differs from the WHO definition as it relates to the type of milk feeding only in the 24 hours prior to the review. Enhancements in data collection mean that in future publications we will be able to report on the WHO definition of exclusive breastfeeding, see Appendix A for details.

The guidance that the type of milk feeding recorded should relate to the previous 24 hour period was added to the guidelines for health professionals who use CHSP Pre-School in October 2010. Type of milk feeding in previous 24 hour period was seen as a practical, 'easy to use' definition for use at routine child health reviews where these data are collected i.e. it is straightforward and quick for mothers to recall the type of feeding in the last 24 hour period. Prior to this clarification no specific definitional guidance existed and therefore there may have been some variation in how health visitors categorised type of feeding. However there has been no noticeable change in the trend in exclusive breastfeeding rates which suggests this definitional clarification has not impacted on the comparability of the data prior to, and following, the introduction of the guidance.

Breastfeeding rates for Scotland are also reported in the UK wide [Infant Feeding Survey](#) which was carried out every five years between 1975 and 2010. This UK wide survey has now been discontinued and the Scottish Government is considering options for instigating a survey of infant feeding in Scotland specifically. The Infant Feeding Survey is based on a sample of mothers in Scotland and uses the WHO definition of exclusive breastfeeding. Results of the survey tend to give a higher breastfeeding rate compared with the data from routine health reviews reported here, however the trends demonstrated are similar. As the survey is based on a sample, the results may be influenced by selective participation i.e. mothers who are breastfeeding may be more likely to respond and participate in the survey. This may explain why the survey reports higher breastfeeding rates in Scotland compared to the data reported here at broadly comparable stages (i.e. when babies are around 10 days and six to eight weeks of age).

Timing of the 6-8 week review and comparability of figures

The timing of the 6-8 week review is important to consider as there is a known drop-off in breastfeeding rates with time i.e. breastfeeding rates decrease with increasing age of child at the review. At Scotland level, as the vast majority of reviews are carried out when babies are between, or close to, 6 to 8 weeks of age, the impact on the reported rates is small. The reported rates at the 6-8 weeks review will marginally underestimate the actual prevalence of breastfeeding (overall, exclusive and mixed) between 6 to 8 weeks of age in Scotland by around one percentage point due to the small number of reviews carried out 'late'. The impact of variation in the timing of the 6-8 week review on the reported rates is more important to consider when making comparisons between NHS Boards and Local Authorities, and when comparing these rates to the Scotland rates. This is discussed in more detail in the Results and Commentary, Timing of the 6-8 Week Review section.

Accuracy and reliability

This is an established data collection which covers a very high proportion of the target population. These data are a reliable indicator of breastfeeding rates in Scotland and are broadly comparable with data from other sources.

Results and Commentary

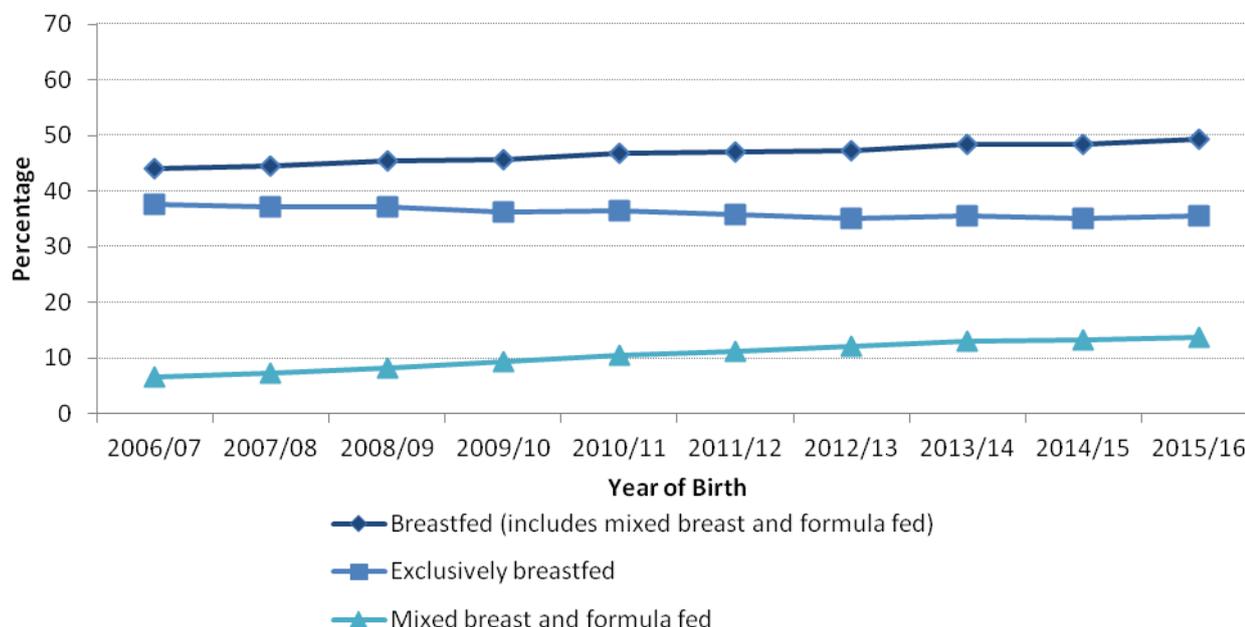
Breastfeeding at the First Visit

In 2015/16, 49.3% of babies were breastfed at the First Visit review, which takes place at around 10 days. The overall breastfeeding rate comprises 35.6% of babies who were exclusively breastfed and 13.7% who were mixed fed both breast milk and formula milk.

Across Scotland, the overall breastfeeding rate at the First Visit review has increased slightly over the last decade, this is mainly due to an increase in mixed feeding. The percentage of babies who were mixed fed both breast milk and formula milk at the First Visit has increased from 6.6% to 13.7% between 2006/07 and 2015/16. Over the same period there has been a slight decrease in the exclusive breastfeeding rate from 37.5% to 35.6% (Figure 1).

It is important to note that data for NHS Grampian is not included in these statistics until 2010/11. Grampian has a relatively large number of births each year (around 10% of all births in Scotland) and 2010/11 to 2015/16 had breastfeeding rates higher than the Scotland average. This means that if Grampian data had been available for years 2005/06 to 2009/10, it is likely that the 'All participating NHS Boards' reported breastfeeding rates would have been slightly higher for these years (possibly just over 1% higher for overall breastfeeding and around 1% higher for exclusive breastfeeding). This should be borne in mind when comparing the 'All participating NHS Boards' breastfeeding rates for 2010/11 to 2015/16 with previous years.

Figure 1: Breastfeeding at the First Visit; All participating NHS Boards; Year of Birth 2006/07 to 2015/16¹



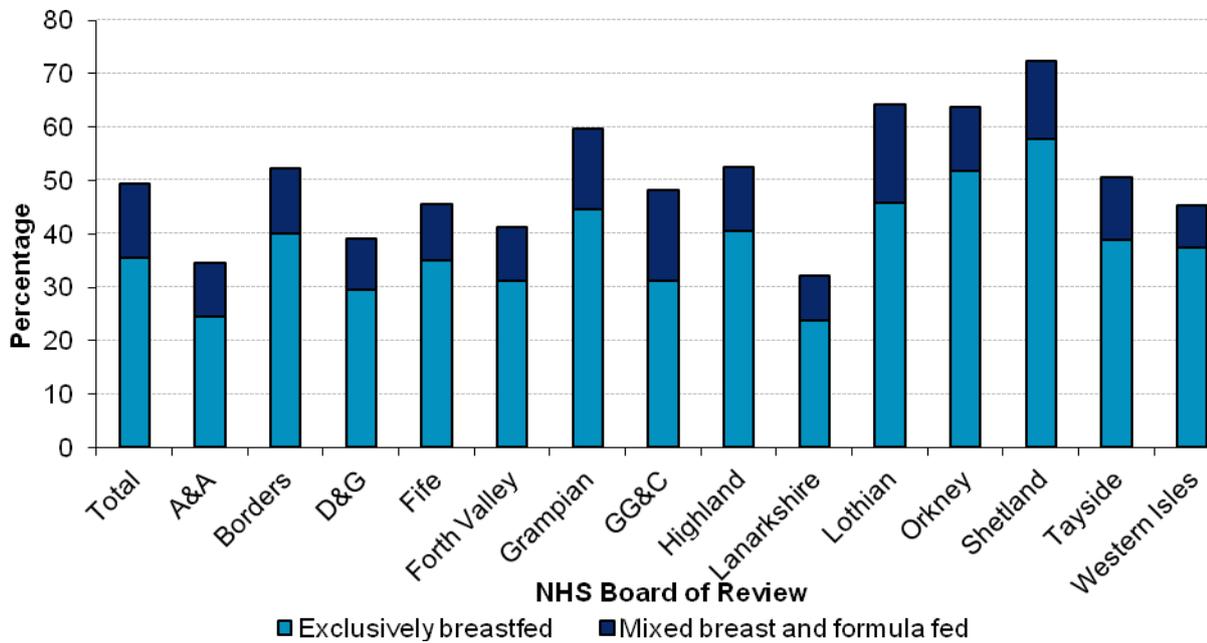
1. The number of NHS Boards included in these statistics has increased from 11 Boards in 2006/07 to all 14 Boards in Scotland. This should be borne in mind when examining the trend in breastfeeding rates for 'All participating NHS Boards' however the impact on the reported rates is small. See [Data Completeness](#) for further information.

Source: ISD Scotland, CHSP Pre-School Aug 2016

The prevalence of breastfeeding at the First Visit varies by geographical area. For example, exclusive breastfeeding rates in 2015/16 range from 23.7% in NHS Lanarkshire to 57.8% in NHS Shetland (Figure 2). There are a wide range of possible reasons for this geographical

variation including, for example, differences in deprivation (this is discussed later), and differences in local practices in maternity hospitals and primary care teams regarding support for breastfeeding, and local breastfeeding initiatives. There is also variation in the trends observed, with rates in some boards being fairly static, while others have seen an increase or decrease in the prevalence of breastfeeding.

Figure 2: Breastfeeding at the First Visit by NHS Board of Review; Year of Birth 2015/16



Key

- A&A: Ayrshire & Arran
- D&G: Dumfries & Galloway
- GG&C: Greater Glasgow & Clyde

Source: ISD Scotland, CHSP Pre-School Aug 2016

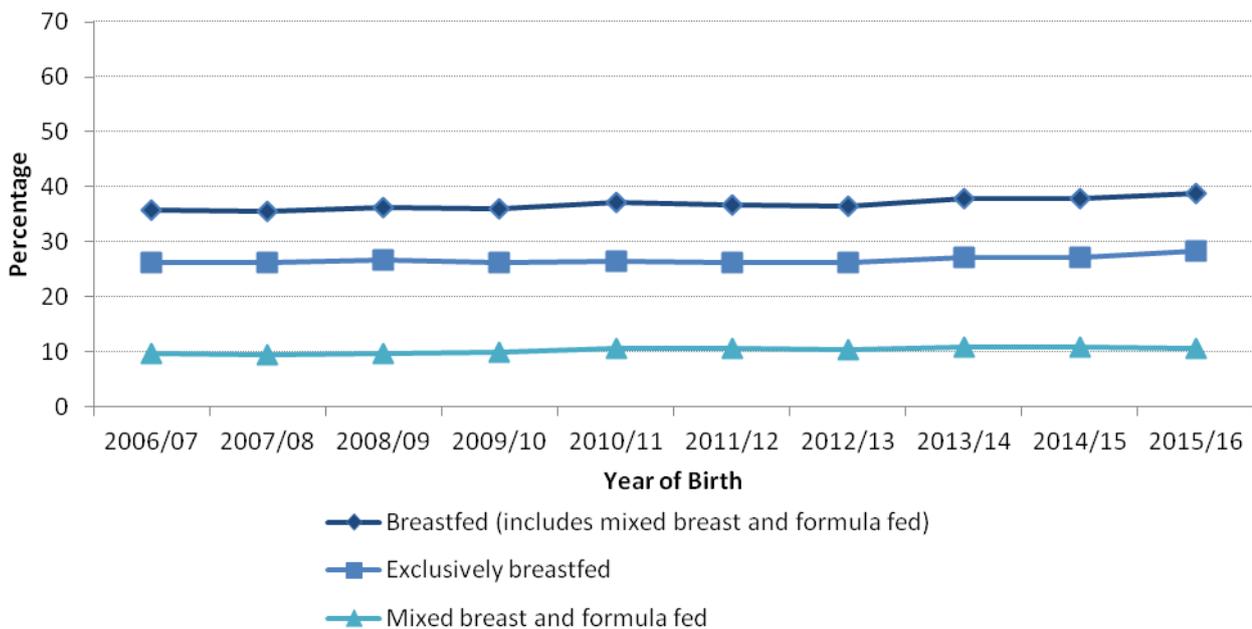
Breastfeeding at the 6-8 Week Review

In 2015/16, 38.9% of babies were breastfed at the 6-8 week review. The overall breastfeeding rate comprises 28.2% of babies who were exclusively breastfed and 10.7% who were mixed fed both breast milk and formula milk.

The prevalence of overall and exclusive breastfeeding at the 6-8 week review has remained fairly static across Scotland over the last decade (Figure 3). As previously discussed, data for NHS Grampian is not included in these statistics until 2010/11 and this means that if Grampian data had been available for years 2005/06 to 2009/10, it is likely that the 'All participating NHS Boards' reported breastfeeding rates would have been slightly higher for these years (possibly just over 1% higher for overall breastfeeding and around 1% higher for exclusive breastfeeding).

This should be borne in mind when comparing the 'All participating NHS Boards' breastfeeding rates for 2010/11- 2015/16 with previous years.

Figure 3: Breastfeeding at the 6-8 Week Review; All participating NHS Boards; Year of Birth 2006/07 to 2015/16¹

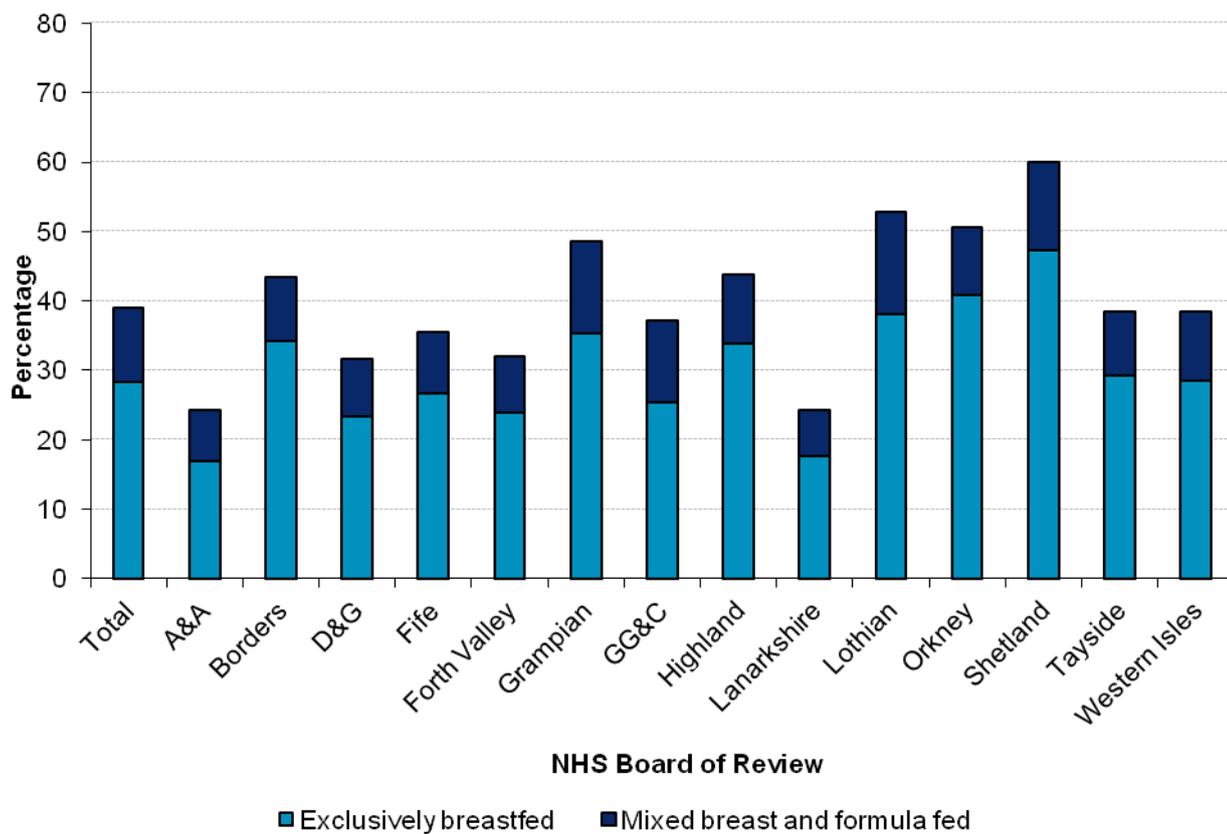


1. The number of NHS Boards included in these statistics has increased from 11 Boards in 2006/07 to all 14 Boards in Scotland. This should be borne in mind when examining the trend in breastfeeding rates for 'All participating NHS Boards' however the impact on the reported rates is small. See [Data Completeness](#) for further information.

Source: ISD Scotland, CHSP Pre-School Aug 2016

Breastfeeding rates at the 6-8 week review vary by geographical area. For example, exclusive breastfeeding rates in 2015/16 range from 16.8% in NHS Ayrshire & Arran to 47.3% in NHS Shetland (Figure 4). As previously discussed there are a wide range of possible reasons for this geographical variation including, for example, differences in the deprivation (this is discussed later), and differences in local practices in maternity hospitals and primary care teams regarding support for breastfeeding. A small proportion of this variation may be accounted for by differences in the timing of the 6-8 week review between NHS Boards (this is discussed in the next section). There is also variation in the trends observed, with rates in some Boards being fairly static, while others have seen an increase or decrease in the prevalence of breastfeeding.

Figure 4: Breastfeeding at the 6-8 Week Review by NHS Board of Review; Year of Birth 2015/16



Key

- A&A: Ayrshire & Arran
- D&G: Dumfries & Galloway
- GG&C: Greater Glasgow & Clyde

Source: ISD Scotland, CHSP Pre-School Aug 2016

Figure 5 Exclusive Breastfeeding at First Visit & 6-8 Weeks 2015/16

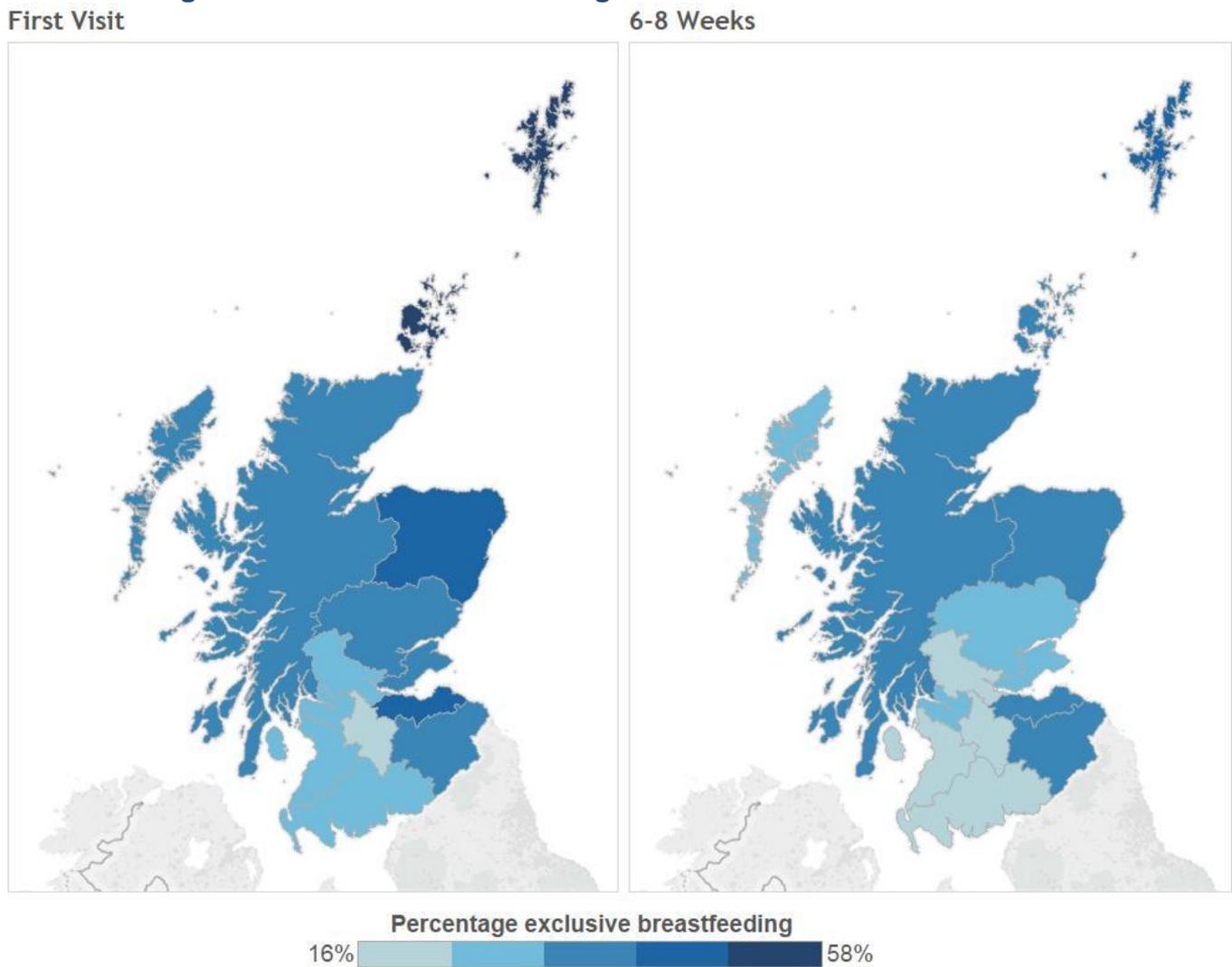


Figure 5 shows the comparison between exclusive breastfeeding at First Visit and at 6-8 weeks. This highlights that exclusive breastfeeding tends to be lower in west Central Scotland and highest down the east of the country. It also highlights the drop-off in exclusive breastfeeding between First Visit and 6-8 weeks.

Breastfeeding rates at the First Visit and 6-8 week review are presented for financial years 2006/07 to 2015/16, by NHS Board and Local Authority. For tables and charts please see:

[Breastfeeding by NHS Board of Review and Financial Year](#) 

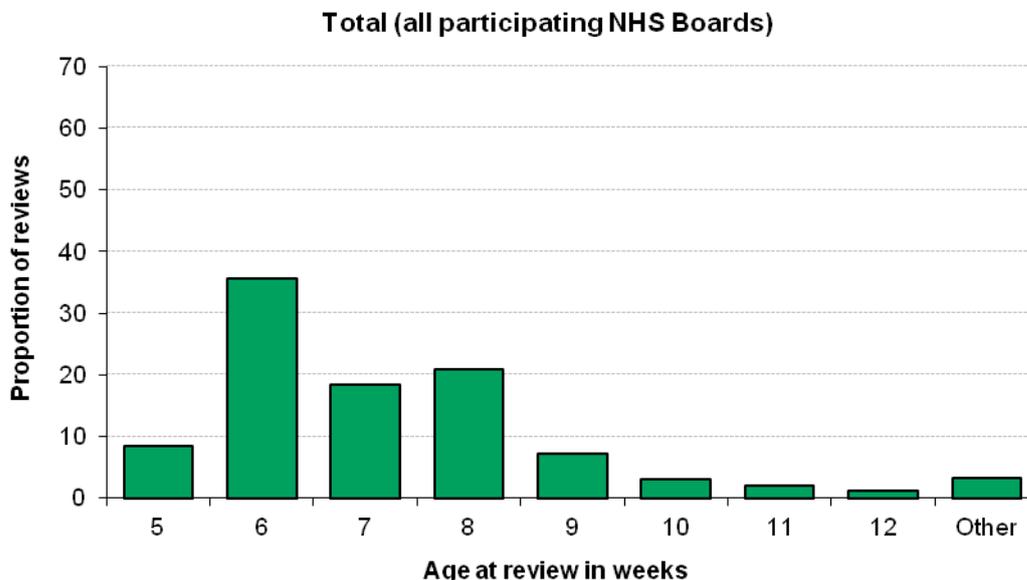
[Breastfeeding by Local Authority and Financial Year](#) 

Timing of the 6-8 Week Review

Across Scotland, there is variation in the timing of the 6–8 week review. The majority of babies receive their 6-8 week review between 6 and 8 weeks of age, however some reviews are recorded as taking place earlier than this and some later (Figure 6). The maximum age limit for the 6–8 week review, for babies born at term, is recommended as 12 weeks. A small percentage of reviews (3.2% in 2015/16) take place outwith the 5-12 week age range (most of these are beyond 12 weeks). Children born more than 28 days prematurely are scheduled for the 6-8 week review by gestational age (ie based on expected date of delivery). This accounts for a large portion of the reviews that occur beyond 12 weeks. At ‘Scotland’ level the distribution of timing of 6-8 reviews has remained fairly consistent over the time period reported.

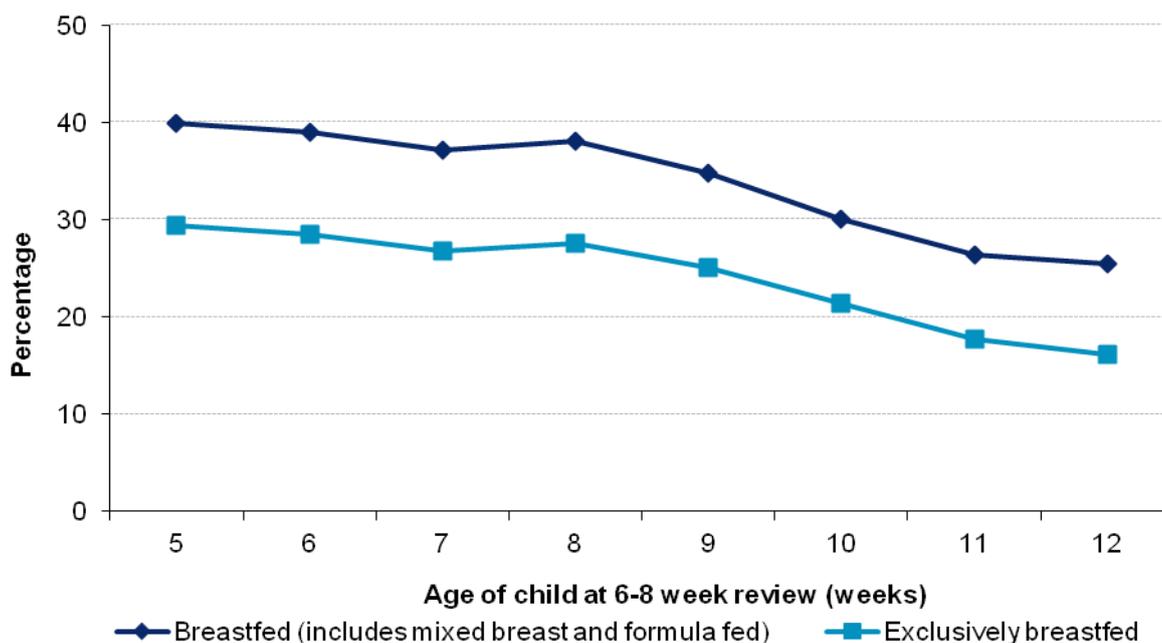
The timing of the 6-8 week review is important to consider as there is a known drop-off in breastfeeding rates with time i.e. breastfeeding rates decrease with increasing age of child at the review. At ‘Scotland’ level between 2006/07 and 2015/16, 39.9% of babies who received their review at 5 weeks were breastfed, compared with 38.1% who were reviewed at 8 weeks and 25.4% at 12 weeks (Figure 7). The timing of the 6-8 week review can therefore have some effect on the reported breastfeeding rates. However at Scotland level, as the vast majority of reviews are carried out when babies are between, or close to, 6 to 8 weeks of age, the impact on the reported rates is small. The reported rates at the 6-8 week review will marginally underestimate the actual prevalence of breastfeeding (overall, exclusive and mixed) between 6 to 8 weeks of age in Scotland by around one percentage point due to the small number of reviews done at older ages.

Figure 6: Timing of the 6-8 Week Review; Scotland; Year of birth 2015/16



Source: ISD Scotland, CHSP Pre-School Aug 2016

Figure 7: Breastfeeding at the 6-8 Week Review by age of child at review in weeks; All participating NHS Boards; Years of birth 2006/07 – 2015/16 combined



Source: ISD Scotland, CHSP Pre-School Aug 2016

The impact of variation in the timing of the 6-8 week review on the reported rates is more important to consider when making comparisons between NHS Boards, and Local Authorities, and when comparing these rates to the Scotland rates.

At NHS Board level there is a considerable amount of variation in the timing of the 6-8 week review. For example, the majority of 6-8 week reviews in NHS Ayrshire & Arran are carried out at 5 or 6 weeks (76.4% of reviews in 2015/16). However in NHS Tayside most reviews are carried out at 8 or 9 weeks (65.5% of reviews in 2015/16). This means the reported rates for NHS Ayrshire & Arran at the 6-8 week review will slightly overestimate the actual prevalence of breastfeeding at between 6 to 8 weeks of age in NHS Ayrshire & Arran. Similarly, the reported rates for NHS Tayside at the 6-8 week review will slightly underestimate the actual prevalence of breastfeeding at between 6 to 8 weeks of age in NHS Tayside. Although differences in the timing of review across NHS Boards are important to consider, the variation seen in the reported breastfeeding rates between NHS Boards is only partly attributable to differences in timing of the 6-8 week review. For example the distribution of reviews in NHS Fife and NHS Grampian is broadly similar; however the prevalence of breastfeeding in these Boards is quite different. As previously mentioned, there are a range of possible reasons for variation in breastfeeding rates between geographical areas.

At Scotland level, the distribution of the timing of 6-8 week reviews has changed over the last decade and there are now more reviews carried out at 6 weeks than any other age, whereas it used to be quite evenly spread between 6-8 weeks. Although, as previously mentioned there are still some boards that carry out most of their reviews at older ages. Therefore when examining rates for a particular NHS Board over time it is important to consider whether changes in the timing of the 6-8 week review is impacting on the trend in reported rates for a particular Board.

ISD have previously assessed whether it would be possible to produce adjusted breastfeeding rates at NHS Board level which would take account of variation in the timing of review between NHS Boards, however the model was found to be not technically feasible and robust. This was due to the small number of reviews at some ages at NHS Board level (particularly in the smaller Boards or Boards which carry out the majority of reviews at a certain age).

Breastfeeding rates at the 6-8 week review by age in weeks are presented at Scotland level for births in 2006/07 to 2015/16 combined. Information on the distribution of reviews by age in weeks is available at Scotland and NHS Board level for financial years 2006/07 to 2015/16. For tables and charts please see:

[Breastfeeding at the 6-8 week review by age of child at review](#) 

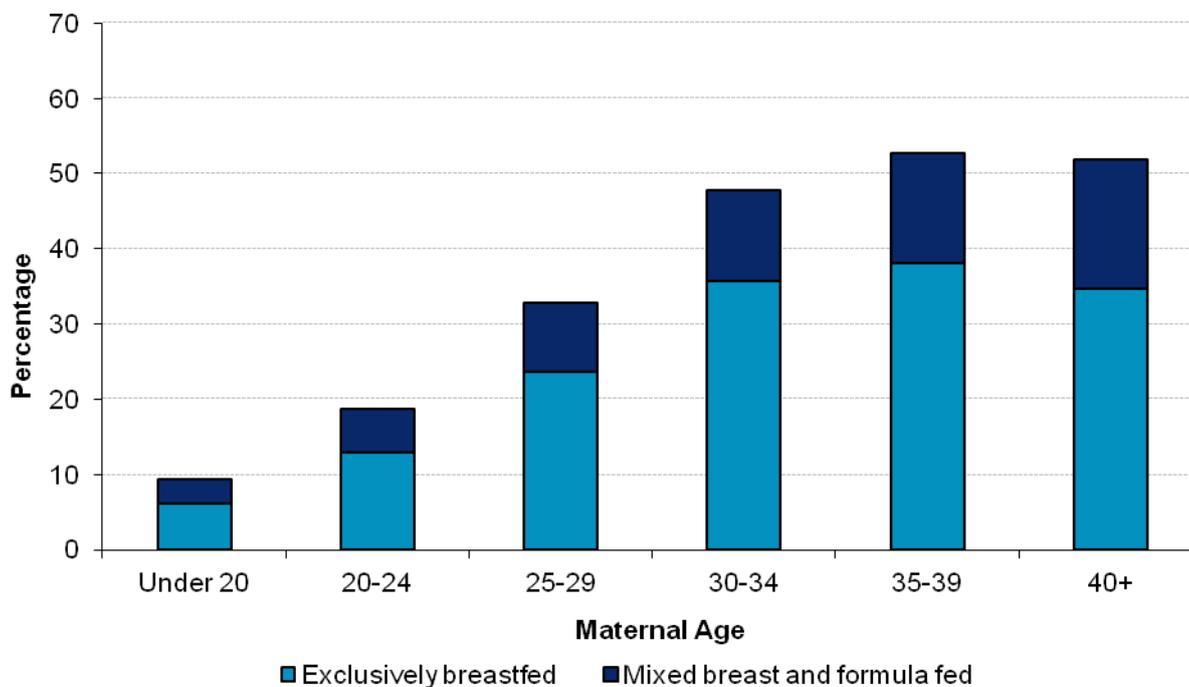
Breastfeeding by Maternal Age, Deprivation and Smoking Status

There are a number of personal, social and cultural issues that are strongly associated with the likelihood of breastfeeding including maternal age, deprivation and smoking status. The analysis presented in this section demonstrates the relationship between each of these factors and breastfeeding.

Maternal Age

Older mothers are more likely to breastfeed than younger mothers. There is a strong trend of increasing breastfeeding rates associated with increasing age of the mother, although this tails off in the 40 plus age group (Figure 8). In 2015/16, only 6.2% of mothers aged under 20 were exclusively breastfeeding at 6-8 weeks, compared with 34.6% of mothers aged 40 and over. A similar pattern is seen in the overall breastfeeding rate.

Figure 8: Breastfeeding at the 6-8 Week Review by Maternal Age; Scotland; Year of Birth 2015/16

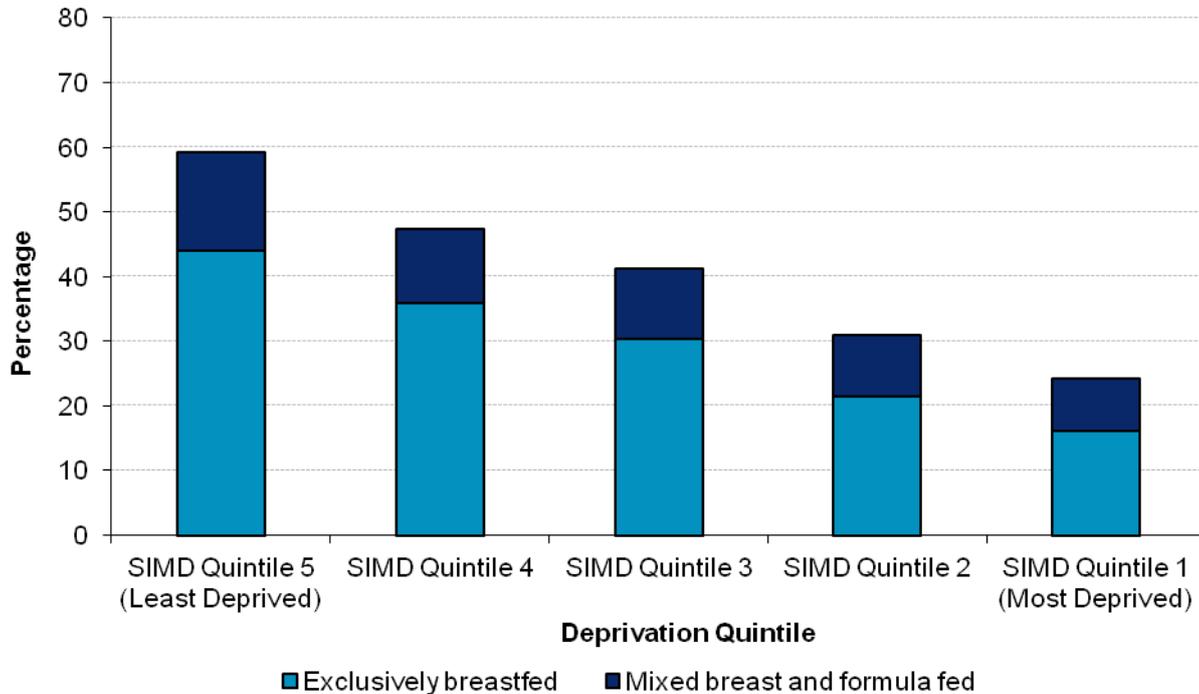


Source: ISD Scotland, CHSP Pre-School Aug 2016

Deprivation

There is a clear association between breastfeeding and deprivation. In 2015/16 mothers in the least deprived areas were nearly three times as likely to exclusively breastfeed at 6-8 weeks compared with mothers in the most deprived areas (Figure 9). A similar pattern is seen in the overall breastfeeding rate.

Figure 9: Breastfeeding at the 6-8 Week Review by deprivation quintile; Scotland; Year of Birth 2015/16



Source: ISD Scotland, CHSP Pre-School Aug 2016

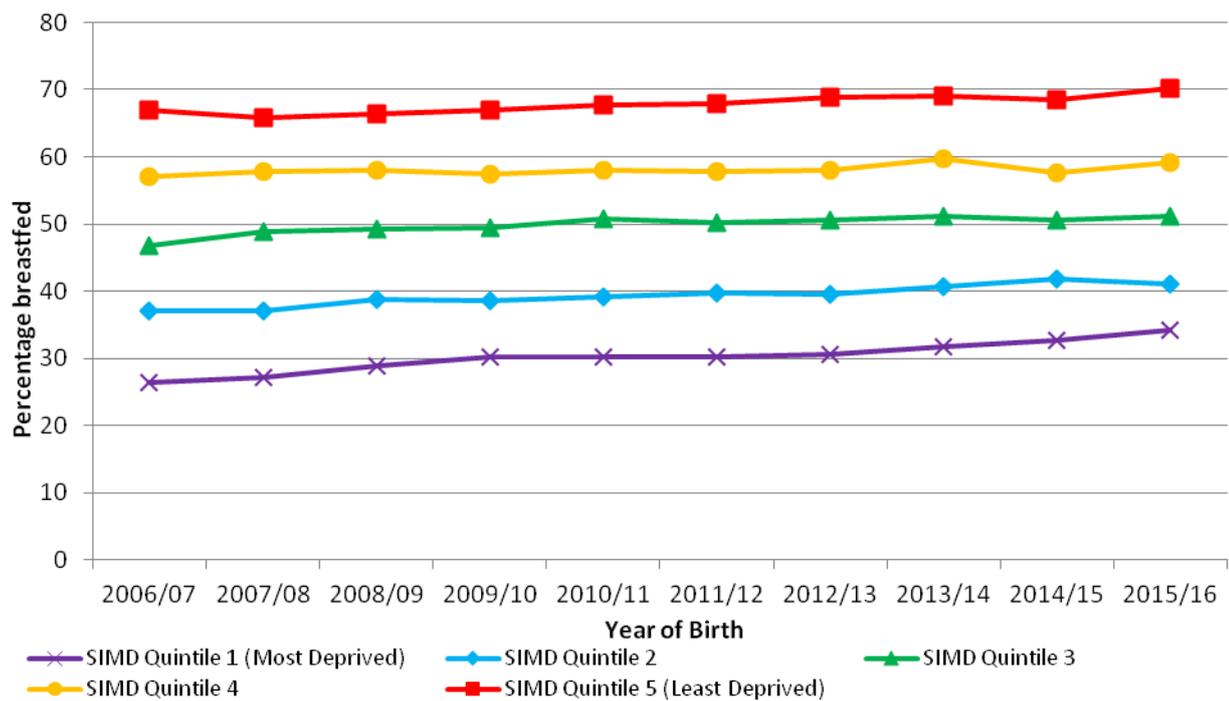
Figures 10 and 11 show the trend in overall and exclusive breastfeeding rates at the First Visit by deprivation. The difference in breastfeeding rates between the least and most deprived areas in Scotland has narrowed over the last decade. This is due to an increase in the breastfeeding rates in the most deprived areas. The overall breastfeeding rate at the First Visit in the most deprived areas (SIMD quintile 1) in 2015/16 was 34.2%; this has increased from 26.5% in 2006/07. At the 6-8 week review, 24.1% of babies in the most deprived areas were breastfed in 2015/16 compared with 19.7% in 2006/07.

The increase in overall breastfeeding rates in the most deprived areas (SIMD quintile 1) is mainly due to an increase in the percentage of mothers who are mixed feeding their child. For example, the percentage of babies in the most deprived areas who were mixed fed at the First Visit increased from 5.0% to 12.1% between 2006/07 and 2015/16, while the rate of exclusive breastfeeding has remained at a similar level over this period.

In the most affluent areas there has been an increase in the prevalence of mixed feeding and a decline in the prevalence of exclusive breastfeeding, particularly at the First Visit.

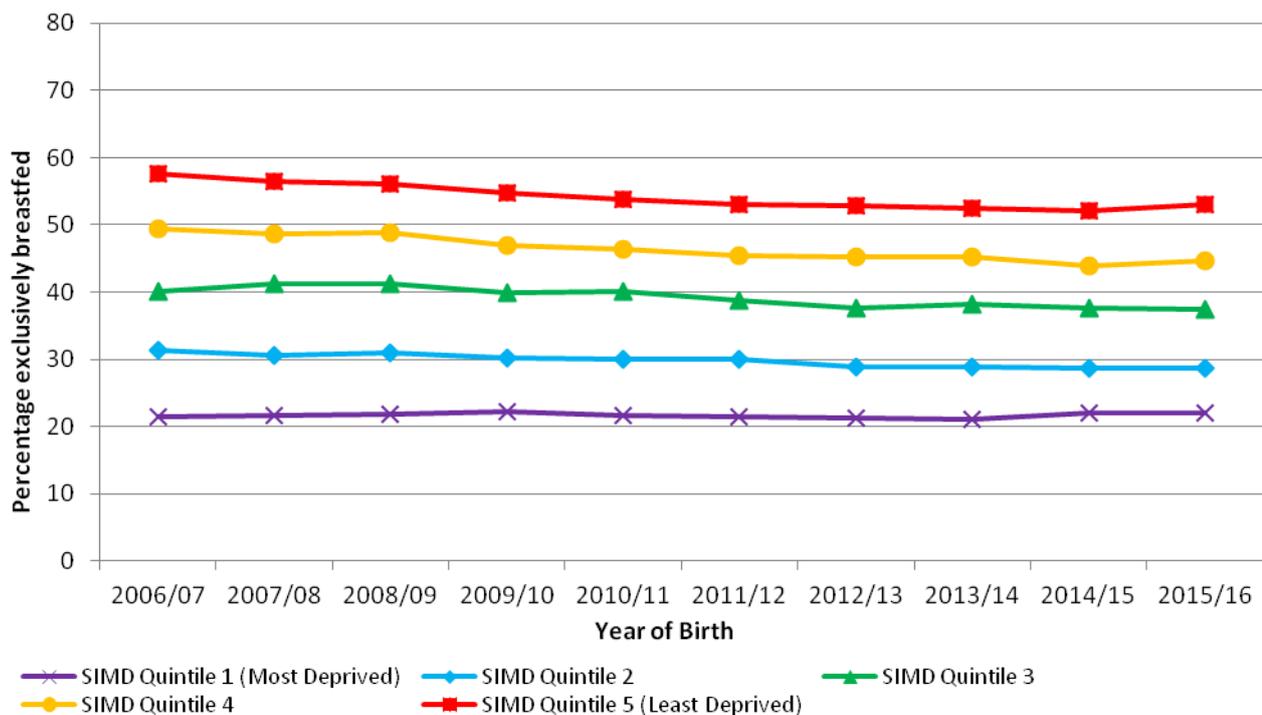
At the First Visit the percentage of babies in the least deprived areas (SIMD quintile 5) who were mixed fed increased from 9.3% in 2006/07 to 17.2% in 2015/16. The percentage of babies exclusively breastfed fell from 57.6% in 2006/07 to 52.9% in 2015/16. Similar trends are observed in SIMD quintile 4.

**Figure 10: Breastfeeding at the First Visit by deprivation quintile;
All participating NHS Boards; Year of Birth 2006/07 – 2015/16**



Source: ISD Scotland, CHSP Pre-School Aug 2016

**Figure 11: Exclusive Breastfeeding at the First Visit by deprivation quintile;
All participating NHS Boards; Year of Birth 2006/07 – 2015/16**

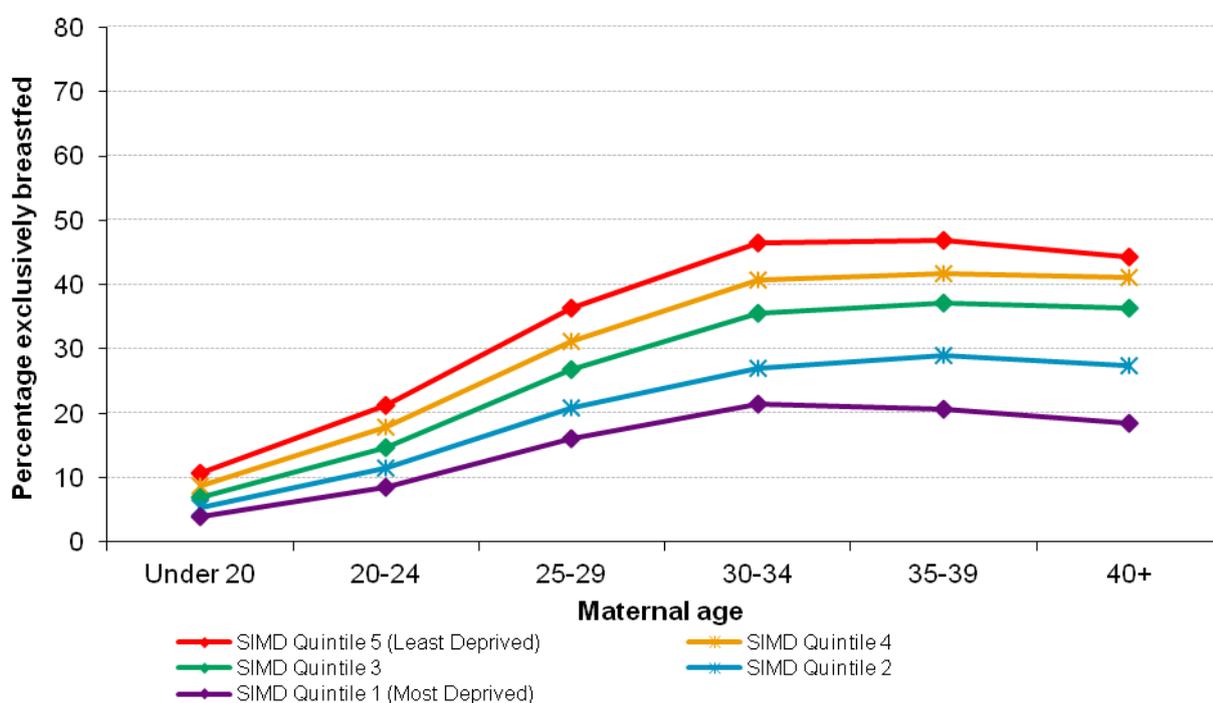


Source: ISD Scotland, CHSP Pre-School Aug 2016

Maternal Age and Deprivation

Older mothers are more likely to breastfeed but the increase in breastfeeding with age is less pronounced in the more deprived areas. The combined effect of the age of the mother and deprivation on breastfeeding rates is such that, for children born between 2006/07 and 2015/16, only 4.0% of younger mothers (under 20 years of age) in the most deprived areas were exclusively breastfeeding at 6-8 weeks compared with 18.5% of mothers aged 40 and over. In comparison, 10.7% of younger mothers in the least deprived areas were exclusively breastfeeding at 6-8 weeks compared with 44.3% of mothers aged 40 and over (Figure 12).

Figure 12: Exclusive Breastfeeding at the 6-8 Week Review by Maternal Age and Scottish Index of Multiple Deprivation (SIMD) quintile; All participating NHS Boards; Years of Birth 2006/07-2015/16



Source: ISD Scotland, CHSP Pre-School Aug 2016

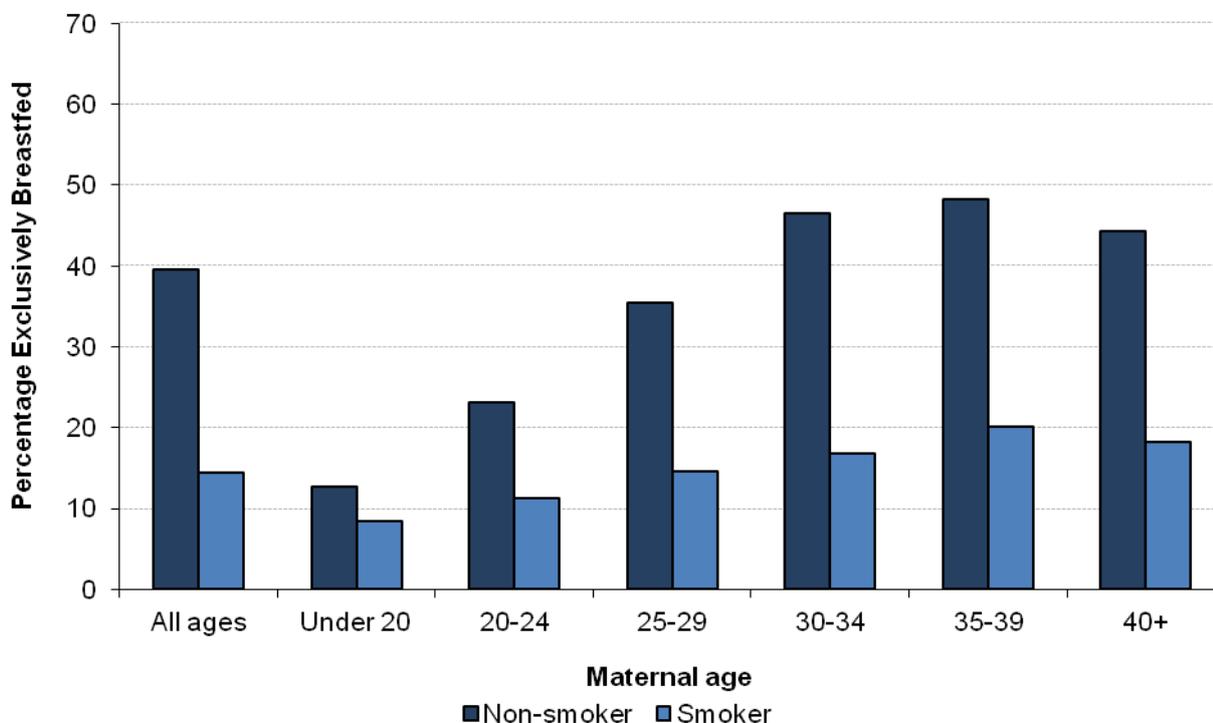
Smoking

Exposure to second hand smoke has adverse effects on children's health and is known to significantly increase the risk of sudden infant death, middle ear disease, meningitis and admission to hospital for respiratory disease⁵.

Maternal smoking status has historically only been recorded at the First Visit review. In February 2016, there were some changes to the health visiting forms which are used to capture this data. The First Visit form previously asked about whether the mother was a smoker, this has now been changed to 'is the primary carer a current smoker'. Therefore the analysis for 2015/16 on smoking at first visit uses a combination of both old and new variables. The question on smoking is now also being captured on the 6-8 week review form. Smoking status is missing on almost 20% of records for NHS Greater Glasgow & Clyde in 2015/16 so this may have an impact on the results for Scotland.

At the First Visit, non-smoking mothers are around three times as likely to exclusively breastfeed as mothers who smoke. This is likely to be a reflection of an association between smoking and other social and cultural factors. In 2015/16, 39.6% of non-smoking mothers exclusively breastfed their babies, compared with 14.4% of mothers who smoked. A similar pattern of more non-smoking mothers breastfeeding is seen across maternal age groups (Figure 13), deprivation categories and in the overall breastfeeding rate.

Figure 13: Exclusive Breastfeeding at the First Visit by Maternal Age and Smoking Status; Scotland; Year of Birth 2015/16



Source: ISD Scotland, CHSP Pre-School Aug 2016

⁵ASH Research: Secondhand Smoke: the impact on children, March 2014
http://www.ash.org.uk/files/documents/ASH_596.pdf

Breastfeeding rates by maternal age, deprivation and smoking status are presented for financial years 2006/07 to 2015/16. For tables and charts please see:

[Breastfeeding by maternal age](#) 

[Breastfeeding by deprivation](#) 

[Breastfeeding by maternal age and deprivation](#) 

[Breastfeeding by maternal age and smoking status](#) 

[Breastfeeding by deprivation and smoking status](#) 

It can be seen that children from disadvantaged areas are likely to experience exposure to a range of factors associated with poorer health outcomes (such as exposure to second hand smoke and lack of breastfeeding). This clustering of risk factors is an important driver of inequalities in children's outcomes.

Breastfeeding rates in the UK

Comparative data on breastfeeding rates for each of the countries in the UK is available in the [Infant Feeding Survey](#). The 2005 survey was the first to provide separate estimates for all four countries in the UK, as well as for the UK as a whole. The survey provides estimates of the breastfeeding initiation (i.e. the percentage of babies who were breastfed initially) as well as the prevalence and duration of breastfeeding. The survey also includes information on other feeding practices adopted by mothers from the birth of their baby up to around ten months and information about the smoking and drinking behaviour of mothers before, during and after pregnancy. The survey was carried out every five years between 1975 and 2010. This UK wide survey has now been discontinued and the Scottish Government is considering options for instigating a survey of infant feeding in Scotland specifically.

As previously discussed, results of the survey tend to give a higher breastfeeding rate in Scotland compared with the data from routine health reviews reported here, however the trends demonstrated are similar. As the survey is based on a sample, the results may be influenced by selective participation i.e. mothers who are breastfeeding may be more likely to respond and participate in the survey. This may explain why the survey reports higher breastfeeding rates in Scotland compared to the data reported here at broadly comparable stages (i.e. when babies are around 10 days and six to eight weeks of age).

Other relevant links:

[Quarterly statistical releases](#) on breastfeeding initiation and 6-8 week breastfeeding in England are published by Public Health England.

Data on breastfeeding at birth is published in '[Births in Wales 2005- 2015](#)' (published in August 2016).

The [2015 Annual Report of the Director of Public Health for Northern Ireland](#) (published April 2016) includes some statistics on breastfeeding.

Glossary

Breastfed	Babies fed only breast milk <u>and</u> babies fed both breast milk and formula milk in the 24 hours prior to the First Visit / 6-8 week review.
CHSP Pre-School	Child Health Systems Programme Pre-School.
Exclusively breastfed	Babies fed only breast milk in the 24 hours prior to the First Visit / 6-8 week review.
Mixed breast and formula fed	Babies fed both breast milk and formula milk in the 24 hours prior to the First Visit / 6-8 week review. This is sometimes referred to as partially breastfed.
Number of reviews	The number of babies whose feeding status at the First Visit / 6-8 week review is recorded and valid. This is the denominator used in the calculation of breastfeeding rates.
SIMD	Scottish Index of Multiple Deprivation (SIMD).

See also the Methods and Definitions section

List of Tables

Table No.	Name	Time period	File & size
1, 2	Breastfeeding at the First Visit and 6-8 week review by NHS Board of Review	Financial years 2006/07 to 2015/16	Excel [264kb]
3, 4	Breastfeeding at the First Visit and 6-8 week review by Local Authority	Financial years 2006/07 to 2015/16	Excel [344kb]
5, 6	Breastfeeding at the First Visit and 6-8 week review by Maternal Age	Financial years 2006/07 to 2015/16	Excel [206kb]
7, 8	Breastfeeding at the First Visit and 6-8 week review by Deprivation	Financial years 2006/07 to 2015/16	Excel [232kb]
9, 10	Breastfeeding at the First Visit and 6-8 week review by Maternal Age and Deprivation	Financial years 2006/07 to 2015/16	Excel [379kb]
11	Breastfeeding at the First Visit by Smoking Status and Maternal Age	Financial years 2006/07 to 2015/16	Excel [133kb]
12	Breastfeeding at the First Visit by Smoking Status and Deprivation	Financial years 2006/07 to 2015/16	Excel [143kb]
13, 14	Breastfeeding at the 6-8 week review by age of child at review.	Financial years 2006/07 to 2015/16	Excel [228kb]

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Further Information

Further information on the CHSP Pre-School system, including details of other analyses available can be found on the [child health pages](#) of the [ISD website](#)

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Appendices

A1 – Background Information

Additional information on data sources, methods and definitions can be found in the main report – [Methods and Definitions](#).

Data Completeness

The target population these statistics aim to cover is all babies born in Scotland each year i.e. the data are not based on a sample.

Data completeness has increased over the years presented (2006/07 to 2015/16).

Factors affecting data completeness and impact on reported rates

1. The number of Boards using the CHSP Pre-School system and recording data has increased since 2006/07 from 11 to all 14 NHS Boards in Scotland. NHS Western Isles have recorded data from 2006/07, NHS Shetland from 2008/09, and NHS Grampian and NHS Orkney from 2010/11. Data for NHS Grampian and NHS Orkney for 2010/11 are partial. These Boards implemented the system in June 2010 and July 2010 respectively and therefore data are not available for babies born in the first quarter of 2010/11 who had a First Visit or 6-8 week review before the implementation date. In addition it should be noted that NHS Highland did not fully implement the system until May 2007, though data are available for the area of NHS Highland inherited from former NHS Argyll & Clyde (i.e. Argyll & Bute Local Authority) for financial years 2006/07.

Three of the four NHS Boards that don't have data available for all years are island boards (Orkney, Shetland and Western Isles). These boards have a small number of births each year and therefore the impact of data not being available for these boards on the 'Scotland' / 'All participating NHS Boards' rates and trend is negligible. However NHS Grampian has a relatively large number of births each year (around 10% of all births in Scotland). Grampian did not start recording data on the system until 2010/11 and the reported breastfeeding rates in Grampian in 2010/11 to 2015/16 are higher than the Scotland average. This means that if Grampian data had been available for years 2006/07 to 2009/10, it is likely that the 'Scotland' level reported breastfeeding rates at the First Visit and 6-8 week reviews would have been slightly higher for these years (possibly just over 1% higher for overall breastfeeding and around 1% higher for exclusive breastfeeding). This should be borne in mind when comparing the 'Scotland' breastfeeding rates for 2010/11 to 2015/16 with previous years.

Due to the phased implementation of the CHSP Pre-School system, data are not available for all years for some participating NHS Boards and the constituent Local Authorities in the tables accompanying this release.

2. It is estimated that each year First Visit and 6-8 week review data are missing for approximately 1% and 5.5% respectively of babies eligible to receive these reviews (see [Report on CHSP Pre-School data quality](#)). In some cases a First Visit / 6-8 week review will have taken place but the data has not been recorded on the system due, for example, to the review form not being returned for data entry. A proportion of the missing information will also be due to babies not receiving a First Visit / 6-8 week review which can happen for a variety of reasons e.g. due to a hospital stay or the health visitor being unable to make contact with the family. As the proportion of data that is missing is small, this has little impact on the accuracy of the reported rates.

3. Data on feeding status is missing or invalid on a small proportion of First Visit / 6-8 week review records each year. For the financial year 2015/16, feeding status is missing or invalid on 0.8% of First Visit and 1.6% of 6-8 week review records. These figures vary slightly between NHS Boards. The proportion of records with missing feeding status has stayed broadly consistent in recent years. The highest proportion of records with unknown feeding status in the time period presented was in 2010/11, with this information missing on 2.0% of First Visit and 2.0% of 6-8 week review records. As the proportion of data with a missing or unknown feeding status is small, this has little impact on the accuracy of the reported rates. The number of reviews used as the denominator for the breastfeeding rates relates to babies who received a First Visit / 6-8 week review and whose feeding status is known.

Completeness of maternal age, smoking status and Scottish Index of Multiple Deprivation (SIMD)

Breastfeeding rates at Scotland level are also presented by maternal age, deprivation and smoking status. As only a small proportion of these data are missing this has a negligible impact on the accuracy of rates reported by maternal age, deprivation and smoking status. The details are:

- Maternal age is missing on approximately 0.1% of First Visit records and 1.9% of 6-8 week review records across all years. Records where maternal age is not known are included in the "All ages" totals presented in the tables. Changes to the recording of maternal age can be found in the changes from previous publication section.
- Maternal smoking status used to only be recorded at the health visitor First Visit review. Changes to the recording of maternal smoking can be found in the changes from previous publication section. Due to these changes almost 20% of records for NHS Greater Glasgow & Clyde are missing a smoking status for 2015/16, so results should be interpreted with caution.
- Scottish Index of Multiple Deprivation (SIMD) quintile is missing on less than 1% of records across all years. SIMD quintile is derived from the child's home postcode at the time of review, or where this is not available, from home postcode at birth, as derived from National Records of Scotland birth registrations.

Timeliness

Data for babies born in the previous financial year are extracted in mid-August and published by ISD in October. This publication includes data on breastfeeding rates at the 6-8 week review and the maximum age limit for this review is recommended as 12 weeks. Therefore some babies born towards the end of the financial year i.e. in late March may not receive a 6-8 week review until late June and a few will be slightly later. Therefore there is approximately a 4 month data lag between the review taking place and the data being published. This allows time for the data to be recorded on the CHSP Pre-School system by NHS Boards and for these breastfeeding statistics to be produced by ISD.

Revisions history

In the annual publication released in October 2011, a new methodology was implemented to improve the accuracy of breastfeeding statistics by NHS Board, CHP and deprivation. The overall Scotland rates were not affected by the new methodology and the revision did not affect the overall interpretation or conclusions to be drawn from previously published data. Further information can be found in Appendix A1 of the [2011 publication](#).

Scottish Index of Multiple Deprivation (SIMD)

Deprivation for individuals is estimated from aggregate data derived from the census and other routine sources. These are used to estimate the deprivation of individuals in small geographical areas. The Scottish Index of Multiple Deprivation has seven domains (income, employment, education, housing, health, crime, and geographical access), which have been combined into an overall index to pick out area concentrations of multiple deprivation.

Further information about SIMD can be found at:

<http://www.isdscotland.org/Products-and-Services/GPD-Support//Deprivation/SIMD>

A more detailed explanation about the application of SIMD, its advantages and disadvantages is available at: http://www.isdscotland.org/Products-and-Services/GPD-Support/Deprivation/_docs/PHI-Deprivation-Guidance-version-2.2-100615.pdf

ISD analyses use numerators and denominators for population-weighted deprivation categories (eg quintiles or deciles). It is important not to mix these data with unweighted deprivation categories used by the Scottish Government (SG) and National Records of Scotland (NRS).

Geographical information

NHS Board figures are based on NHS Board of review as recorded on CHSP Pre-School. For the vast majority of children, the NHS Board where they received their First Visit / 6-8 week review will be the same as their NHS Board of residence, although there will be some children who live in one NHS board area and attend a practice in a neighbouring NHS board. Records on the system for the former Argyll & Clyde board area have been mapped to either NHS Greater Glasgow & Clyde or NHS Highland board areas based on the child's home postcode at the time of the review, or where this is not available, from home postcode at birth as derived from National Records of Scotland birth registrations. A small percentage of records for the former Argyll & Clyde board area could not be remapped due to missing postcode information;

therefore the sum of the NHS Board areas does not equal the total for 'All participating NHS Boards'.

Figures by Local Authority and Scottish Index of Multiple Deprivation (SIMD) quintiles are based on the child's home postcode at the time of the review, or where this is not available, from home postcode at birth as derived from National Records of Scotland birth registrations. Birth postcode is a proxy for postcode at review as few families will move home between the birth of their child and the First Visit/6-8 week review. For a small proportion of records postcode data is not available and therefore it is not possible to derive a Local Authority or SIMD quintile; these records are included in the "All participating NHS Boards" total. Figures for Local Authorities with a congruent health board (e.g. the island boards) may differ slightly from figures presented at board level due to records where a review or birth postcode is not available or there is no mapping to Local Authority.

Changes from previous publication

Changes were made to the health visiting forms in February 2016, particularly in relation to breastfeeding. These changes were made in order to allow ISD to report on the WHO definition of exclusive breastfeeding (has the child always been exclusively breastfed), as the previous question only asked about the last 24 hours. The [new forms](#) and the [old forms](#) can be found on the ISD website. There is a slight decrease in the proportion of reviews with a valid feeding status in 2015/16, and this may be attributable to the transition between recording on old forms to new forms.

As a result of the form changes, maternal age is no longer captured at the health visitors first visit. To ensure that maternal age was recorded on as many records as possible the information on the first visit forms was matched to other records that held mothers date of birth (National Records of Scotland birth records and Scottish Immunisations Call and Recall System). This has resulted in improved data completeness for this field.

In the updated form the questions on smoking have changed. The first visit form previously asked about whether the mother was a smoker, this has now been changed to 'is the primary carer a current smoker'. Therefore the analysis for 2015/16 uses a combination of both variables. An issue has been identified with smoking data in Greater Glasgow & Clyde for 2015/16, due to the transition from old forms to new forms, and the introduction of a new IT system, this has resulted in 20% of records for Greater Glasgow & Clyde in 2015/16 missing a smoking status so results for this period may not be truly representative.

Changes to future publications

We plan to overhaul the publication in time for publication in October 2017 and would welcome any feedback on what should be retained and anything that our readers would like to see added. Comments should be sent to NSS.isdchildhealth@nhs.net.

The revisions to the health visiting forms mean that we also have new information to report such as breastfeeding initiation rates (was the child ever breastfed) and has the child always been exclusively breastfed. We will take this opportunity to look at how we publish breastfeeding information. This may include a move to more interactive content and/or a shorter technical report,

Data quality checks by ISD

Data are compared to figures for previous years and to expected trends. Quarterly management reports on breastfeeding are sent to appropriate contacts (such as infant feeding coordinators) at the majority of NHS Boards, so if there are any data quality issues with the source data these can be dealt with in a timely manner.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	Breastfeeding Statistics
Description	Update of breastfeeding statistics at the First Visit and 6-8 week review. Data are presented by: NHS Board, Local Authority, maternal age, deprivation and smoking status.
Theme	Health and Social Care
Topic	Child Health
Format	PDF document and Excel workbooks
Data source(s)	Child Health Systems Programme Pre-School (CHSP Pre-School); Scottish Immunisations Call & Recall System (SIRS); National Records of Scotland Birth records.
Date that data are acquired	16 August 2016
Release date	25 October 2016
Frequency	Annual
Timeframe of data and timeliness	<p>Includes children born up to 31 March 2016 and 6-8 week review data to June/July 2016. No delays between data availability and processing of data for publication.</p> <p>Data are available for financial years 2001/02 to 2015/16 but are only presented for the latest ten year period. Information on the financial years not included in this update can be found in the October 2012 publication.</p>
Continuity of data	The number of NHS Boards included in these statistics has increased from 11 Boards in 2006/07 to all 14 Boards in Scotland in 2011/12. This should be borne in mind when comparing the 'All participating NHS Boards' breastfeeding rates for 2011/12 to 2015/16 with previous years however the impact on the continuity of the data is small. See Data Completeness for further information.
Revisions statement	<p>The publication is produced from the latest data extract from CHSP-PS which is a dynamic system, with ongoing updating of records. Data for the previous financial year are updated in the next release though any updates are expected to be minor.</p> <p>Occasionally data for earlier financial years may be updated where the publication includes a new presentation of the data as a time-series (for example a new geographical breakdown). This is to ensure there is consistency in the totals (for example the denominator number of reviews) presented for each year across the publication. Any changes are expected to be negligible.</p>

Revisions relevant to this publication	Record linkage has been used to fill in missing maternal ages at the first visit, which has resulted in improved data completeness of this variable.
Concepts and definitions	See Methods and Definition and Appendix A1 .
Relevance and key uses of the statistics	Making information publicly available for planning, epidemiology, provision of services and providing comparative information. See How breastfeeding statistics are used .
Accuracy	This is an established data collection which covers a very high proportion of the target population. These data are reliable indicator of breastfeeding rates in Scotland
Completeness	See Data Completeness
Comparability	See 'Differences in definition of exclusive breastfeeding with data from other sources' in Methods and Definitions section and Breastfeeding rates in the UK
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines .
Coherence and clarity	Breastfeeding tables and charts are accessible via the ISD website . Drop down menus are presented for selection of geography i.e. NHS Board and Local Authority.
Value type and unit of measurement	Numbers and percentages
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed.
Official Statistics designation	National Statistics
UK Statistics Authority Assessment	Assessment by UK Statistics Authority for National Statistics designation completed
Last published	27 October 2015
Next published	October 2017
Date of first publication	Data available from financial year 2001/02. Due to phased implementation of the CHSP Pre-School system, data are available for some NHS boards for earlier years.
Help email	NSS.isdchildhealth@nhs.net
Date form completed	14/10/2016

A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:

- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

Early Access for Management Information

These statistics will also have been made available to those who needed access to 'management information', ie as part of the delivery of health and care:

- NHS Board Directors of Public Health
- NHS Board Infant Feeding Leads
- Chair of CHSP Pre-School national User Group

A4 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.