



Infant Feeding Survey 2010

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A survey carried out on behalf of Health and Social Care Information Centre by IFF Research in partnership with Professor Mary Renfrew, Professor of Mother and Infant Health, College of Medicine, Dentistry and Nursing, University of Dundee

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1. Introduction

The Infant Feeding Survey (IFS) has been carried out every five years since 1975 and the 2010 survey was the eighth time the survey has been conducted. The survey was carried out by IFF Research, in partnership with Professor Mary Renfrew of the University of Dundee, on behalf of the Health and Social Care Information Centre.

1.1 Background to infant feeding policy

The way in which babies are fed has important consequences for the short, medium and long-term health of babies and their mothers. Good quality studies from developed country settings relevant to the UK and including some randomised controlled trials have shown that babies who are not breastfed are more likely to develop a range of diseases and conditions. These include lower respiratory tract infection, gastrointestinal infection, and otitis media (e.g. Howie et al, 1990¹, Wilson et al, 1998², Ip et al, 2007³, Horta et al, 2007⁴, Quigley et al, 2007⁵, Kramer et al 2001⁶). Preterm babies who are not breastfed or who do not receive breastmilk are more likely to develop necrotising enterocolitis (e.g. Henderson et al 2009⁷). Mothers who do not breastfeed are more likely to develop breast cancer (e.g. Collaborative Group on Hormonal Factors in Breast Cancer et al, 2002)⁸.

It is methodologically challenging to study health outcomes related to infant feeding as studies are mainly descriptive, and it is important to control for confounding factors such as socio-economic and ethnic background. In recent years the quality of the evidence base has improved. Other diseases and conditions that have been shown to have an association with not being breastfed, but where confounding factors are more problematic, include Sudden Infant Death Syndrome (SIDS) (e.g. Hauck et al 2011)⁹, worse cognitive and behavioural outcomes (e.g. Heikkilä et al, 2011¹⁰, Quigley et al, 2012¹¹, Kramer et al, 2008¹²), and childhood obesity (e.g. Horta et al 2007⁴). A range of other diseases are associated with not being breastfed (e.g. Ip et al 2007³, Horta et al 2007⁴), and further research is needed to clarify the level of association.

For the past 50 years or more, breastfeeding rates in the UK have been among the lowest in the world¹³. The decline in breastfeeding rates in the first half of the 20th century across many developed countries resulted from a combination of factors that included the widespread availability of breastmilk substitutes, bottles and teats, the medicalisation of childbirth and nutrition, and the increased employment of women outside the home (Lawrence and Lawrence, 2010)¹⁴. In the 1960s and 70s, international concern grew about the implications of this new feeding pattern for population health. When the first Infant Feeding Survey (IFS) was conducted in 1975, only in England and Wales, it found that 51% of women started to breastfeed¹⁵. Since then, initiation rates have risen, with the most consistent increases being seen since the 1990 survey when the UK initiation rate was 62%¹⁶. Increases have mostly been seen across all four countries in the UK, but each country started from a different baseline, with the rates in Northern Ireland being lowest of all (36% in 1990).

There are a range of reported reasons why for many women in the UK, breastfeeding represents a challenging choice. These include the inadequate training of health service staff in the support of breastfeeding women (Renfrew et al, 2006; Dykes, 2006) and media portrayal of infant feeding showing formula feeding as normative and breastfeeding as problematic and contentious (Henderson et al, 2000). Consequently, many women are constrained in their choice of infant feeding method: some choose not to start, and those who do start often have to revert to formula feeding. The situation in 2010 in terms of duration of breastfeeding, problems with breastfeeding, access to

support and information, mothers' feelings about feeding in public and the impact of returning to work is discussed in later chapters.

Government policy in the UK has consistently supported breastfeeding as the best way of ensuring a healthy start for infants and of promoting women's health. In 1974 a Committee on Medical Aspects of Food and Nutrition Policy (COMA) Working Party was set up to review infant feeding practices in the UK. The recommendations of this Working Party were that all mothers should be encouraged to breastfeed and that mothers should be discouraged from introducing solid foods before their baby is four months old¹⁷. Subsequent reports throughout the 1980s and 1990s continued to endorse these broad recommendations¹⁸.

During this time, the infant feeding recommendations in the UK were broadly in line with the guidance from the World Health Organisation (WHO), which in the 1990 Innocenti Declaration recommended that all infants should be fed exclusively on breastmilk from birth up to four to six months of age¹⁹. Early in 2000, the WHO commissioned a systematic review of the published scientific literature on the optimal duration of exclusive breastfeeding²⁰ (updated 2009). As a result of this review, the WHO revised its guidance to recommend exclusive breastfeeding for the first six months of an infant's life²¹, which was reinforced in their 2003 Global Strategy (WHO 2003)²². On the advice of the Scientific Advisory Committee on Nutrition, this revised guidance was adopted by the UK health departments from 2003 onwards.

That guidance remains current, and is as follows²³:

- Breastmilk is the best form of nutrition for infants
- Exclusive breastfeeding is recommended for around the first six months (26 weeks) of an infant's life
- Infant formula is the only recommended alternative to breastfeeding for babies who are under 12 months old
- Around six months is the recommended age for the introduction of solid foods for infants, whether breastfed or fed on breastmilk substitutes
- Breastfeeding (and/or breastmilk substitutes) should continue beyond the first six months, along with appropriate types and amounts of solid foods
- Mothers who are unable to, or choose not to, follow these recommendations should be supported to optimise their infants' nutrition.

It should be noted that these are public health recommendations. All infants should be managed individually so that insufficient growth or other adverse outcomes are not ignored and appropriate interventions are provided.

Following the introduction of solids at around six months, NICE recommends that breastfeeding continues for as long as the mother and baby wish²⁴. More specifically, the WHO recommends continued breastfeeding along with appropriate complementary foods up to two years of age or beyond.

In order to support and promote these and previous recommendations, a range of policy and practice developments have been introduced across the UK over the past few decades. Some of the policies and promotional activities which have been put in place, such as National Breastfeeding Awareness Week (established in 1993, central funding support discontinued in England in 2011), have been UK-wide; others have been developed differently by each of the four countries.

As a result of increasing evidence on the population health implications of not breastfeeding, and of the WHO Global Strategy (2003) and the revised UK recommendations in 2003, the pace and breadth of coordinated, evidence-based policy developments increased over the past decade. These

developments collectively have influenced service provision for childbearing women, staff education and training, the Healthy Start scheme (described later), and the protection of women who breastfeed in public places. Although some of these developments have been discontinued, others remain in place and others are being introduced, and UK-wide policy continues to promote breastfeeding.

Some examples of policy developments are:

- The UNICEF UK Baby Friendly Initiative (BFI) was launched in 1994. Its principles were extended to cover the work of community health-care services in 1998, in the Seven Point Plan for Sustaining Breastfeeding in the Community (revised and updated in 2008). In 2008 the National Institute for Health and Clinical Excellence (NICE) first made the recommendation that NHS Trusts should implement a structured, multifaceted programme to encourage breastfeeding, using the UNICEF UK BFI programme as the minimum standard (NICE 2008, updated 2011) The Baby Friendly Initiative works with the health care system to ensure a high standard of care for pregnant women and breastfeeding mothers and babies. Support is provided for health-care facilities that are seeking to implement best practice and an assessment and accreditation process recognises those that have achieved the required standard.
- In 2006, the UK-wide Welfare Food Scheme (WFS) which provided formula, cow's milk and vitamins to low-income pregnant women and children was re-launched as Healthy Start. Food vouchers for fresh fruit and vegetables (and from 2012, plain, frozen fruit and vegetables), cow's milk and formula are now given to eligible women and children. Healthy Start has addressed the previous inequity between breastfeeding and formula feeding women in the WFS, in which women who formula fed received a higher monetary value (i.e. formula for their babies) than those who breastfed (who received only cow's milk for themselves). The monetary value of Healthy Start vouchers is the same for all women regardless of feeding method. Similarly, vouchers for vitamin tablets and drops are provided for all women and children on the Healthy Start scheme.
- In England, the Infant Feeding Initiative was launched in 1999, as part of the government's commitment to improving health inequalities. Between 1999 and 2002 nearly £3m was spent on funding 79 different projects. The focus of all these projects was the development of innovative practices that aimed to increase the incidence and duration of breastfeeding, especially amongst those groups who were least likely to breastfeed. An evaluation of these initiatives was published in 2003, which provides a synthesis of the key challenges and findings from these projects and makes recommendations on how best to support mothers who start to breastfeed.²⁵
- Increasing breastfeeding rates by two percentage points per year with a focus on mothers from disadvantaged groups was a specific target in the Department of Health's Priorities and Planning Framework for England 2003-2006. Improved local data collection has resulted from the requirement for Primary Care Trusts (PCTs) to monitor rates of initiation and partial and exclusive breastfeeding at 6-8 weeks (see ChiMat Data Atlas²⁶).
- Evidence-based guidance on commissioning local breastfeeding support services in England was published in 2009 (DH 2009).²⁷
- Breastfeeding has been included in the Public Health Outcomes Framework for England (Department of Health, 2012).²⁸
- In Wales a strategy for promoting breastfeeding was published in 2001. A National Breastfeeding Co-ordinator was appointed in 2003. The National Breastfeeding Programme

delivers a programme of activities that incorporate work within the NHS, communities, schools and the voluntary sector. It aims to address the unequal rates of breastfeeding and promotes breastfeeding across the population, including to young mothers and school leavers. It also provides local coordination of Support Groups, Peer Supporter training and the Breastfeeding Welcome Scheme. In addition to all maternity units, all community health services are now fully participating in the UNICEF UK Baby Friendly Initiative programme.

- In Scotland, the Scottish Breastfeeding Group (SBG) was set up in 1995 as a multi-disciplinary group to help contribute to policy development and to act as a conduit for the dissemination of good practice and information on breastfeeding. A National Breastfeeding Adviser was in post from 1995 to 2005 and informed and influenced policy development, contributed to the development of resources, supported and monitored NHS Board activities, and encouraged best practice. Stemming from the work of the SBG a dedicated website (Breastfeeding in Scotland) was set up in 1999 to provide information on breastfeeding for a wide range of audiences including clinicians, mothers, and researchers.
- In 2008 The Scottish Government's Chief Executive's Letter (CEL) 36 set out a strategy, accompanied by significant investment, to improve the nutrition of all women of childbearing age, pregnant women, and children under five with a specific focus on health inequalities, encouraging breastfeeding, and increasing the uptake of Healthy Start. This policy direction has been further confirmed by the launch of 'Improving Maternal and Infant Nutrition: A Framework for Action' in 2011.²⁹
- The first regional breastfeeding strategy for Northern Ireland, published in 1999, aimed to promote and support breastfeeding. A Regional Breastfeeding Co-ordinator was appointed in 2002 to provide advice and support in implementing the strategy. Over the past ten years, a number of initiatives have been taken forward led by the Breastfeeding Strategy Implementation Group and the Health Promotion Agency for NI, including the development of resources for both parents and health professionals; introduction of peer support in the community; introduction of the Breastfeeding Welcome Here Scheme; and participation in UNICEF BFI programme by maternity facilities and also by Trust community facilities. A new 10-year Breastfeeding Strategy for Northern Ireland has been developed and has recently undergone a public consultation (which closed on 28 September 2012).

Developments have not been restricted to the health service. In 2005, the Breastfeeding etc. (Scotland) Act was enacted, which made it an offence to prevent or stop a person from breastfeeding a child under the age of two years in any public place. In Northern Ireland, since April 2008, the Sex Discrimination (Northern Ireland) Order 1976, as amended, has banned discrimination against women on the grounds that they have recently (i.e. within the last 26 weeks) given birth. The Equality Act (2010) has subsequently brought in protection for women breastfeeding in public across Great Britain. From April 2007, statutory maternity entitlements for women in the UK increased to nine months' paid leave together with a further three months' unpaid leave for those wishing to take it. These policy developments are discussed in more detail in Chapter 10.

The contribution that breastfeeding makes to child health and wellbeing has been recognised in cross-government policy on early years (Field 2010)³⁰, tackling inequalities (Marmot 2010)³¹, reducing infant mortality (DH 2007)³², and obesity (DH 2008)³³. Growth charts have been revised to reflect the normal growth patterns of breastfed children in good health; these are applicable to all children regardless of feeding method (SACN/RCPCH Expert Group on Growth Standards, 2007)³⁴. The increasing recognition of the part that socio-economic disadvantage plays in infant feeding, with women from lower socio-economic groups having higher rates of infant formula feeding, contributing substantially, along with the higher use of inappropriate drinks and solid foods, to nutritional inequalities (Nelson 2000)³⁵, has been recognised and built into policy decisions, such as the provision of additional funds to support UNICEF UK BFI accreditation in low income areas in England.

More generally, a key development since 2005 has been the introduction of SureStart Children's Centres in England, which bring together different support agencies to offer a range of services for parents and children under five years old. Child and family health services which may be provided at Children's Centres include antenatal services, Children's Health Clinics, where parents can have their baby weighed and see a health visitor, breastfeeding support groups and weaning sessions, where parents can get information on introducing their baby to solids. Sure Start was originally announced in 1998, with Sure Start Local Programmes (SSLPs) being set up in areas of deprivation. From 2005 to 2006, fundamental changes were made in SSLPs, as they came under the control of Local Authorities and were operated as Children's Centres (CCs). This modified the service-delivery process in that the guidelines for CCs were more specific about the services to be offered.

Flying Start is the Welsh Government's early years programme, which provides a path for improving the life chances of children in some of the most disadvantaged communities. At the heart of the programme is an intensive Health Visiting service. The Welsh Government also supports Integrated Children's Centres (ICC) which are based on the concept that providing integrated education, care, family support and health services is an important factor in securing good outcomes for children and their parents. Introduced in 2003 to 2004, there is at least one ICC in each local authority area in Wales. Each of these centres must provide early years education, open access play, high quality childcare and community training as well as other vital family support services.

Sure Start was introduced in Northern Ireland in 2000 and was initially led by the Department of Health, Social Services and Public Safety. In November 2006 policy responsibility for Sure Start transferred to the Department of Education (DE). There are currently 35 Sure Start Partnerships in Northern Ireland which offer services to approximately 34,000 children, under the age of 4 and their families living in areas which are in at least the top 20% disadvantaged wards. There is an intention to extend Sure Start provision on a gradual basis over time, and as budgets allow, to the top 25% most disadvantaged wards. All children (from birth until age 4), and their families within the catchment area of each Sure Start can access services, as provision is universal within the targeted areas. The DE works closely with the Health & Social Care Board and Trusts and the Childcare Partnerships in the delivery of Sure Start services through a holistic and integrated approach, bringing health, education and parenting support services together in a co-ordinated way.

At the time of the 2010 survey, Sure Start Scotland was in operation, delivering family support services via existing community organisations. There is currently no nationwide programme for family support in Scotland and the Scottish Government is now focusing on the Early Years Framework, underpinned by the Getting it Right for Every Child (GIRFEC) principles, rather than the Sure Start Scotland programme. Family Support is provided, at a local level, through a variety of means using both Local Authority and Third Sector-run programmes and facilities. Different local authorities utilise different family support models, and it is the responsibility of each local authority to manage their own budget and to allocate their financial resources on the basis of local needs and priorities.

The Early Years Framework is intended to shift the focus of service planning, design and delivery away from crisis management towards prevention, early identification and early intervention by agencies who work together around the needs of the individual child and family. There is a focus too on supporting parents to improve their skills and capacity to improve outcomes for their children. The aims of the Framework, therefore, reflect many of those for Sure Start Scotland.³⁶

1.2 Smoking and drinking in pregnancy

Although its primary purpose has always been to monitor infant feeding practices, the survey has also been used to measure the proportion of mothers who smoke and drink during pregnancy and to look at how mothers' smoking and drinking behaviour changes as a result of their pregnancy.

The 1998 Tobacco White Paper Smoking Kills outlined the government's anti-smoking strategy and highlighted smoking among pregnant women as a key area. A specific target was adopted for England to reduce the percentage of women who smoke during pregnancy from 23% (in 1995) to 15% by the year 2010; with a fall to 18% by the year 2005. The Infant Feeding Survey was chosen as the vehicle for measuring progress towards this target.

There was a further national target in Scotland to reduce smoking during pregnancy, which sought a reduction in the proportion of women who smoke during pregnancy from 29% to 23% between 1995 and 2005 and to 20% by 2010. The proportion of women in Scotland smoking during pregnancy in 2009/10 was 18.8%.³⁷

Government policies relating to smoking during pregnancy in England include Every Child Matters (HM Government, 2004), Maternity Matters: choice, access and continuity of care in a safe service (DH, 2007), the Cancer Reform Strategy (DH, 2007), Health Inequalities: progress and next steps (DH 2008), and the Implementation Plan for reducing health inequalities in infant mortality: a good practice guide (DH, 2007). In June 2010, NICE issued guidance on how to stop smoking during pregnancy and following childbirth.³⁸

Most recently, the Department of Health's (DH) Tobacco Control Plan for England³⁹, published in March 2011, outlined the action that the Government will take nationally until 2015 to continue to drive down the prevalence of smoking and to support comprehensive tobacco control in local areas. It includes a national target to reduce smoking during pregnancy to 11% or less by the end of 2015 (baseline measure of 14.1% in 2009/10). This target is to be specifically measured by the smoking status at time of delivery statistical collection (SSATOD⁴⁰, recorded at the time of giving birth) published by the Health and Social Care Information Centre (previously DH).

A Tobacco Control Action Plan for Wales has been published recently, which includes smoking in pregnancy, using this survey as an indicator.⁴¹

A new ten-year strategy for the future of tobacco control in Northern Ireland was published in February 2012.⁴² While the strategy is aimed at the entire population, it identifies pregnant women, and their partners who smoke as a key priority group requiring more focused action. An aspirational target has been included in the strategy to reduce the proportion of pregnant women who smoke to 9% by 2020.

More generally, a key policy development since the 2005 Infant Feeding Survey has been the introduction of smoke free legislation across the UK. Legislation came into force in Wales in April 2007 and England in July 2007, making it against the law to smoke in virtually all 'enclosed' and 'substantially enclosed' public places and workplaces.⁴³ Similar legislation was also introduced in Scotland in March 2006⁴⁴ and in Northern Ireland in April 2007.⁴⁵

1.3 Aims of the survey

The first COMA Working Party set up in the 1970s recommended that a national survey be carried out to establish basic information about infant feeding practices in England and Wales. The first survey took place in 1975 and surveys have been conducted every five years since then. From 1980 the survey covered Scotland, while from 1990 Northern Ireland was also included. The 2005 survey was the first time that England and Wales had been sampled separately, providing separate estimates for all four countries in the UK.

Since IFS began in 1975, the content of the survey has evolved to reflect the prevailing policy agenda, while recognising the importance of maintaining consistency over time to allow comparison and trend analysis.

The main aims of the 2010 survey were broadly similar to previous Infant Feeding Surveys, and were as follows:

- To establish how infants born in 2010 were being fed and to provide national figures on the incidence, prevalence and duration of breastfeeding and exclusive breastfeeding. These estimates are to be provided separately for England, Wales, Scotland and Northern Ireland, as well as for the UK as a whole;
- To examine trends in infant feeding practices over recent years, in particular to compare changes between 2005 and 2010;
- To investigate variations in feeding practices among different socio-demographic groups and the factors associated with mothers' feeding intentions and with the feeding practices adopted in the early weeks;
- To establish the age at which solid foods are introduced and to examine practices associated with introducing solid foods up to 9 months; To measure the proportion of mothers who smoke and drink during pregnancy, and to look at the patterns of smoking and drinking behaviour before, during and after the birth; and
- To measure levels of awareness of and registration on the Healthy Start scheme and understand how Healthy Start vouchers are being used.

1.4 Survey methodology

The sample design and fieldwork procedures were broadly similar to those used in the 2005 survey. However, for the first time in 2010, mothers were offered the option to complete the survey online. This was entirely voluntary and all mothers were sent the paper questionnaire at Stage 1 as well.

A completely unclustered sample of 30,760 births was selected from all births registered in the period August to October 2010. The aim of the sampling process was to achieve a sufficiently robust sample size in each country to produce separate estimates for England, Wales, Scotland and Northern Ireland. For this reason the sampling fraction and the precise length of the sampling period varied from country to country. In both Wales and Northern Ireland all births in the specified period were selected. Births were drawn at random from all those registered in England and Scotland during the defined sampling period.

As response was predicted to be lower amongst mothers from lower socio-economic groups and younger mothers, in England and Scotland, mothers from the most deprived quintile of each country's Index of Multiple Deprivation (IMD) were over-sampled. In 2005, births where no partner

details were recorded at registration had been over-sampled, but it was decided in 2010 to use the Index of Multiple Deprivation instead, as it was felt that the lowest IMD quintile would have a stronger correlation with low socio-economic group than not having registered a partner. This approach also helped to ensure sufficient younger mothers were included, as they were more likely to be from lower socio-economic groups. Prior to 2005, mothers from lower Social Class groups had been over sampled, but this was discontinued in 2005, because the Social Class system used on previous surveys had been replaced by the National Statistics Socio-Economic Classification (NS-SEC) and it was felt that the association between infant feeding practices and NS-SEC was not as well understood as the association between infant feeding practices and Social Class.

At Stage 1 of the survey, postal questionnaires were despatched to mothers during September – December 2010, with the despatch of the initial questionnaire being staggered on a weekly basis to ensure it reached the mother when the baby was approximately six weeks old. Up to three reminders were sent to mothers who had not returned a questionnaire. A total of 15,724 mothers returned the Stage 1 questionnaire, representing a response rate of 51%.

At Stage 2 of the survey, postal questionnaires were despatched to mothers during January to April 2011, when their babies were around four to six months old. Those who had participated in the Stage 1 online survey and who had provided their email address were invited by email to take part in the Stage 2 survey. They also received a letter, despatched at the same time as the initial postal questionnaires, telling them that the online survey was ready to complete.

Up to three reminders were sent to mothers who had not returned a questionnaire. Mothers who did not respond to the postal or online survey were subsequently followed up by either by telephone (where a telephone number had been provided at Stage 1) or face-to-face. A total of 12,565 mothers completed the Stage 2 questionnaire, representing a response rate of 80%.

At Stage 3 of the survey, postal questionnaires were despatched to mothers during May to August 2011, when their babies were around eight to ten months old. The fieldwork procedures were exactly the same as for Stage 2, with the exception of a slight modification to the procedures for the online survey. At the end of the Stage 2 questionnaire, respondents were asked to provide their email address, as well as their telephone number. All respondents who responded to the survey online at Stage 2 and any who responded postally but provided their email address were sent an email inviting them to take part in the Stage 3 survey, with a link to the online survey. As at Stage 2, they also received a letter, despatched at the same time as the initial postal questionnaires, telling them that the online survey was ready to complete.

The follow-up procedures for mothers who did not return the questionnaire were exactly the same as for Stage 2. A total of 10,768 mothers returned the Stage 3 questionnaire, representing a response rate of 86%.

Since mothers were only contacted in later stages of the survey if they had responded to the previous one, the effect of non-response at each stage is cumulative. Thus, the response rate at Stage 3 of the survey based on the initial sample of mothers was 35%.

All the data were then weighted to correct both for differential sampling and for differential response rates among different groups. Further weights were applied to the Stage 2 and Stage 3 data to correct for further non-response bias introduced through attrition over the course of the survey.

Further details about the survey methodology, including details for each individual country, are contained in Appendix A.

1.5 Definitions and terminology used in the survey

The definitions of some key terms used throughout the report are given below. In 2010, a clarification that breastfeeding included giving babies expressed breastmilk was included, but otherwise those marked with a † have been used consistently since 1975. Exclusive breastfeeding was first measured in 2005 and has been defined in the same way in 2010.

Breastfed initially† refers to all babies whose mothers put them to the breast, even if this was on one occasion only. It includes giving babies expressed breastmilk.

Incidence of breastfeeding† refers to the percentage of babies who were breastfed initially. This definition includes all babies who were put to the breast at all, even if it was only once. It includes giving babies expressed breastmilk.

Prevalence of breastfeeding† refers to the percentage of all babies who are being breastfed (including being given expressed breastmilk) at specific ages, even if they are also receiving infant formula, solid food or other liquids.

Duration of breastfeeding† refers to the length of time that mothers who breastfed initially continued to breastfeed for (including giving expressed breastmilk), even if they were also giving their baby other milk and solid foods.

Prevalence of exclusive breastfeeding refers to the proportion of all babies who have only ever been given breastmilk up to specific ages and who have never been fed formula, solid foods, or any other liquids.

Duration of exclusive breastfeeding refers to the length of time that mothers who initially gave breastmilk exclusively continued to feed exclusively, that is not giving formula, solid foods, or any other liquids.

Smoking during pregnancy: Three categories of smoking behaviour are used in the report as follows:

- *Smoking before or during pregnancy* is the percentage of women who smoked at all in the two years before they completed Stage 1 of the survey. This roughly covers the period of their pregnancy plus the year before conception.
- *Smoking throughout pregnancy* is the percentage of women who smoked in the two years before they completed Stage 1 of the survey, and who were smoking at the time of their baby's birth. It included women who may have given up smoking before or during their pregnancy, but who had restarted before the birth.
- *Gave up smoking before or during pregnancy* is the percentage of women who smoked in the two years before they completed Stage 1 of the survey and who gave up during this period and had not restarted before the birth of the baby.

Drinking during pregnancy: Three categories of drinking behaviour are used in the report as follows:

- *Drinking before or during pregnancy* is the proportion of mothers who drank alcohol at all in the two years before they completed Stage 1 of the survey. This roughly covers the period of their pregnancy plus the year before conception.
- *Drinking during pregnancy* is the proportion of all mothers who drank alcohol in the two years before they completed Stage 1 of the survey, and who drank during pregnancy.
- *Gave up drinking before pregnancy* is the proportion of mothers who drank alcohol in the two years before they completed Stage 1 of the survey but who did not drink during pregnancy.

1.6 Standard analysis variables

Throughout the report a number of key analysis variables are used. These are defined below:

Birth order: All mothers were asked whether this was their first child and, if not, how many children they had. Many results are analysed by birth order, with comparisons being made between first-time mothers and mothers of second or later babies.

Mother's age: All mothers were asked their current age at Stage 1 of the survey and the results are banded into five bands: Under 20 years of age, 20-24, 25-29, 30-34, 35 or over.

National Statistics socio-economic classification (NS-SEC): From 2001 the National Statistics socio-economic classification (NS-SEC) was introduced for all official surveys and statistics. It replaced Social Class based on occupation and socio-economic group (SEG). This classification aims to differentiate occupations in terms of their employment relations, rather than skill level and so the distinction between manual and non-manual is no longer used. NS-SEC consists of eight, five and three class versions, and the version used here is the three class version. This consists of three groups as follows:

- Managerial and professional occupations
- Intermediate occupations
- Routine and manual occupations

Additionally, there are two residual categories consisting of those who have never worked and those where NS-SEC could not be classified because of insufficient information.

As had been the case in 2005, the 2010 survey collected occupational information needed to code NS-SEC for mothers only. Prior to 2005, occupational information for partners had been collected. This means that all analysis by socio-economic classification is based on the mother, and not on her partner.

Details of how NS-SEC is derived and the different analysis categories can be found on the National Statistics website⁴⁶.

Education level: All mothers were asked at what age they left full-time education. Throughout the report this is used as a proxy for education level, with mothers who left full-time education at 16 or under being categorised as having the lowest education level and mothers who left full-time education at over 18 being categorised as having the highest education level.

Index of Multiple Deprivation (IMD)

Indices of deprivation identify areas of multiple deprivation at the small area level. Separate indices have been constructed for England, Wales, Scotland and Northern Ireland. Although not directly comparable, each index measures deprivation in its broadest sense by assessing indicators relating to income, employment, health and education, among others. These dimensions are then aggregated to provide an overall measure of multiple deprivation and each area is given a deprivation rank and score.⁴⁷

For the purposes of this report, the Index in each country has been divided into five quintiles, such that a mother living in the most deprived quintile is in an area in the 20% of the index with the highest deprivation in her country. Conversely a mother in the least deprived quintile is in an area in the 20% of the index with the lowest deprivation in her country.

It should be noted that for analysis by IMD at UK level, the corresponding quintiles in each country have been combined. This means that mothers in the most deprived quintile are in the most deprived quintile *in their country*: this does not necessarily reflect comparative levels of deprivation between each of the countries in the UK.

Ethnic group: The 2010 survey asked mothers in England, Wales and Scotland for their ethnic group. The question used was the National Statistics ethnic group question first introduced in 2001. It consists of the following categories:

- White – British, Irish, Any Other White background
- Mixed – White and Black Caribbean, White and Black African, White and Asian, Any Other Mixed background
- Asian or Asian British – Indian, Pakistani, Bangladeshi, Any Other Asian background
- Black or Black British – Caribbean, African, Any Other Black Background
- Chinese or Other Ethnic Group – Chinese, Any Other Ethnic background

In Northern Ireland, religious denomination was asked instead of ethnicity, although no results are presented by religion.

Stages of the survey: The approximate ages of babies at the different stages of the survey were as follows:

Stage 1: babies aged four to ten weeks

Stage 2: babies aged four to six months

Stage 3: babies aged eight to ten months

1.7 Weighted bases

When results for each country are shown separately, they are weighted only to compensate for differential non-response and the over-sampling of mothers from the most deprived IMD quintile (England and Scotland only). Separate weights were created for England only, Wales only, as well as England and Wales combined. Where results are based on the UK as a whole, an additional weight is applied to compensate for the over-sampling in Scotland, Northern Ireland and Wales.

All weights have been scaled to the unweighted sample sizes for each country and for the UK as a whole, a practice similar to that adopted on the 2005 survey. Further information about weighting is provided in Appendix A.

1.8 Making comparisons with results from previous surveys

One of the main aims of the 2010 survey is to provide trend data in infant feeding practices, especially highlighting changes since the last survey in 2005. Although many of the key questions and definitions have been kept consistent across all surveys, there are a number of other factors that need to be considered when looking at comparisons over time.

1.8.1 Sampling error

All surveys are subject to sampling error due to the chance variations between a particular sample and the whole population from which it has been drawn. When comparing results from two separate samples, each will be subject to sampling error meaning that any observed changes over time may actually be attributable to sampling variation, rather than being real. Sampling errors are influenced by the size of the sample on which estimates are being based, the variability of the particular measure within the sample, and the complexity of the sample design. Further details about sampling errors and examples of standard errors for some of the key survey estimates can be found in Appendix B.

As a general rule only differences that are statistically significant at the 95% confidence level are commented on in the text.

1.8.2 Non response

Most surveys are subject to possible bias due to non-response. Analysis of the 2010 survey showed a lower response rate among younger mothers and areas of higher deprivation. The achieved samples at each stage of the survey were weighted by age and IMD quintiles (within each country) to correct for this differential non-response, using registration data from all births within the sampling period. Further weights were applied to the Stage 2 and Stage 3 data to correct for further non-response bias introduced through attrition over the course of the survey. Further information on weighting is provided in Appendix A.

1.8.3 Comparison of survey universes

Between 1980 and 1990 the Infant Feeding Survey was only conducted in England and Wales, and Scotland. This means that historically data on the total sample have been presented for Great Britain. In the 2000 survey it was decided to reflect the fact that the survey had also been conducted in Northern Ireland since 1990, and present the total sample results at UK level. This has been repeated for the 2010 survey, except for any analysis by ethnicity. The ethnicity question was not asked in Northern Ireland (the 2001 Census showed that 99% of the population in Northern Ireland are White⁴⁸), and therefore total sample estimates by ethnicity are presented for Great Britain.

The 2005 survey was the first survey designed to present separate estimates for Wales. Prior to this the sample in England and Wales had been drawn as a single sample, with the Welsh part of the sample being too small to present separate results.

1.8.4 Changes in the socio-demographic characteristics of mothers

Any significant changes in the characteristics of the universe of mothers in different years will affect the interpretation of trend data, and this will be particularly important if these characteristics are themselves associated with key survey estimates, such as the incidence of breastfeeding. Analysis of previous surveys has shown a significant change in the characteristics of mothers over the longer-term, with the sample universe becoming older, staying in education for longer, and having higher socio-economic characteristics over time. These changes have reflected changes in the population.

Tables 1.1-1.4 show the profile of the 2005 and 2010 surveys by several key socio-demographic measures to examine whether these longer term trends have continued in the last five years.

Across the UK as a whole the proportion of mothers having a first baby in 2010 remained consistent with that reported in 2005 at 51%. The only exception to this was in Northern Ireland, where the proportion dropped from 49% in 2005 to 45% in 2010. This decline comes after a noticeable increase in the proportion of mothers having a first-time baby in Northern Ireland in the five years leading up to 2005 (up from 41% in 2000).

Table 1.1

There has been a slight shift since 2005 in the age of mothers. Although the proportion of mothers aged 30 or over in the UK remained consistent in this time (47% in 2005 and 48% in 2010), women aged under 25 in 2010 were less likely to be mothers than their counterparts in 2005 (23% in 2010 compared with 27% on 2005). This may be related to that fact that a higher proportion of women remained in education for longer in 2010 compared to 2005.

It should be noted that, as in 2005, the data were weighted by age, to correct for differential non-response by age of mother, so the age profile of mothers in the survey matches that of registration data from all births in the sampling period of the survey.

Table 1.2

Mothers in the 2010 survey had remained in education for a longer period than mothers in 2005. The proportion of mothers in the UK leaving education aged over 18 increased from 38% in 2005 to 51% in 2010. This change was most marked in Scotland where in 2005 38% of mothers left education aged over 18 compared to 54% in 2010. This overall finding may in part reflect an increase in the number of students taking up places on undergraduate courses in the UK, especially among those aged 25 and over, in the ten years leading up to 2010 as reported by the University and College Admissions Service (UCAS)⁴⁹.

Table 1.3

The proportion of mothers working in managerial and professional occupations and intermediate occupations remained relatively consistent across the two surveys (36% in managerial and professional occupations in 2005 and 35% in 2010; 21% in intermediate occupations in 2005 and 20% in 2010). However, the proportion of mothers working in routine and manual occupations declined over the same period (down from 33% in 2005 to 27% in 2010). There were corresponding increases in the proportion of mothers who had never worked (from 7% in 2005 to 10% in 2010) and in those whose occupation could not be classified (from 3% to 9% respectively).

Table 1.4

1.8.5 Age of babies at each stage of the survey

At each stage of the survey babies will be a range of ages at the point the mother completes the questionnaire. Although the design and implementation of the sampling and fieldwork procedures are intended to try and make this age range as narrow as possible it is difficult to completely control this since it depends upon how quickly the mother completed the survey when they received it, and whether they responded to the first, second, third reminder, or had to be followed-up by an interviewer.

Some of the key variables are not affected by this age range because they are based on the specific age of the baby. For example, incidence and duration of breastfeeding, and age at which solids were first introduced are both based on the actual age of the baby. However, other measures relate to what the mother was doing at the time they completed the questionnaire. For example, whether mothers were giving their baby vitamins or whether they were breastfeeding in public or not relate to what mothers were doing at the time of the survey. This means that if the average age of the babies is different from survey to survey it may affect comparisons of any questions which are based on the mother's behaviour or attitude at the time she completed the questionnaire.

Table 1.5 shows that the average age of babies across the UK at Stage 1 of the 2010 survey was 53 days; this is consistent with the age of babies at Stage 1 of the 2005 survey (54 days). Difference in age between the two surveys was most marked in Scotland where at Stage 1 of the 2010 survey babies were on average 5 days older than those at Stage 1 of the 2005 survey (47 days in 2005 and 52 days in 2010), but there was still less than a week's difference.

At Stage 1, 68% of babies were in the age range six to ten weeks, while 89% were in the age range four to ten weeks. Because of this, the age of babies at Stage 1 is referred to as "four to ten weeks" when used in the rest of the report, the same time period used for the 2005 survey.

The average age of babies at Stage 2 of the survey was 22 weeks. This was generally consistent across all countries and similar to the average age in the 2005 survey (21 weeks). A smaller proportion of babies in 2010 fell into the four to five month age band than was the case in 2005 (48%

compared with 67% in 2005), but this meant there was a more even spread across the four to six month age band. At this stage, 86% were in the age range four to six months (up from 82% in 2005). The age of babies at Stage 2 is referred to as “four to six months” when used in the rest of the report.

The average age of babies at Stage 3 of the survey was 38 weeks. Again this was relatively consistent across countries but indicates that on average babies at Stage 3 in 2010 were three weeks younger than those at Stage 3 in the 2005 survey (41 weeks). The proportion of babies that fell into the age range of eight to nine months was double that of the 2005 survey (52% in 2010 compared with 26% in 2005) and the proportion of babies in 2010 falling into the eight to ten months age band was lower than in 2010 (74% in 2010 compared with 80% in 2005). This is due primarily to mothers responding to the survey before their baby had reached eight months. The younger age profile of babies in 2010 reflects the fact that mothers were quicker to respond to the survey at Stage 3 than had been expected based on earlier stages of the survey. This may be due to the fact that a greater proportion of the sample took part in the survey online at Stage 3, which may have encouraged a faster response. Further details on the methodology are provided in the Appendices.

Overall, the figures suggest that for Stages 1 and 2 of the 2010 survey the age profile of babies was broadly similar to the profile of the 2005 survey, but on average babies at Stage 3 were three weeks younger in 2010 than 2005. This should be borne in mind when comparing the Stage 3 findings between 2005 and 2010.

Table 1.5

1.9 Contextual information

This final section provides further context to assist in interpreting the findings discussed in the remainder of the report in terms of:

- Providing a description of key demographic variables not already discussed (ethnicity and the Index of Multiple Deprivation);
- Explaining how some of the key demographic variables are inter-related;
- Giving background information about the birth and significant factors relating to the baby.

1.9.1 Ethnicity by country and region

Mothers in Great Britain were asked for their ethnic group. This was not asked in Northern Ireland, but it can be assumed that the majority of the sample in Northern Ireland was White, based on the 2001 Census, which showed that 99% of the population in Northern Ireland were from a White background.

Just over four in five mothers in Great Britain were from a White background (82%). Mothers from a non-White background were most likely to be from an Asian ethnic background, accounting for seven per cent of the survey population. Four per cent of mothers were from a Black ethnic background, two per cent were from a Mixed ethnic background and one per cent were from a Chinese or other ethnic background.

Although White mothers were in the majority in all countries, this was more likely to be the case in Wales and Scotland (92% and 91% respectively) than in England (80%). There was also considerable variation by region within England. Mothers were more likely to be from a White background in the South West (91%) and the North East (90%), while mothers were less likely to be from a White background in London (58%), reflecting greater ethnic diversity in the capital.

1.9.2 Index of Multiple Deprivation (IMD) by country and ethnicity and region

As mentioned earlier in this chapter, each country has its own Index of Multiple Deprivation but these have been divided into quintiles in each country and combined at this level. It should be borne in mind that each mother has been placed in a quintile on the index for her country, but this does not necessarily reflect comparative levels of deprivation across countries.

Overall, mothers were more likely to live in more deprived areas in their country. Twenty-eight per cent of mothers lived in the most deprived quintile in their country, while only 15% of mothers lived in the least deprived quintile in their country. The skew towards more deprived areas was least apparent in Northern Ireland, where there was a more even spread across the different quintiles (22% lived in the most deprived quintile, compared with 28% of all mothers).

Although it is not possible to compare deprivation levels between countries, it is helpful to consider relative deprivation levels across Government Office Regions in England. There was considerable disparity by region in England. Overall, nearly one in three mothers in England (28%) lived in the most deprived quintile, but it was higher in the North East (52%), Yorkshire and the Humber (45%), the West Midlands (40%), the North West (39%) and London (34%). Mothers in the South East (32%) and the East of England (25%) were more likely to live in the least deprived quintile (compared with 15% of all English mothers).

Mothers in Great Britain from a Black (59%), Asian (43%) and Mixed ethnic background (37%) were more likely to live in the most deprived quintile than White mothers and those from a Chinese or other ethnic background (24% for both). Due to low base sizes for minority ethnic groups in Scotland and Wales, it is not possible to break this down by country.

1.9.3 Inter-relationship between NS-SEC and age of mother, educational level, IMD, ethnicity and country

As mentioned at section 1.5.3, 35% of mothers came from managerial and professional occupations, 20% came from intermediate occupations, 27% had routine and manual occupations and 10% had never worked. As socio-economic group is often a key discriminator, it is helpful to consider how it inter-relates with other demographic characteristics.

Older mothers and those who had left full-time education when they were aged over 18 were more likely to be in managerial and professional occupations (49% of mothers aged 30-34, 53% of mothers aged 35 or over and 51% of those who left education when they were aged over 18). This is likely to reflect a wider trend in society for more educated, professional women to delay having children until their career is established.

The youngest mothers (those aged under 20) were four times more likely than average never to have worked (41% compared with 10% overall). Mothers aged under 20 (39%) and aged 20-24 (46%) were also more likely than average to be in routine and manual occupations. Leaving education at

the age of 16 or younger was also associated with being in routine and manual occupations (40% compared with 27% overall) or never having worked (18% compared with 10% overall).

Unsurprisingly, there was a relationship between socio-economic group and the level of deprivation of the area in which mothers lived (defined by quintile of the Index of Multiple Deprivation). Mothers in managerial and professional occupations were more likely to be living in the most affluent areas (54% in the least deprived quintile compared with 19% in the most deprived quintile). Conversely, those who had never worked were more likely to be living in the most deprived quintile (21%) and less likely to be living in the least deprived quintile (2%). A similar pattern was evident for mothers in routine and manual occupations (35% in the most deprived quintile; 15% in the least deprived quintile).

There were also distinctions by ethnicity in terms of mothers' socio-economic group. White mothers were more likely to be in managerial and professional occupations (37%) and Asian and Black mothers were less likely (26% and 23% respectively). Mothers from minority ethnic groups were more likely never to have worked than White mothers. This was particularly the case for Asian mothers (36%), compared with six per cent of White mothers.

It is also worth noting that there was little variation by country in terms of socio-economic group. Mothers in Scotland were a little more likely to be from managerial and professional occupations (37% compared with 35% overall). Mothers who had never worked were a little more likely to live in England (11% compared with 7% in Scotland and Northern Ireland), which may reflect the greater proportion of mothers from minority ethnic groups living in England.

Table 1.8

1.9.4 Where the mother gave birth

For the first time in the Infant Feeding Survey, mothers in 2010 were asked in more detail about where they gave birth, rather than just hospital or home. Most mothers reported that they gave birth in hospital, either in a midwife-led unit (64%) (where care is entirely delivered by midwives and mothers are encouraged to give birth with as little medical intervention as possible) or a consultant-led unit (the traditional 'Labour Ward') (29%). A further 2% reported that they gave birth in a midwife-led unit or birth centre separate from hospital and 3% reported they gave birth at home. Since this survey was conducted, the Birthplace in England study has been published (Rowe 2011), and the two categories described here probably map onto their definitions of 'alongside' midwifery-led units and 'freestanding' midwifery-led units.⁵⁰

The proportion of mothers indicating they gave birth in a midwife-led unit is unexpectedly high, given that not all hospitals have such units. It could be assumed that mothers interpreted this as receiving midwife-led care, since mothers giving birth in a 'consultant-led unit' would not need to be seen by the consultant, unless there were complications during the labour or birth. Hence we have interpreted it as an indicator of whether the mother had a high risk pregnancy or experienced complications during the birth or not; for example, mothers reporting that they gave birth in a consultant-led unit were more likely to give birth by caesarean section (52%) and less likely to have a normal birth (19%). They were also more likely to be older (40% aged 35 or over) and therefore more at risk of complications during the birth. They were also more likely to work in managerial or professional occupations (40%), which may be linked to age in this case.

Table 1.9

1.9.5 BFI accreditation by country, English region and IMD

As mentioned earlier in this chapter, an important policy development to encourage mothers to breastfeed was the establishment of the UNICEF UK Baby Friendly Initiative, which was launched in the UK in 1994. The Baby Friendly Initiative works with the health-care system (NHS Trusts (or equivalent in the devolved nations), other health-care facilities and higher education institutions) to ensure a high standard of care for pregnant women and breastfeeding mothers and babies. Support is provided for health-care facilities that are seeking to implement best practice, with the aim of ensuring that all parents make informed decisions about feeding their babies and are supported in their chosen feeding method. Best practice for maternity units is represented by the Ten Steps to Successful Breastfeeding. An assessment and accreditation process recognises those that have achieved the required standard. Assessment for Baby Friendly accreditation takes place in several stages, until full accreditation is achieved.⁵¹

In 2010, mothers were asked to record the name of the hospital and the town where they gave birth. This made it possible to identify whether the mother gave birth in a hospital, birth centre or unit with full BFI accreditation or not. Hospitals which had achieved full accreditation by July 2010 were identified i.e. just before the 'IFS babies' were born.

Fifteen per cent of mothers who gave birth in a hospital, birth centre or unit did so in one with full BFI accreditation (71% did not and a further 15% were unclassified as mothers did not provide enough detail about the hospital where they gave birth). However, there was considerable disparity by country. Full BFI accreditation was highest in Scotland and Northern Ireland (52% in each) and lowest in England (9%). Wales fell in the middle at 34%.

Table 1.10

Across all countries mothers in the most deprived areas were more likely to give birth in a BFI accredited hospital. In England, funding to work towards BFI accreditation was targeted at the most deprived areas, often in areas where breastfeeding initiation rates were lowest, but this pattern was also evident in the devolved nations even though specific funding had not been directed in this way⁵². In England, 13% of mothers who gave birth in a hospital, birth centre or unit and who lived in the most deprived areas gave birth in a hospital with full BFI accreditation (compared with 9% on average for England). The figures for mothers living in the most deprived areas for the devolved nations were 42% for Wales, 60% for Scotland and 65% for Northern Ireland (compared with 34% for all mothers giving birth in a hospital, birth centre or unit in Wales and 52% for these mothers in Scotland and Northern Ireland).

Table 1.11

In England, linked to the targeting of funding for BFI, there was considerable variation by region (see Table 1.10). Thus, mothers in the North East of England who gave birth in a hospital, birth centre or unit were more than three times more likely than the average for England to have given birth in a hospital with BFI accreditation (28% compared with 9% on average). Mothers in the West Midlands (19%), South West (18%) and Yorkshire and the Humber (17%) were also more likely to have given birth in a hospital with full BFI accreditation. Conversely, no mothers in London and few in the East of England (less than 0.5%) or the South East (4%) had given birth in a hospital with full BFI accreditation. As mentioned earlier, mothers in the North East, Yorkshire and the Humber, the West Midlands and London were more likely to live in the most deprived quintile. The incidence of breastfeeding by IMD and region is discussed in Chapter 2.

1.9.6 Type of delivery

Nearly two-thirds of babies were born by normal birth (63%)⁵³, while nearly a quarter (24%) were born by caesarean section. Vacuum extraction (ventouse) and forceps were each used in seven per cent of births.

Babies were most likely to be born by normal birth in England (64%) and least likely in Northern Ireland (57%), with Wales and Scotland both falling in between (60%). There was a corresponding difference in the rate of births by caesarean section in each country, with 29% of mothers in Northern Ireland giving birth in this way, compared with 26% in both Wales and Scotland and 24% in England. There was little variation by country in the proportion of births involving forceps or vacuum extraction, except in Scotland, where forceps were four times more likely to be used than vacuum extraction (12% and 3% respectively).

Babies born to younger mothers were more likely to be born by normal birth (74% of mothers aged under 20) and those born to older mothers were more likely to be born by caesarean section (33% of mothers aged over 35). Findings by socio-economic group are likely to be linked to age. Mothers who had never worked were more likely to have a normal birth (73%), while mothers in managerial and professional occupations were more likely to give birth by caesarean section (27%).

Table 1.12

1.9.7 Analgesia

For the first time in 2010, mothers were asked about non-pharmacological methods of pain relief used in labour, such as using a Transcutaneous Electrical Nerve Stimulator (TENS) machine or birthing pool, as well as pharmacological methods such as gas and air.

The most commonly used pharmacological analgesic during labour was gas and air, used by 70% of mothers. Epidurals were used by a third of mothers (33%) while pethidine or similar injections were used in a slightly lower proportion of births (28%). Only 10% of mothers did not receive any pharmacological analgesic during labour (although they may have used non-pharmacological methods).

In terms of non-pharmacological methods of pain relief, nearly two in five (38%) mothers reported that they used natural methods of pain relief, such as breathing or massage, 15% used a TENS machine and 11% used water or a birthing pool.

Mothers who used non-pharmacological methods such as natural methods (breathing and massage), a TENS machine or a birthing pool during the birth tended to have a managerial or professional occupation and be older. Forty-five per cent of managerial and professional women used natural methods, 24% used a TENS machine and 14% used a birthing pool compared with 38%, 15% and 11% of all mothers respectively). Mothers aged 30-34 were more likely than other mothers to use natural methods (40%), a TENS machine (20%)⁵⁴ and a birthing pool (13%). Conversely, mothers receiving pethidine were more likely to be younger (44% of mothers aged under 20 compared with 28% of all mothers) and to be in routine or manual occupations (32%). Younger mothers were also more likely to use gas and air (79% of mothers aged under 20 compared with 70% of all mothers).

Table 1.13

1.9.8 Prematurity and special care

Also for the first time in this longitudinal survey, mothers were asked how many weeks into their pregnancy they gave birth. The majority of babies were full term (born at 37 weeks or more) at birth (93%), 4% were born at 35-36 weeks gestation and 3% at 34 weeks or less. Those more likely to give birth to a premature baby were mothers aged under 20 (9% gave birth to a premature baby compared with 6% on average), those who had never worked (9%) or Asian mothers (8%).

Table 1.14

Mothers were asked if their baby had been given phototherapy for jaundice or had been admitted to special care. Only 7% were admitted to special care and 5% were put under a lamp; just over one in ten were affected by either (11%). As would be expected, premature babies were much more likely to receive these types of care. A third (34%) of premature babies received phototherapy for jaundice compared with only 3% of full term babies. The proportion increased with the prematurity of the baby (28% of those born at 35-36 weeks compared with 50% of those born at less than 32 weeks).

Over half of premature babies were admitted to special care (53% vs. 5% of full term babies) and the proportion increased with the prematurity of the baby (37% of those born at 35-36 weeks were noted by respondents to have been admitted to special care compared with 83% for those less than 32 weeks). It should be noted that all babies born at less than 32 weeks would have needed some form of additional care and the proportion of those born at 35-36 weeks who were admitted to special care also seems low. Some premature babies may have needed to go into intensive care or a high dependency unit – while some mothers may have recorded this under 'special care', this may not always have been the case.

Table 1.15

Full term babies tended to have shorter stays in special care than premature babies (35% one day or less compared with 7% for premature babies); nearly two-thirds of premature babies were in special care for more than a week (64% compared with only 13% of full term babies).

Table 1.16

1.9.9 Birth weight

Most babies weighed 3 kilograms or more (78%), while 5% of babies were of low birthweight (defined as less than 2.5 kilograms).

As might be expected, premature babies were much more likely to be of low birthweight than full term babies (50% compared with 3% respectively). Babies admitted to special care were also more likely than those who were not to be of low birthweight (34% compared with 3%). There were also variations according to socio-demographic characteristics. Low birthweight babies were more likely to be born to the youngest mothers (9% of mothers aged under 20); there was little variation between the other age groups. They were also more likely to be born to mothers who had never worked (9%) and to Asian mothers (9%); again there was little variation for the other socio-economic groups and ethnic groups.

Although there was no variation by country in the proportion of mothers giving birth to low birthweight babies, the largest babies (those weighing 3.5 kilograms or more) were more likely to be born to mothers in Northern Ireland and Scotland (51% and 48% respectively, compared with 43% of all mothers). White mothers were also more likely to give birth to the largest babies (45%), while

mothers from Asian and Chinese or other ethnic backgrounds were less likely to (27% and 28% respectively).

Table 1.17

1.9.10 Skin-to-skin contact

Skin-to-skin contact soon after birth is known to help mothers to establish a first successful breastfeed. The majority of mothers (81%) had skin-to-skin contact with their baby within an hour of the birth, rising to 88% within 24 hours. This was a significant increase since 2005 (when it was 72% within an hour; 81% within 24 hours). Nearly four in five mothers said they had skin-to-skin contact for as long as they wanted (79%) in 2010.

Mothers of full term babies were more likely to have skin-to-skin contact with their babies within 24 hours than mothers of premature babies (90% compared with 59%). When babies were admitted to special care, mothers were less likely to have skin-to-skin contact (56% compared with 91% of those not admitted to special care).

Mothers who had had a caesarean section were also less likely to have skin-to-skin contact within 24 hours (78% compared with 92% for normal deliveries).

Table 1.18

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- ⁵⁴ Mothers aged 35 or more were also more likely than average to use a TENS machine (18%).