# GROWING UP IN SCOTLAND: BIRTH COHORT 2

## Results from the first year

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GROWING UP IN SCOTLAND

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# GROWING UP IN SCOTLAND: BIRTH COHORT 2

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ISBN: 978-1-78256-361-7 (web only)

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

Produced for the Scottish Government by APS Group Scotland
DPPAS13846 (02/13)

Published by the Scottish Government, February 2013

# GROWING UP IN SCOTLAND: BIRTH COHORT 2

## Results from the first year

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## ACKNOWLEDGEMENTS

First and foremost, the authors of the report would like to thank all the families who have given up their time to form part of the new birth cohort and those in the other cohorts who continue to take part in the study and have supported it sweep by sweep.

The Growing Up in Scotland study is very much a collaborative venture. We owe a huge debt of gratitude to our colleagues in NatCen's operations and computing departments and to our team of interviewers and supervisors for conducting the interviews with such dedication and professionalism.

We would also like to thank everyone involved in the preparation of this report. In particular, the researchers attached to the Centre for Research on Families and Relationships – Lynn Jamieson, Karen Mountney, Sarah Rogers, Valeria Skafida, Kelly Shiell-Davis, and Pavithra Atul Sarma – who prepared the background sections included in the introductions to chapters 3, 4, 5, 7, 8 and 10. We are also grateful to Sharon Glen and Fiona McDiarmid and their colleagues at the Scottish Government who provided feedback on early drafts.

Responsibility for the opinions expressed in this report, and for all interpretation of the data, lies solely with the authors.

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# Executive summary

## Introduction

Growing Up in Scotland is a large-scale longitudinal research project aimed at tracking the lives of several cohorts of Scottish children from the early years, through childhood and beyond.

This report provides a detailed insight into the first set of data collected from the study's second birth cohort – representative of all children born in Scotland between 1st March 2010 and 28th February 2011 – around the time they were aged 10 months old.

## Characteristics and circumstances of children and their families

The report begins by providing an overview of the circumstances and characteristics of children born in Scotland between 1st March 2010 and 28th February 2011 – the BC2 children – around the time they were aged 10 months old. Comparisons are made with children in the first birth cohort – BC1 – who were born in 2004/05.

This chapter introduces many of the complex inter-relationships between demographic factors, family structure and socio-economic circumstances which influence findings throughout the report.

- The proportion of births to women in their thirties has decreased from 47% in 2004/05 to 44% in 2010/11. The main corresponding increase has been amongst mothers in their twenties, rising from 42% in 2004/05 to 45% in 2010/11. Births to teenage mothers also decreased from 8% to 6%.
- At 10 months of age, 79% of children lived with two parents whereas 21% lived with a single parent. These figures are almost identical to those for BC1 which were 80% and 20% respectively.
- 50% of parents were married, 29% were cohabiting and 19% were single, leaving only a small proportion either separated or divorced. Marriage had decreased – down from 54% – and cohabiting increased – up from 26% – since 2005.
- 33% of children were reported to have had between one and three grandparents alive, 53% had four grandparents, and 13% had more than four. Children in BC2 had slightly more grandparents alive at age 10 months than did children in BC1.
- Receipt of Working and Child Tax Credits is lower amongst families in BC2 compared with those in BC1 reflecting the lower thresholds for withdrawal of Tax Credits introduced in 2011. Receipt of Jobseeker's Allowance, Housing Benefit and Council Tax Benefit increased slightly.
- After taking account of inflation, the data suggest that families in 2011/12 have lower incomes than families with young children did in 2005/06. Whereas 21% of families in BC1 had an annual income of less than £10,833, the same was true (in real terms) for 27% of families in BC2.
- 57% of mothers were in some form of paid employment (including those on maternity leave). Mothers were more likely to be working part-time (40%) – defined as less than

35 hours per week – than full-time (17%) – defined as 35 hours per week or more. There was little change in maternal employment status between the two cohorts.

- Religious membership amongst children has decreased between the two cohorts. In BC1, 41% of children were described as being part of a religion. In BC2, this had decreased to 37%.
- Most children (56%) lived in a property that was 'owner occupied' though the proportion in private rented homes has increased (from 6% to 16%).

**Pregnancy and birth**

This chapter provides a detailed description of the pregnancies resulting in, and the births of, the BC2 children. In addition, selected characteristics and outcomes of BC2 are compared with the pregnancies and births of the BC1 children.

It is important to bear in mind that each GUS cohort is representative, not of all pregnancies in the relevant time span, but of the subset of pregnancies resulting in a live birth in Scotland, following on from which that infant is still resident in Scotland at 10 to 12 months of age.

- Median timing for first antenatal appointment (booking) was nine weeks gestation, with 75% of women booking by 12 weeks.
- 19% of BC2 women reported they had been 'not very' or 'not at all well' during pregnancy, an increase from 13% in BC1 six years before. The proportion of women reporting an 'illness or problem' during pregnancy increased by 3 percentage points (pp) between BC1 and BC2.
- 90% of women took folic acid during pregnancy but only 38% took vitamin D. Women in receipt of Healthy Start Vouchers (HSV) were less likely to have taken these supplements. After adjustment for socio-demographic factors it was found that there was no difference in vitamin D intake between those receiving HSV or not, but the difference for folic acid persisted (fewer receiving HSV took folic acid).
- 84% of BC2 mothers believed it is better to avoid alcohol altogether during pregnancy, while 80% reported that they had drunk no alcohol during the pregnancy with the BC2 child. This latter percentage is higher than for BC1 (74%).
- 73% of BC2 women never smoked during pregnancy, compared with 75% in BC1, but a further 9% of BC2 stated that they gave up once they discovered they were pregnant (a response option not offered in BC1).
- 40% of all BC2 mothers attended antenatal classes, a decrease from BC1 (from 46%), however there was no significant difference between cohorts in the number of first-time mothers who attended antenatal classes (71% of BC1 compared with 69% of BC2)
- Sources of information when pregnant that were most commonly cited were health professionals (90%), family/friends (71%), internet (55%), and *Ready Steady Baby* booklet (48%), with mention of the internet having more than doubled since BC1. The three sources felt by parents in BC2 to be most helpful were health professionals, family/friends and the internet, which was similar to BC1 except that the internet had replaced books/ magazines in third place.

- 60% of BC2 births were described as 'normal', a small, but statistically significant reduction from BC1 (62%).
- Mean birth weight of children in BC2 was 3391g, very similar to BC1, and the prevalence of low birth weight (<2500g) was 7% in both cohorts. As would be expected, low birth weight was associated with whether the baby arrived early, on time or late and with socio-demographic factors (lower education, low household income and older maternal age).

**Infant feeding**

This chapter provides a detailed description of the infant feeding experiences of children in BC2 making comparison with BC1 where possible. These experiences are described in relation to: breastfeeding initiation; breastfeeding *at all* for six or more weeks; exclusive breastfeeding for six or more weeks; exclusive breastfeeding for at least six months and age at introduction of solids. Some examination of take up and use of Healthy Start Vouchers is also included.

- 36% of children were exclusively breastfed for six or more weeks and 11% until six months or more.
- Breastfeeding outcomes are strongly associated with multiple socio-demographic factors.
- The proportion of children who were breastfed at all (but not necessarily exclusively) for six weeks or more was unchanged between BC1 and BC2 (42%). However, after controlling for socio-demographic factors, the rate was actually found to be lower in BC2.
- 42% of parents delayed introduction of solids until 21 weeks (five months) and 14% delayed until 26 weeks (six months).
- Introduction of solids at six months was more likely amongst parents who had breastfed for at least six weeks, and even more amongst those who continued breastfeeding to six months.
- 75% of mothers recalled having received breastfeeding advice 'at the time of birth' from any source. It is possible mothers also received such advice outside of the period they defined as 'at the time of birth'.
- Initiation of breastfeeding was higher amongst those mothers who recalled receiving breastfeeding advice, from any source, 'at the time of birth', but particularly amongst those who recalled receiving advice from a midwife.
- Among those who had initiated breastfeeding, recall of breastfeeding advice from a health visitor or other health professional was associated with continuation of breastfeeding to six weeks or more.

**Parental support**

Findings in this chapter describe the different sources and types of support that parents used in relation to information and advice on parenting. The chapter covers both formal and informal support and, alongside use of support and services, also considers satisfaction with, and attitudes towards, parenting support. Consideration of the child's contact with his or her grandparents and the support they offer to the family is also included.

- Most parents were satisfied with the service provided by their health visitor during the first few months following the birth of their child. 83% of parents said their health visitor was either good or very good at providing helpful advice and 91% said the same in relation to listening to them.
- Just under half of parents (48%) had attended a parent-baby/toddler group in the last 12 months. Parental level of education and age had a key affect on whether or not the parent attended this type of group. For example, 22% of parents with no qualifications had attended such a group compared with 66% of parents with a degree.
- 70% of parents had not attended any parenting classes or programmes over the past 12 months. Just over half of parents (54%) indicated that they were unlikely to attend a parenting programme or class in the future. The most common reasons cited for not being likely to attend a programme or class in the future were not having enough time (25%) and feeling that they did not need to attend (22%).
- 58% of parents indicated that they had not used any of the government sponsored support services, such as *Play@Home* booklets and *ChildSmile*. Parents with no qualifications were less likely to have used these resources than parents educated to a degree level (70% had not used any compared with 54%). Minority ethnic parents were also less likely to have used these resources.
- Most parents said they preferred to receive information about parenting in person. 53% said they preferred to receive such information on a one-to-one basis from a professional such as a health visitor whilst 21% said they preferred to receive it in person from family or friends.
- 77% of parents stated that they were either very or quite satisfied with the information available to them about parenting and 72% said they were either very satisfied or quite satisfied with the services available to support them in their role as a parent. There were no differences in levels of satisfaction between parents of different socio-economic backgrounds.
- There were differences in attitudes towards formal support between different socio-economic groups. Younger parents, parents of lower educational level and income were more likely to find it harder to ask for formal help.
- Almost all children in BC2 were in regular contact with at least some of their grandparents including 67% who had regular contact with all of them and 33% with some. Children in BC2 were slightly less likely than those in BC1 to have contact with all of their grandparents – decreasing from 71% to 67%.
- Children whose parents had separated and those with younger mothers had contact with fewer of their grandparents than those whose parents were in a couple and those with older mothers.

- Most common forms of support from grandparents were buying toys or equipment for the child (93%), looking after the child during the day (84% get this support at least sometimes), and more generally providing advice or support (80%). Grandparents also frequently provided care for the children. 56% looked after the child at least once a week and 45% babysat at least once a month.
- Support was greater for parents in BC2 than parents in BC1. The most notable changes are in relation to helping out around the house – which increased from 44% to 69% – and helping out financially – which increased from 41% to 57%.
- Some families draw more heavily on support from grandparents than others, particularly lone parents, younger mothers and first-time mothers. These are some of the same characteristics of those families who are less likely to have contact with all of the child's grandparents meaning that, in many cases, a higher level of reliance is being placed on a more limited resource.

**Parenting**

This chapter examines how parents' attitudes and domestic organisation may be shaped by family circumstances and parenting support, and how all these factors may in turn affect parenting and the parent-child relationship.

In these findings, 'family disadvantage' refers to indicators including low maternal education, low household income and area deprivation. "Social support for parenting" refers to informal support from family or friends, and/or formal support (eg. organised groups and classes). The findings relate to an analysis of mothers only.

- Family disadvantage and a lack of social support for parenting were both independently associated with parental attitudes and domestic organisation likely to impair responsive, effective parenting.
- Parenting stress was greater for:
  - parents without informal parenting support from family or friends
  - parents in both the most disadvantaged, and the most advantaged groups
- Parents from disadvantaged families were more likely to have negative feelings about parenting (incompetence, resentment, impatience or irritation).
- Family disadvantage and a lack of social support for parenting were both independently associated with less frequent activities important for child development, including:
  - looking at books/reading stories
  - singing or saying nursery rhymes
  - visiting other families with young children
- Almost all (95%) of mothers reported frequently hugging their child.
- Parents from disadvantaged families were less likely to have a warm relationship with their child, and to limit TV viewing to less than 2 hours daily.

- Parental attitudes, feelings and domestic organisation were associated with lower frequency of activities important for child development. These associations held after taking account of family disadvantage and social support for parenting.
- Differences between the cohorts in parental reading to children (but not in negative feelings) are possibly attributable to increased provision of formal parenting support.

**Non-resident parents**

The findings in this chapter describe, for families where one of the child's biological parent is absent from the household, the resident parent's relationship with the non-resident parent, the frequency and nature of the contact the child has with them, how the contact arrangements were arranged and the influence they have in some areas of the child's life.

- At 10 months of age, 21% of Scottish children had a non-resident biological parent.
- In families where there was a non-resident parent, 57% of parents had never co-habited and 91% had never been married.
- 24% of children did not have contact with their non-resident parent.
- Non-resident parents who lived further away from the child, who had poorer relationships with the resident parent and who were reported as being less interested in the child (by the resident parent) were all less likely to have frequent contact with the child.
- In 40% of families with a non-resident parent, 40% of resident parents said they would almost always ask the non-resident parent when making major decisions concerning the child.

**Childcare**

This chapter provides a detailed insight into patterns of childcare use amongst families of 10 month children in Scotland. Regular use of both formal and informal provision is included covering the type of provision and the number of hours and days used. Cost information, and perceptions of affordability and availability are also described. In addition, the chapter also includes data on patterns of parental leave following the child's birth and on the availability and use of family-friendly employer policies.

- Around half of parents (52%) were regularly using childcare for the cohort child. This has decreased from BC1, where the equivalent figure was 60%. Much of the decrease is explained by a greater proportion of mothers in BC2 still being on maternity leave at the time of the interview (child aged 10 months).
- Compared with BC1, use of a single arrangement had decreased (from 69% to 64%) with a corresponding increase in two arrangements (from 27% to 30%) and three or more arrangements (from 4% to 5%).
- Grandparents were the most common form of childcare used – used by 69% of BC2 families using childcare. Nurseries were the next most common provider (28%) followed by 'other informal' provision (18%) and then childminders (10%). These patterns are similar to BC1.

- 79% of families using childcare were using at least one informal arrangement and 39% were using at least one formal arrangement. Compared with BC1, use of any informal provision increased from 75%, whereas use of any formal provision has remained static. Those who were using formal childcare arrangements in BC2 were more likely to be using them in combination with an informal provider.
- On average, families using childcare did so for 22 hours per week. This is almost identical to the corresponding figure of 21 hours for BC1.
- The average weekly cost of childcare was £88. Comparing with BC1 figures indicates that in real terms, there has been an average increase in childcare costs for a 10 month old child of £12 per week, or approximately £624 per year.
- The proportion of parents reporting that childcare costs were 'very easy' to pay has reduced slightly from 14% to 10% whereas the proportion saying costs were difficult to pay increased a little from 21% to 24%.
- Only 8% of parents using childcare said that arranging it had been difficult. The most common reason given for finding it difficult (given by 45%) was a lack of availability. Cost was cited by 15% whilst difficulty caused by irregular or unusual working hours was mentioned by 8%.
- The proportion of mothers who took maternity leave for between six and 10 months, and for 10 months or more, doubled between BC1 and BC2 (from 22% to 46%, and 18% to 38% respectively). The proportion taking up to six months decreased from 60% to 16%.
- In BC2, 85% of parents currently employed said their employer offered at least one family friendly policy. This represents a significant increase from 60% in BC1. Indeed, parents in BC2 were more likely than those in BC1 to rate their employer as very or fairly good in terms of allowing family friendly working (71% compared with 64%).

**Child health and development**

This chapter provides a detailed insight into a range of data on child health and development including general health, accidental injury, the acquisition of motor skills and early communicative behaviour, parental knowledge of early child development and concerns about development, sleep, tooth-brushing and child temperament.

- 95% of children in 2010/11, and 94% in 2005/06, were described by their main carers as having 'very good' or 'good' health. In 2010/11, 79% of children in one child households had 'very good' health, this declined to 70% in households with four or more children. 78% of children in the two least deprived quintiles had 'very good' health, compared with 72% in the most deprived quintile.
- 12% of children in 2010/11, and 13% in 2005/06, had a long-term condition or illness. In 2010/11, boys (13%) were more likely than girls (10%) to have a long-term condition or illness. Children born to mothers aged 30 and over (13%) were more likely to than those aged under 30 (10%). 19% of low birth weight children had a long-term condition compared with 11% of those whose birth weight was not low.

- Children in 2010/11 were reported to have experienced a mean number of 2.4 different health problems since birth (aside from long-term conditions or accidents). This was higher in boys (2.6) than girls (2.3). Boys with mothers aged under 20 when they were born were the most likely group to have experienced a higher number of different problems.
- Most parents had contacted someone about their children's health problems: 40% made contact about all of them, 45% about some of them, and just 14% said they had not contacted anyone. 49% of mothers under 20 had contacted a professional about all their child's health problems compared with 38-39% of those born to mothers aged 30-39 and 40 or older.
- In 2010/11, 8% of children (8% of boys and 9% of girls) had received treatment for an accident. This represents a small (but statistically significant) reduction from 2005/06 when 10% of children had done so (11% of boys, 9% of girls). In 2010/11, 13% of children whose mothers were aged under 20 at their birth had received treatment for an accident compared with 6% of children with mothers aged 40 or more. Education level, income and area deprivation were unrelated to accident treatment rates.
- Seven milestones were asked about in the 2005/06 and 2010/11 interviews to assess motor skills development. 17% of children in 2010/11 had missed one of the milestones compared with 20% in 2005/06. Second and subsequent born children were more likely than first born children to have missed milestones than first born children as were children born to mothers aged 40 or over and those with low birthweight.
- Ten communication behaviours were asked about in the 2010/11 interview. All but one of the behaviours were displayed by the majority of children, with only around a quarter of children able to nod to indicate yes at 10 months. For half of the individual items, girls' communication skills were more advanced than boys, and children in the most deprived areas were more likely to display the behaviour than children in the least deprived areas.
- Compared with the average child, early communication skills were less well developed if a child was not a mother's first born, if they lived in the least deprived areas, and if they had a main carer from an ethnic group other than white. Children with delayed motor skills, and those with low birth weights, also had less well developed communication skills.
- Just 5% of carers in 2010/11 reported some or a lot of concerns about their child's development, learning or behaviour. This was a reduction from 8% in 2005/06. 9% of carers in the lowest household income quintile had concerns compared with 4% in the two highest quintiles.
- 4% of main carers whose children had met all of the six motor milestones (described above) reported some concerns, compared with 34% for children missing two or more milestones. The prevalence of concerns was also a little higher for children with the lowest level of communication skills compared with those with the highest level of skills (10% versus 4%). This possibly suggests that delays in motor skill development trigger concerns more readily than problems with communication skills.

### Parental health

Parental health was assessed in relation to a number of indicators covering physical and mental health, and health behaviours such as smoking, drinking alcohol and use of illicit drugs.

- 88% of main carers said that their general health was good, very good or excellent. Socio-economic status, whether measured by income, NS-SEC or area deprivation, had the greatest effect on general health. For example, 93% of parents living in the least deprived area reported their health as good or better compared with the proportion dropped from 93% in the least deprived quintile to 83% in the most deprived.
- 14% of main carers had a long standing illness, including 5% who said this was limiting. Variations were again evident by area deprivation, particularly in relation to limiting illness.
- Socio-economic status was also associated with physical and mental wellbeing as measured by the SF-12. Parents in more disadvantaged circumstances were more likely to report lower levels of both.
- 24% of main carers smoked. This represents a decrease – from 28% – compared with 2005.
- 12% of main carers were classified as hazardous drinkers according to the AUDIT-PC scale.
- Hazardous and binge drinking varied according to demographic and socio-economic characteristics. Differences were particularly stark in relation to maternal age with younger mothers significantly more likely to be classed as hazardous drinkers and to report binge drinking monthly or more often.
- 24% of main carers had taken drugs at some point in their lives though only 3% had reported drug use in the last year.
- Similarly, 4% of those in the top income quintile had used drugs in the last year, compared with 22% in the bottom income quintile. Younger mothers and parents living in more deprived areas also reported higher drug use in the last year.

chapter 1

# INTRODUCTION

**Paul Bradshaw, ScotCen Social Research**

## 1.1 About the Growing Up in Scotland study

Commissioned in 2003 by the then Scottish Executive Education Department (SEED), and managed by the Scottish Centre for Social Research (ScotCen), Growing Up in Scotland is a large-scale longitudinal research project aimed at tracking the lives of several cohorts of Scottish children from the early years, through childhood and beyond. Underpinned by a wide-ranging purpose (outlined below), the principal aim of the study is to provide information to support policy-making in Scotland, but it is also intended to be a broader resource that can be drawn on by academics, voluntary sector organisations and other interested parties.

**GUS – The purpose:**

To generate, through robust methods, specifically Scottish data about outcomes throughout childhood and into adulthood for children growing up in Scotland across a range of key domains:

- Cognitive, social, emotional and behavioural development
- Physical and mental health and wellbeing
- Childcare, education and employment
- Home, family, community and social networks
- Involvement in offending and risky behaviour

Such data will encompass, in particular, topics where Scottish evidence is lacking and policy areas where Scotland differs from the rest of the UK.

GUS is a holistic study, concerned with all aspects of the child's life, including health, development, family circumstances, neighbourhood, education, friends and leisure activities.

This report provides a detailed insight into the first set of data collected from the study's second birth cohort – representative of all children born in Scotland between 1st March 2010 and 28th February 2011 – around the time they were aged 10 months old.

## 1.2 GUS: the policy landscape

Growing Up in Scotland is a research project developed primarily to support evidence-based policy, with a specific objective focused on supporting the development of policies and services for children and families. As such, the content of GUS is developed not only with reference to the study purpose and objectives but also to the current policy context. Before considering aspects of the study's design therefore, this section provides an overview of the relevant policy frameworks and debates.

As a holistic study – concerned with multiple aspects of children's lives – GUS potentially connects with a wide range of policy developments and a context which has changed significantly since the study was launched in 2005. But there are a number of key policy frameworks to which GUS is especially relevant. Indeed, the study has already played an important role in relation to some of these by providing evidence for policy development, monitoring and evaluation.

At the broadest level is the National Performance Framework. At least four of the Scottish Government's 16 National Outcomes (Scottish Government, 2007) are related to the avoidance of negative pathways in the early years and so are directly relevant to GUS. These are:

- Our children have the best start in life and are ready to succeed
- We have improved the life chances for children, young people and families at risk
- Our young people are successful learners, confident individuals, effective contributors and responsible citizens
- We have tackled the significant inequalities in Scottish society
- We live longer healthier lives

GUS has the capacity to make a specific contribution to evaluation of these outcomes (Bynner and Bradshaw, 2008). For example, progress towards the 'best start in life' national outcome can be examined through GUS, not only by identifying which combination of circumstances and experiences constitute the 'best start in life' (by demonstrating which factors lead to the best outcomes) but also by measuring the proportion of children who are subject to those circumstances and experiences and how that changes over time.

Moving beyond the national outcomes, there are a number of other policy frameworks which provide points of reference for GUS. These include the *Early Years Framework*, *Equally Well*, *Achieving Our Potential*, and the *Curriculum for Excellence*. Each of these frameworks is underpinned by policies that are consistent with the principles of *Getting it Right for Every Child* (GIRFEC), which is a distinctively Scottish approach to improving outcomes for all children (Scottish Government, 2010). They are also linked to a wide range of other social policies.

The *Early Years Framework* (EYF) published by the Scottish Government in Autumn 2008, recognised the significance of a child's early years to their development and made a commitment to a resource shift from crisis intervention to prevention and early intervention at the Local Authority level.

While it did not set out to be instructive, the EYF did outline an ideal set of early years indicators, including measures of child development, the quality of parent/child interaction, and children's physical and mental health. In addition, the Framework also incorporated some visions relating to the position of children and families within Scottish society. These included, for example:

- That children should grow up free from poverty in their early years and have their outcomes defined by ability/potential rather than family background
- That children are entitled to take part in physical activities and to play, including outdoors and have an opportunity to experience and judge and manage risk

Through a combination of overall design and specific content, GUS is capable of providing evidence to contribute to the monitoring of early years policy, particularly in relation to the EYF.

GUS is a longitudinal study, following the same children over their life course and recording their circumstances at different life stages. This feature permits the exploration of the impact of early years experiences on later life outcomes and the identification of key factors (such as experience of poverty, parenting styles, and childcare) which are associated with specific outcomes, and the pathways/trajectories which lead to these outcomes. The introduction of a new cohort is a key component in allowing the study to maintain and enhance this substantive and analytical capacity as it moves forward.

Through the work of the EYF Data Indicators group, GUS data has been identified as a key source of information for local authorities to use for monitoring their progress against key outcomes incorporated within the EYF. The lack of local level data from GUS means that GUS data cannot be used by local authorities to measure local progress directly. Instead, it is suggested that GUS data may be relevant for:

- Identifying drivers of positive and negative outcomes which are relevant to children across different local authority areas and can be influenced by local policy
- Acting as a standard for local data collection and a national benchmark with which to compare local circumstances, experiences and outcomes

*Equally Well* is the report of the Scottish Government's Ministerial Task Force on Health Inequalities. Though its focus is not restricted to children it nevertheless highlights the early years as a priority area and recommended a number of actions be addressed at this critical life stage (Scottish Government, 2008a). *Equally Well* defines child health inequalities in two ways. First, inequalities can relate to negative outcomes such as low birth weight or other indicators of a failure to thrive. Secondly, it can mean inequalities in exposure to risk factors that increase the likelihood of, or perpetuate, poor health outcomes. These include poor diet, lack of physical exercise, parental drug or alcohol misuse, being in care, living in a poor physical environment and family poverty. GUS represents a key source of data on the extent of these inequalities amongst children in Scotland but further, and importantly, is uniquely placed to examine the impact of exposure to risk factors on later outcomes. GUS can also identify factors associated with resilience including policy interventions such as engagement with parenting support services. Indeed, study findings have already been used to examine these sorts of issues.

*Equally Well* represents the overarching child health policy framework that is relevant for GUS. However, there are a number of more specific health policy developments and discussions which the study can contribute to – particularly in relation to obesity and

physical activity – some of these are discussed later in relation to chapter 9 on child health. They include:

- Healthy Eating, Active Living Action Plan (Scottish Government, 2008b)
- Good Places, Better Health for Scotland's Children (Scottish Government, 2008c) including a childhood obesity evidence assessment (Scottish Government, 2008d)
- Obesity Route Map (Scottish Government, 2010) and Action Plan (Scottish Government, 2011)
- National Physical Activity Strategy (Scottish Executive, 2003)
- Towards a Mentally Flourishing Scotland (Scottish Government, 2009)

Poverty is a significant problem in Scotland. *Achieving Our Potential,* the Scottish Government's framework to tackle poverty in Scotland, highlights the risks faced by children and young people who experience poverty. It also acknowledges that many children and young people are being held back by social and economic factors that limit their chances of escaping poverty when they are older (Scottish Government, 2008f). These risks and their potential impact are reiterated in the *Child Poverty Strategy for Scotland* which sets out the Scottish Government's approach to tackling child poverty via maximising household resources, improving children's life chances, addressing area-based disadvantage and working with local partners (Scottish Government, 2011b). GUS has already been used to examine the impact on child outcomes of growing up in persistent poverty (Barnes et al. 2010) and the data present considerable opportunities for further analysis in this area.

The *Curriculum for Excellence* represents a widespread transformation of teaching practice and school education in Scotland. Its aim is to enable "all children to develop their capacities as successful learners, confident individuals, responsible citizens and effective contributors to society" (Scottish Executive, 2004). Rollout of CfE into schools commenced in August 2010 meaning that children in GUS BC1 are one of the first year groups to experience the Curriculum from entry to primary school and throughout their school careers. As such, GUS is well placed to monitor perceptions of the CfE changes among children and their parents and, eventually, difference between parents in different cohorts. The study is already being used to collect data which will help assess what impact CfE is having on children's early primary school experiences. Most notably, and recently – this has been achieved by collaborating with Education Scotland on the development of questions targeted at capturing the child's perceptions of how the principles of CfE are being realised in the classroom. The next planned contact with BC1, a little ahead of their transition to secondary school, represents an important stage in their educational career and an equally important opportunity for GUS to capture data relevant to consideration of this transition in the context of CfE.

As well as being influenced by the principles of GIRFEC, the three social policy frameworks – *Equally Well*, *Achieving Our Potential* and the *Early Years Framework* – also share themes of particular relevance to GUS around early intervention and the role of parents.

Early intervention is a prominent feature of each of the frameworks and of many other recent UK and Scottish Government policy developments. The identification of early risk and protective factors is a related primary objective of GUS, as noted above. We have already detailed how the *National Performance Framework*, which has underpinned and provided focus to all policy development since 2007, has as one of its national outcomes that "children should have the best start in life and are ready to succeed". The particular economic benefits of early intervention to Scotland's public spending have also recently been explored (Finance Committee of the Scottish Parliament, 2011; Burnside, 2010). The preventative spending enquiry led by the Scottish Parliament's Finance Committee examined how public spending could be focused more on preventing negative outcomes than dealing with them when they occur. In written evidence to the enquiry, the Scottish Government noted that preventative action was "integral to the approach to government in Scotland and delivering the outcomes set out in the *National Performance Framework*". The establishment of the Early Years Taskforce in November 2011, alongside the *Early Years Change* Fund and, more recently, the Early Years Collaborative, demonstrates the firm commitment from Scottish Government to shifting the balance of public services towards early intervention and prevention. GUS presents an opportunity for consideration of progress towards this goal, an assessment of the change in outcomes such a commitment may generate, and examination of the particular experiences which contributed to any change.

Over the last decade, the Scottish Government and local authorities have supported the introduction of a range of legislation, policies and interventions focused on improving parenting capacity through the delivery of parenting support and education (Hutton et al. 2008). Such policies range from broad-reaching institution-based 'universal' parenting education classes, such as the Triple P programme currently being delivered to parents of Primary 1 children in Glasgow, to more targeted in-home support for key at-risk groups such as young, first-time mothers supported through the intensive services of the Family Nurse Partnership. The Scottish Government formalised its commitment to better supporting parents through the publication of the *National Parenting Strategy* in October 2012 which is aimed at making Scotland the best place in the world to bring up children. Evidence from the GUS study has already been used to inform the development of the strategy and the study is well placed to consider the impact of the strategy on children and parents as the commitments within in it are implemented across Scotland.

Of course, it is not only the policy context which GUS needs to refer to; since producing the first set of results in 2007, GUS has also become a key reference source for practice – again, across a range of domains. Furthermore, as the policy context has changed over the years, so has the practice landscape and GUS must also take note of these changes to relevant areas of practice. For example, in relation to child health and development, the role of health visitors has changed and may be subject to further change in the coming years following the re-establishment of a child health review at 27-30 months and an increase in the delivery of targeted and universal parenting programmes. In relation to education, CfE represents a significant change to teaching practice, and the consultation on the learning provision for children with complex additional support needs (the Doran Review – Doran, 2012) may also lead to further practice changes in schools.

The proposed Children and Young People Bill will affect policy and practice developments in all domains of GUS, legislating for many of the aims and commitments set out in the policy frameworks described above. It will be crucial, and perhaps expected, of GUS to provide evidence to support the policy developments which occur as a result of these legislative changes. Indeed, by involving children in the research and seeking their views as part of it, GUS will, to some extent, directly serve some of the obligations set out to seek views of children and young people in the development of services for them, as required by the UN Convention on the Rights of the Child.

## 1.3 Study design

### Who is involved in GUS?

The study focused initially on a cohort of 5217 children aged 10 months old (birth cohort one or 'BC1') born in 2004/05, and a cohort of 2859 children aged 34 months – almost 3 years old (the child cohort, CC) born in 2002/03. The first wave of fieldwork with these cohorts began in April 2005 and annual data collection continued with both cohorts until the study child turned six years old. In 2011, a new birth cohort was recruited to the study consisting of 6127 children aged 10 months old, born in 2010/11 (birth cohort two or 'BC2').

The analysis in this report draws primarily on information collected from families in birth cohort two during the first round or 'sweep' of data collection, when the child was aged 10 months old. A key feature of the study's multiple cohort design is that it permits comparison of results from different cohorts when the children were at the same age. Thus much of this report is concerned with comparing the circumstances, characteristics and experiences of children born in Scotland in 2010/11 (BC2) with those born six years earlier in 2004/05 (BC1). This type of comparison provides an opportunity to monitor whether and how circumstances have changed for children in Scotland and how Scottish Government policies, or other factors, may have influenced this change.

### How is the study carried out?

The sample selection and recruitment, and the data collection for BC2 followed the approach used with the two previous cohorts. Cohort members were identified in the first instance from Child Benefit records, which are administered by HM Revenue & Customs, on the basis of the child's date of birth[1]. Children were identified within around 200 small, geographic areas randomly selected from across the whole of Scotland[2]. All children living within these areas with a date of birth between 1st March 2010 and 28th February 2011 were eligible for participation in the study[3].

A letter was then sent to the Child Benefit recipient (normally the child's mother) asking whether he/she would be willing to take part in the research. Unless parents or carers

1 Child Benefit Records were chosen because of the high levels of uptake among parents. Approximately 97% of those families eligible for Child Benefit are registered with HMRC.

2 Local Authority has been used as a stratification variable during sampling, this means the distribution of the GUS sample by Local Authority will be representative of the distribution of Local Authorities in Scotland. However, the sample sizes are such that we would not recommend analysis by Local Authority. The small sample sizes would give misleading results.

3 These dates were chosen in order that, when they are older, the children in cohort will all be eligible to start school in the same August and will thus represent a single school year group.

registered an objection to being included in the study, their details were passed to members of ScotCen's fieldforce who then contacted the parent or carer to further establish a willingness to participate and arrange an interview. Of all eligible families identified in the Child Benefit data, 62% completed an interview.

Around the time that families were being recruited to BC2, a Scottish Government sponsored pilot of the Family Nurse Partnership (FNP) programme was being launched in the Lothian area[4]. Most of the children of mothers in the FNP pilot were to have dates of birth which would make them eligible for inclusion in the GUS sample. To allow the potential for a consideration of the impact of FNP participation on parent and child outcomes, FNP pilot mothers were invited to join BC2. Ethical requirements associated with the separate FNP evaluation research project, meant recruitment was undertaken by the NHS FNP team on an opt-in basis. The GUS team received contact information for just 37 FNP participants. A successful interview was then obtained with 24 mothers in this group. Thus, whilst FNP participants cannot be considered separately for analysis purposes, their data has nevertheless been included in the full analysis that follows.

Similar to the first year of the data collection for the earlier cohorts, interviewers sought to contact the 'main carer' of the child named in the Child Benefit records. In virtually all cases (99%), this proved to be the child's natural mother. Consequently, the terms 'parent', 'respondent' and 'mother' are virtually synonymous in the analysis that follows.

All interviews were carried out in participants' own homes by specially-trained social survey interviewers using Computer Assisted Personal Interviewing (CAPI). This involves the interviewers reading questions from, and entering responses directly into, a laptop computer.

The number of eligible children identified in the Child Benefit records, the number who opted out and the interview 'response rate' – that is the proportion of eligible families for whom an interview was completed – are shown in Table 1.1.

**Table 1.1 Number of issued and achieved cases and response rates**

| | |
|---|---|
| All eligible children/All cases invited to participate | 9640 |
| Cases which were opted out | 202 (2%) |
| Cases issued to field | 9438 |
| Cases where interview achieved | 6127 |
| | |
| Response rate | |
| As % of all eligible children | 64% |
| As % of all cases issued | 65% |

4 For further information on the Family Nurse Partnership programme in Scotland see: http://www.scotland.gov.uk/Topics/People/Young-People/Early-Years-and-Family/family-nurse-partnership

An interview was achieved in 65% of cases issued to field and for 64% of all identified, eligible cases. It is possible to compare the latter figure with BC1 data, where the equivalent response rate was 62%.

Differences in the way the Child Benefit sample was administered by HMRC and DWP between the two cohorts mean that the response rate for the issued to field sample is not directly comparable between them. Further details on differences in the sampling approach, in case outcomes, and in sample representativeness between the two cohorts are provided separately in the data user guide. However, the achieved samples are considered suitably similar in final composition and representativeness to allow valid comparison.

## 1.4 Presentation of results

Unless otherwise stated, only statistically significant differences (between subgroups) are commented on in the text. This is true at the 95% confidence limit; in other words, we can be 95% certain that the difference observed is not due to chance.

All tables and graphs have a descriptive and numerical base showing the population or population sub-group examined in it. While all results have been calculated using weighted data, the bases shown provide the unweighted counts. It should therefore be noted that the results and bases presented cannot be used to calculate how many respondents gave a certain answer.

Further details on the analysis and interpretation of the results can be found in the technical notes in Appendix A.

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chapter 2

# CHARACTERISTICS AND CIRCUMSTANCES OF CHILDREN AND THEIR FAMILIES

**Paul Bradshaw, ScotCen Social Research**

## 2.1 Introduction

This chapter provides an overview of the circumstances and characteristics of children born in Scotland between 1st March 2010 and 28th February 2011, around the time they were aged 10 months old. Previous research using GUS data has demonstrated the important association between key parental and familial characteristics – such as maternal age, level of education, income and employment – and child outcomes in the early years. Therefore, understanding the current demographic and socio-economic characteristics of young children and their families – and how these have changed over the last six years – is crucial in interpreting patterns in the experiences and behaviours which follow in subsequent chapters.

A range of policy and wider, societal-level changes have occurred between the births of children in the two cohorts which we may expect to have created differences in some of the characteristics and circumstances of their families. Not least is the financial crisis which, since 2008, has affected employment and income levels of families in Scotland, the rest of the UK, and all over the world. Fundamentally therefore, the economic climate into which children in each cohort was born was dramatically different.

With reductions in employment, comes a greater reliance on benefits and tax credits to supplement income. For example, at around the time the first children in BC1 were being born in April 2004, approximately 1.5 million families in the UK were receiving Working and Child Tax Credits. By the time of the first births in BC2 in April 2010, this figure had risen to 1.9 million (HMRC, 2012).

Over the same period, changes to the eligibility criteria for many benefits have affected families. For example, the period for statutory maternity pay was increased from 26 to 39 weeks in April 2007, missed by mothers in BC1 but established ahead of BC2 births. In 2011, the thresholds for withdrawal of Tax Credits were lowered – removing these for moderate and higher income families – and Child Benefit amounts were frozen. At the same time, the child element of Child Tax Credit was increased helping to maintain award levels for families on lower than average incomes.

Beyond the economic situation there has also been notable demographic change. Migration into Scotland has been increasing since 2003, though with a slight drop in 2010-11 (GRO Scotland, 2012) particularly following the accession of the A8 countries – including Poland, Latvia, Czech Republic and Hungary – to the EU in 2004. Mother's age at the child's birth has also continued to change. Since the mid-1970s, first-time mothers have gradually been getting older. However, in the last five to 10 years this trend has slowed and started to reverse (ISD Scotland, 2011).

This chapter provides an overview of children's household and family arrangements, parental demographics (such as age and marital status) and socio-economic characteristics (such as income and tenure). In so doing, it illustrates the complex relationships between these measures which have been a common feature of earlier analysis of GUS data. It also allows a more detailed consideration of the impact of broader economic and demographic change on Scottish families.

## 2.2 Key findings

- The proportion of births to women in their thirties has decreased from 47% in 2004/05 to 44% in 2010/11. The main corresponding increase has been amongst mothers in their twenties, rising from 42% in 2004/05 to 45% in 2010/11. Births to teenage mothers also decreased from 8% to 6%.
- At 10 months of age, 79% of children lived with two parents whereas 21% lived with a single parent. These figures are almost identical to those for BC1 which were 80% and 20% respectively.
- 50% of parents were married, 29% were cohabiting and 19% were single, leaving only a small proportion either separated or divorced. Marriage had decreased – down from 54% – and cohabiting increased – up from 26% – since 2005.
- 33% of children were reported to have had between one and three grandparents alive, 53% had four grandparents, and 13% had more than four. Children in BC2 had slightly more grandparents alive at age 10 months than did children in BC1.
- Receipt of Working and Child Tax Credits is lower amongst families in BC2 compared with those in BC1 reflecting the lower thresholds for withdrawal of Tax Credits introduced in 2011. Receipt of Jobseeker's Allowance, Housing Benefit and Council Tax Benefit increased slightly.
- After taking account of inflation, the data suggest that families in 2011/12 have lower incomes than families with young children did in 2005/06. Whereas 21% of families in BC1 had an annual income of less than £10,833, the same was true (in real terms) for 27% of families in BC2.
- 57% of mothers were in some form of paid employment (including those on maternity leave). Mothers were more likely to be working part-time (40%) – defined as less than 35 hours per week – than full-time (17%) – defined as 35 hours per week or more. There was little change in maternal employment status between the two cohorts.
- Religious membership amongst children has decreased between the two cohorts. In BC1, 41% of children were described as being part of a religion. In BC2, this had decreased to 37%.
- Most children (56%) lived in a property that was 'owner occupied' though the proportion of families in owner occupied homes has decreased (from 62% to 56%) whereas the proportion in private rented homes has increased (from 6% to 16%).

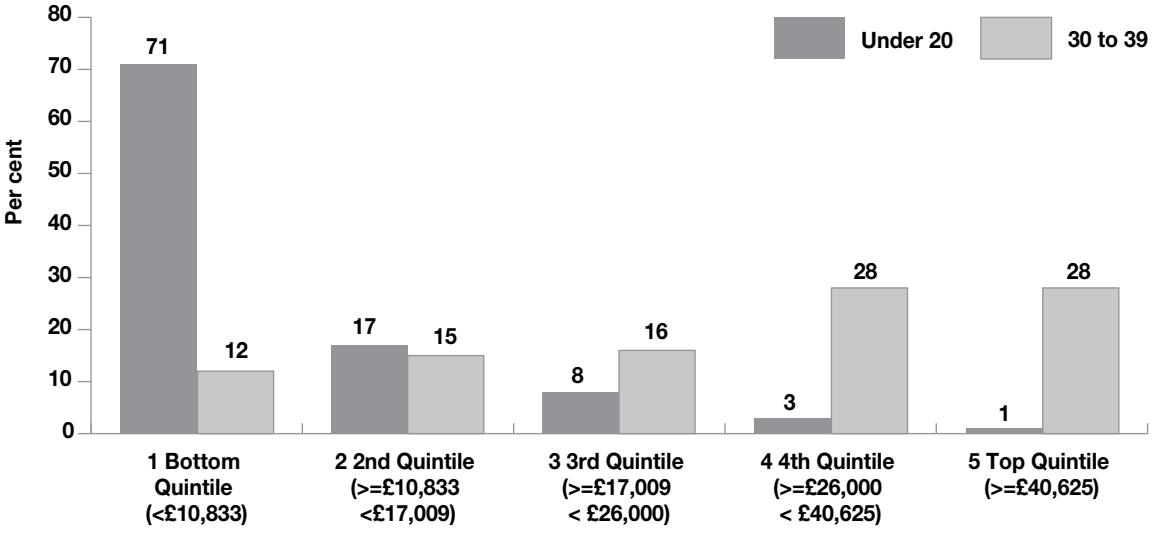
## 2.3 Family and parental characteristics

### Maternal age at child's birth

The mothers of children born between March 2010 and February 2011 were, on average, 30 years old at the time of the child's birth. Mothers were thus most likely to be in their twenties or thirties. 45% of mothers were aged between 20 and 29 and 44% were aged between 30 and 39. In contrast, just 6% of mothers were aged under 20 at the child's birth and only 4% were 40 or older. The change between BC1 and BC2 to some extent reflects the patterns in ISD data noted in the introduction in that there has been some reduction in the proportion of births to women in their thirties – which has reduced from 47% to 44%. In addition, the proportion of births to teenagers has also decreased from 8% to 6%. The main corresponding increase has been amongst mothers in their twenties, rising from 42% in 2004/05 to 45% in 2010/11.

As was noted in relation to BC1, maternal age is associated with stark differences in socio-economic characteristics. For example, as shown in Figure 2.1, the majority (71%) of teenage mothers lived in households in the lowest income quintile, with most of the remainder in the second lowest group. Most mothers in their thirties however, lived in a household in one of the top two income groups.

**Figure 2.1 Maternal age at child's birth by household equivalised income (quintiles)**




*Base – all BC2 families with income information: under 20 = 287, 30 to 39 = 2636*

Mothers aged under 30 were more likely than those who were older to live in areas of higher deprivation. As shown in Table 2.1, 42% of mothers aged under 20 and 29% of mothers aged between 20 and 29 lived in an area in the most deprived quintile compared with 17% of mothers in their thirties and 10% of those aged 40 or older.

**Table 2.1 Maternal age by area deprivation (quintiles)**

| | Under 20 | 20 to 29 | 30 to 39 | 40 or older |
|---|---|---|---|---|
| **Area deprivation quintile** | % | % | % | % |
| Least deprived quintile | 6 | 10 | 26 | 29 |
| 2 | 8 | 15 | 21 | 26 |
| 3 | 14 | 21 | 19 | 23 |
| 4 | 30 | 24 | 17 | 13 |
| *Base: all BC2 families* | *343* | *2552* | *2950* | *267* |

Maternal age was also associated with family type. 90% of mothers in their thirties and a similar proportion aged 40 or older (87%) were in couple families when the child was aged 10 months, compared with 74% of mothers in their twenties and 33% of those aged under 20.

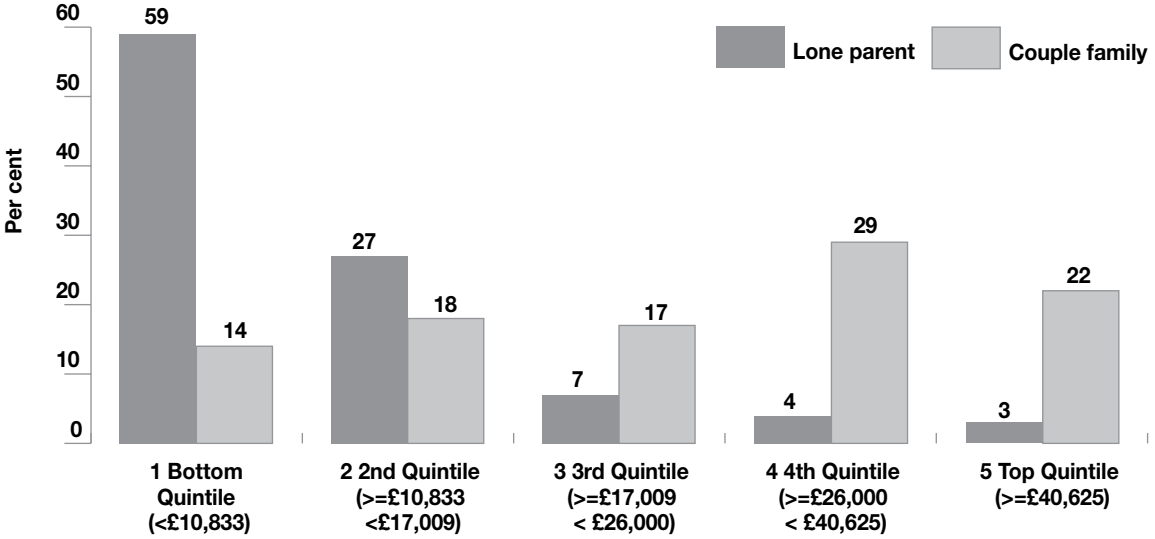
By virtue of their age, younger mothers have had more limited opportunity to obtain higher educational qualifications such as university degrees or higher-level vocational qualifications. However, most teenage mothers had achieved good passes in school-level qualifications at either upper-level Standard Grades (48%) or Higher Grades (19%). Most mothers aged over 30 had, in contrast, achieved a degree-level qualification including 59% of those aged between 30 and 39, and 59% of those aged 40 or older.

### Family type and marital status

At 10 months of age, 79% of children lived with two parents whereas 21% lived with a single parent. These figures are almost identical to those for BC1 which were 80% and 20% respectively.

As suggested above, lone parenthood is more common amongst younger mothers than older mothers, and is thus associated with similar socio-economic characteristics. Compared with couple families, lone parents are more likely to be in lower income groups, have lower educational qualifications and live in areas of higher deprivation. For example 59% of lone parent families had incomes in the lowest 20% compared with 14% of parents in couple families (Figure 2.2).

**Figure 2.2 Family type by household equivalised income (quintiles)**




*Base – all BC2 families with income information: lone parent = 972, couple family = 4437*

Being a couple family does not necessarily mean that the child resides with both biological parents. As such, the figure for lone parent families used here can disguise the proportion of children who are actually living apart from a biological parent. In practice however, at this early age, in the vast majority of cases where the main carer lives with a partner, both are biological parents. Indeed, in 99% of couple families this was the case. Overall, 78% of children lived with both biological parents and 22% with just one.

50% of parents were married, 29% were cohabiting and 19% were single, leaving only a small proportion either separated or divorced. The main changes between the two cohorts were a slight decrease in the proportion of parents who were married – down from 54% – and a corresponding increase in the proportion cohabiting, up from 26%.

### Number of children

In 46% of families, the cohort child was the only child in the household. 37% of families had two children, leaving a smaller proportion of larger families with three (13%) or more (4%). Families in 2011 had marginally fewer children than did families in 2005 (see Table 2.2); 83% of families in BC2 had just one or two children compared with 81% of families in BC1.

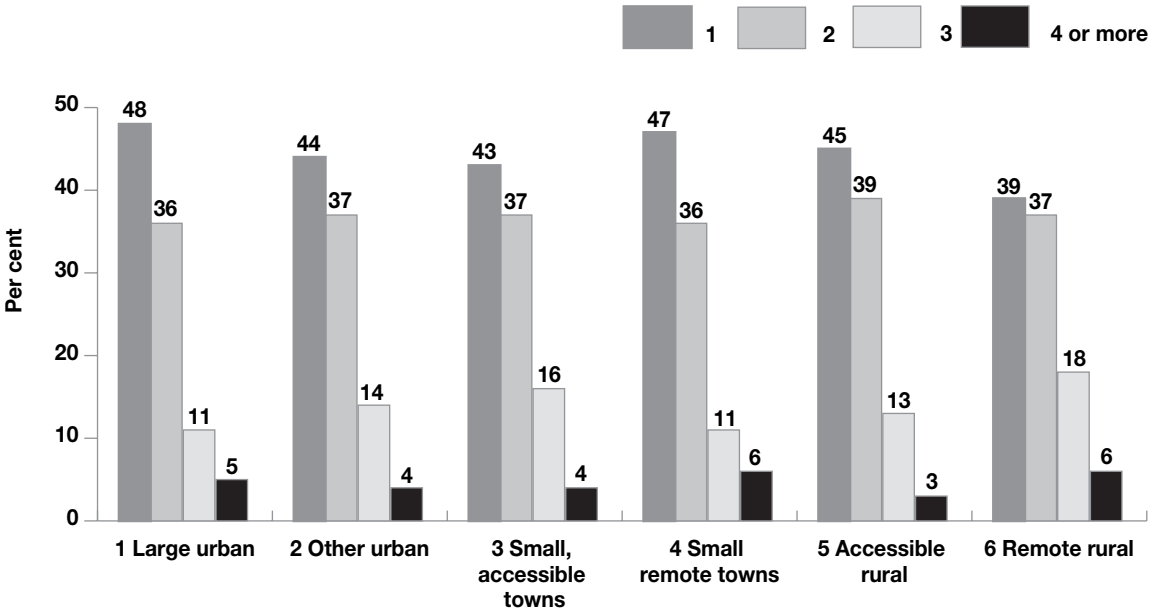
**Table 2.2 Number of children in household by cohort**

| | Birth cohort 1 | Birth cohort 2 |
|---|---|---|
| **Number of children in household** | % | % |
| 1 | 47 | 46 |
| 2 | 34 | 37 |
| 3 | 14 | 13 |
| 4 or more | 5 | 4 |
| *Base: all families* | *5217* | *6127* |

The number of children in a family varied significantly according to a range of social and demographic characteristics. As may be expected, children with younger mothers tended to have a smaller number of siblings – 81% of children whose mother was aged under 20 were an only child compared with 37% of children whose mother was in her thirties. Families in more disadvantaged circumstances tended to have a greater number of children. For example, 24% of families where the parents had no qualifications, and 26% of families where parents had lower-level Standard Grades had three or more children compared with 17% of families where parents had Higher Grades and 14% of families where parents had a degree-level qualification. Similarly, between 20% and 25% of families in each of the bottom three income groups had three or more children compared with 12% in the second highest and just 6% in the highest income group.

Such stark variations did not exist according to area deprivation, though the proportion of families with three or more children was higher in the most deprived quintile (22% compared with 15%-17% in all other areas). Geographic variations were also evident according to the urban-rural classification of the area in which the family lived. As shown in Figure 2.3, families living in remote rural areas were larger than those in all other areas, and those living in large urban areas smaller. 24% of families in remote rural areas had three or more children compared with 16% of families in large urban areas. Notably, there is no gradual trend of increasing numbers of children with increasing rurality or remoteness. Figures for families living in accessible rural areas, and in small, remote towns are similar to those living in large urban areas.

**Figure 2.3 Number of children in household by area urban-rural classification**




*Base – all BC2 families: large urban = 2274, other urban = 1780, small accessible towns = 493, small remote towns = 248, accessible rural = 977, remote rural = 354*

In households with other children, the vast majority were natural siblings of the cohort child. However, in 10% of households the child lived with either a step or half-sibling. The proportion of children living with a step or half-sibling at this age has increased from 8% in BC1, suggesting a very slight rise in 'blended' families since 2005.

## Grandparents

33% of children were reported to have had between one and three grandparents alive, 53% had four grandparents, and 13% had more than four. Children in BC2 had slightly more grandparents alive at age 10 months than did children in BC1. Only 4% of children in BC1 were reported to have more than four grandparents, 56% had four and 39% had between one and three. A grandparent lived with the child in 6% of families; this figure was almost identical to the 7% for BC1[5].

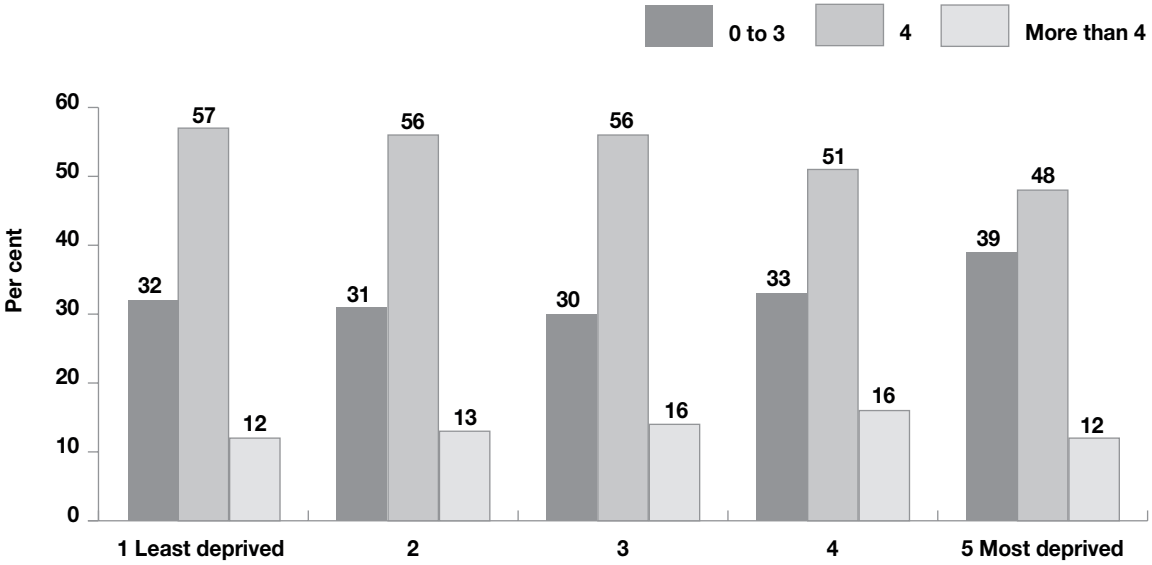
The reporting of more than four grandparents tends to be associated with blended families where the parents of a child's step-parent become recognised as grandparents in the new family group alongside the parents of both biological parents. Whilst the data in the previous section suggested an increase in the number of blended families between cohorts, the rise does not appear large enough to have influenced this corresponding increase in the proportion of children with a large number of grandparents. Further examination of data collected on grandparents and their relationship with the child and family is included in chapter 5.

5 For a full insight into the relationship between children and their grandparents in BC1, including a description of the 'types' of grandparents children have, see Warner, P. and Jamieson, L. (2012) *Growing Up in Scotland: The involvement of grandparents in children's lives,* Edinburgh: Scottish Government

As may be expected, maternal age was a key factor associated with the number of grandparents the child was reported to have. 65% of children whose mothers were aged under 30 had four grandparents alive compared with 50% of children whose mother was in her thirties (at the child's birth) and 24% of those whose mother was in her forties.

Patterns by socio-economic characteristics were varied. However, children in more disadvantaged circumstances tended to have fewer grandparents alive. For example, 57% of children living in an area in the least deprived quintile had four grandparents compared with 48% of those living in the most deprived areas (Figure 2.4). Patterns were similar when comparing lower and higher income groups, and parents with no qualifications with those who have any qualifications.

**Figure 2.4 Number of grandparents alive by area deprivation (quintiles)**




*Base – all BC2 families: least deprived = 1155, 2nd quintile = 1172, 3rd quintile = 1272, 4th quintile = 1233, most deprived = 1284*

Having a resident grandparent is also heavily influenced by maternal age. 34% of children whose mother was under 20 lived in the same household as a grandparent compared with 7% of those with mothers in their twenties and just 2% of mothers aged 30 or older. For younger mothers, this is mostly the case because they are still living in their parent's home.

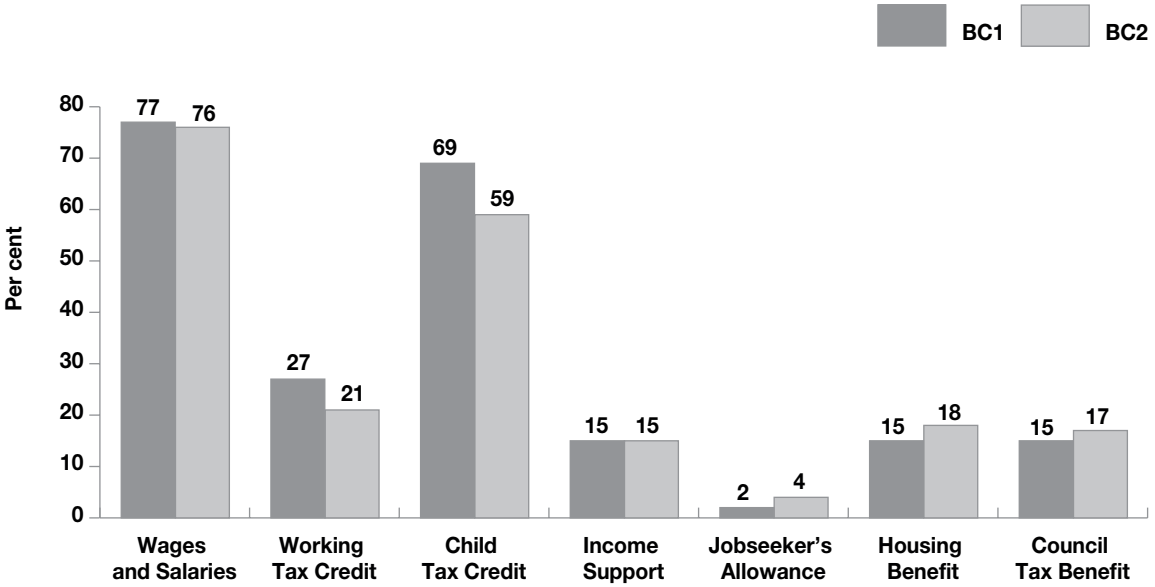
Patterns by other parental characteristics largely reflect the situations of younger mothers. Resident grandparents are more common in lone parent households (21% compared with 3% of couple households) and in lower income households. In relation to income, the main distinction is between those in the lowest income group (15%) and all other income groups (between 4% in the second lowest group and 1% in the highest income group).

## 2.4 Income

### Sources of income

Parents were asked to provide information on different sources of income such as wages from employment and benefits. A summary of the proportion of families with different types of income is illustrated in Figure 2.5 which also provides a comparison between BC1 and BC2.

**Figure 2.5 Proportion of families with any of these sources of income by cohort**




*Base – all families: BC1 = 5202, BC2 = 6108*

For families in both cohorts, income was most likely to come from wages and salaries, and Child Tax Credit. The proportion of families receiving wages from employment, and thus – as will be shown below – having a parent in employment – is virtually identical in both cohorts. However, there have been some notable changes. For example, receipt of Working and Child Tax Credits is lower amongst families in BC2 compared with those in BC1 – though the majority of families in BC2 continue to receive some Child Tax Credit. This reduction reflects the lower thresholds for withdrawal of Tax Credits introduced in 2011. On the other hand, receipt of Jobseeker's Allowance, Housing Benefit and Council Tax Benefit has increased slightly, being higher amongst BC2 families than BC1 families.

### Annual household income

Overall income is measured at a household level and before tax. Parents are asked to provide the amount of income they receive from all sources including earnings, benefits, tax credits, interest from savings and so on. Figures can be given as either weekly, monthly or annual amounts.

After all amounts are adjusted to produce an annual income, the figures are then 'equivalised' to allow for the size and composition of the household, as these affect the income required to attain a particular standard of living. For example, a couple with dependent children will need a higher income than a single person with no children to attain the same material living standards. Equivalised amounts are then divided into five equal groups (quintiles)[6].

**Table 2.3 Equivalised annual household income (quintiles) by cohort**

| | Birth cohort 1 | | Birth cohort 2 | |
|---|---|---|---|---|
| **Equivalised annual household income** | % | % | 2005/06 amounts at 2011/12 prices | % |
| Bottom Quintile (<£10,833) | 21 | 23 | <£12,582 | 27 |
| 2nd Quintile (>=£10,833 <£17,009) | 21 | 20 | >=£12,582 <£19,559 | 23 |
| 3rd Quintile (>=£17,009 < £26,000) | 18 | 15 | >=£19,559 < £29,681 | 16 |
| 4th Quintile (>=£26,000 < £40,625) | 21 | 24 | >=£29,681 < £46,633 | 21 |
| Top Quintile (>=£40,625) | 19 | 18 | >=£46,633 | 13 |
| *Base: all families* | *4682* | *5408* | | *5408* |

Table 2.3 compares the income levels of families in both cohorts allowing some consideration of how these have changed over time. To allow a comparison of change in income in real terms, it is necessary to convert the 2005/06 amounts used as cut-offs to their equivalent in 2011/12 prices after taking account of inflation[7]. For example, as shown in row four of the table, £10,833 in 2005/06 is equivalent to £12,582 in 2011/12. That is, to purchase something which cost £10,833 in 2005/06 would require £12,582 in 2011/12.

After taking account of inflation, the data suggest that families in 2011/12 have lower incomes than families with young children did in 2005/06. Whereas 21% of families in BC1 had an annual income of less than £10,833, the same was true (in real terms) for 27% of families in BC2. There is also a significant decrease in the proportion of families in the top income group – earning more than £40,624 – dropping from 19% to 13%.

These results should be interpreted with caution. Over the same period, Scottish Government income inequality data indicate a seemingly opposite trend; child poverty statistics show small reductions in the proportion of children living in poverty, from 21% to 17% for relative poverty, and from 12% to 10% for absolute poverty (Scottish Government, 2012). GUS data refers to a more specific population of families than do the official poverty statistics and may

6 For further discussion of the income data collected in GUS, including potential limitations of this data, please see the technical notes in Appendix A

7 Using the HM Treasury GDP Deflator Index

thus reflect trends amongst that precise population. In addition, the incomes of families in BC2 may be on the whole lower due to more extended periods of maternity leave (and the lower income received during that time) taken by mothers in BC2 compared with BC1, as will be shown in chapter 8.

## 2.5 Financial management and material deprivation

### Financial management

Questions on parents' financial management asked whether they had a bank account and savings, how they were coping financially – including any trouble with debts – and whether their situation had got better or worse in the last 12 months.

Almost all parents (97%) had a bank account and a little under half (47%) said they had money saved or invested. Parents in more disadvantaged circumstances were less likely to have a bank account, but differences were small. For example, 94% mothers under 20 at the time of the child's birth did not have a bank account compared with 98% of mothers in their thirties. Similarly, 91% of parents with no educational qualifications had a bank account compared with 99% of degree-educated parents. The trend was similar in relation to savings, but with bigger differences. Around twice the proportion of mothers aged 40 or older had money saved or invested as those in their twenties (68% compared with 37%).

Most families (66%) never had trouble with debts. However, 21% sometimes did, 9% did so quite often and 4% had debt trouble almost all the time. Debt trouble was more common amongst, but not confined to, lower income families. Amongst families in the lowest income group 9% had trouble with debts almost all the time and 17% quite often compared with 1% and 3% in the highest income group.

In terms of coping financially, parents tended to say they were either managing quite well (33%) or getting by alright (43%). However, a small proportion said they didn't manage very well (4%) or were in financial difficulty or deep financial trouble (7%).

37% of parents said that, in the last year, their financial situation had got worse. For 15% it had got better, and for 49% it had stayed the same. Amongst those for whom it had got worse ($n$ = 2237), the main reason given was that they were managing on less money (48%), fewer said it was because they had to buy more (14%). Although many cited both reasons (29%) and others said it was due to a rise in the cost of living (9%).

### Material deprivation

In the last decade, governments in the UK have increasingly adopted multiple ways of measuring poverty, moving away from a reliance on income alone. One of these alternative methods is consideration of the extent to which a family has been deprived of certain 'essential' items or activities. An index of material deprivation was first developed by the Department for Work and Pensions and has been incorporated into Government measures of child poverty.

Material deprivation in GUS is measured using eight items derived from the various, longer DWP scales which have been developed and used in a number of surveys, including previous sweeps of GUS, over the last 10 years. The items are detailed below:

- Do you have a holiday away from home for at least one week a year, whilst not staying with relatives at their home?
- Do you have a celebration with presents, for friends and family at special occasions like birthdays?
- Do you have a night out once a month?
- Do you and your family have a car/van?
- Do you have enough money to keep your home in a decent state of decoration?
- Do you have household contents insurance?
- Do you make regular savings of £10 a month or more for rainy days or retirement?
- In winter, are you able to keep this accommodation warm enough?

For each item, except the last, the response items were: we do this; we would like to do this but cannot afford it at the moment; we do not want/need this at the moment. For the last item the response was a simple yes or no.

To create a score of material deprivation, on the first seven items the response 'we would like to do this but cannot afford it' was given the value of one. All other responses were coded zero. On the last item, the answer 'no' was given the value of one, and 'yes' was coded as zero. The score was a sum of all responses coded as one, with a maximum of eight and a minimum of zero.

43% of families scored zero and a further 19% scored just one meaning that most families (62%) reported little material deprivation. However, a significant minority, 14%, scored four or more suggesting quite high levels of material deprivation.

Material deprivation was higher in, but not restricted to, those sub-groups which have already been shown to be income deprived (Table 2.4). For example, 34% of teenage mothers scored 4 or more on the index compared with 9% of mothers in their thirties. 34% of families in the bottom income group scored 2 or 3 compared 7% in the highest income group.

**Table 2.4 Material deprivation score (banded) by selected family characteristics**

| | Score on material deprivation index | | | | *Base: All families with a valid response to all material deprivation items* |
|---|---|---|---|---|---|
| | **0** | **1** | **2 or 3** | **4 or more** | |
| **Maternal age at child's birth** | | | | | |
| Under 20 | 14 | 18 | 33 | 34 | *262* |
| 30 to 39 | 54 | 20 | 18 | 9 | *2841* |
| **Family type** | | | | | |
| Lone parent | 15 | 16 | 33 | 36 | *964* |
| Couple family | 50 | 20 | 21 | 9 | *4776* |
| **Equivalised annual household income** | | | | | |
| Bottom Quintile (<£10,833) | 12 | 16 | 34 | 37 | *1002* |
| Top Quintile (>=£40,625) | 79 | 13 | 7 | 1 | *1037* |
| **Area deprivation** | | | | | |
| Most deprived | 25 | 16 | 32 | 27 | *1090* |
| Least deprived | 65 | 19 | 13 | 3 | *1195* |

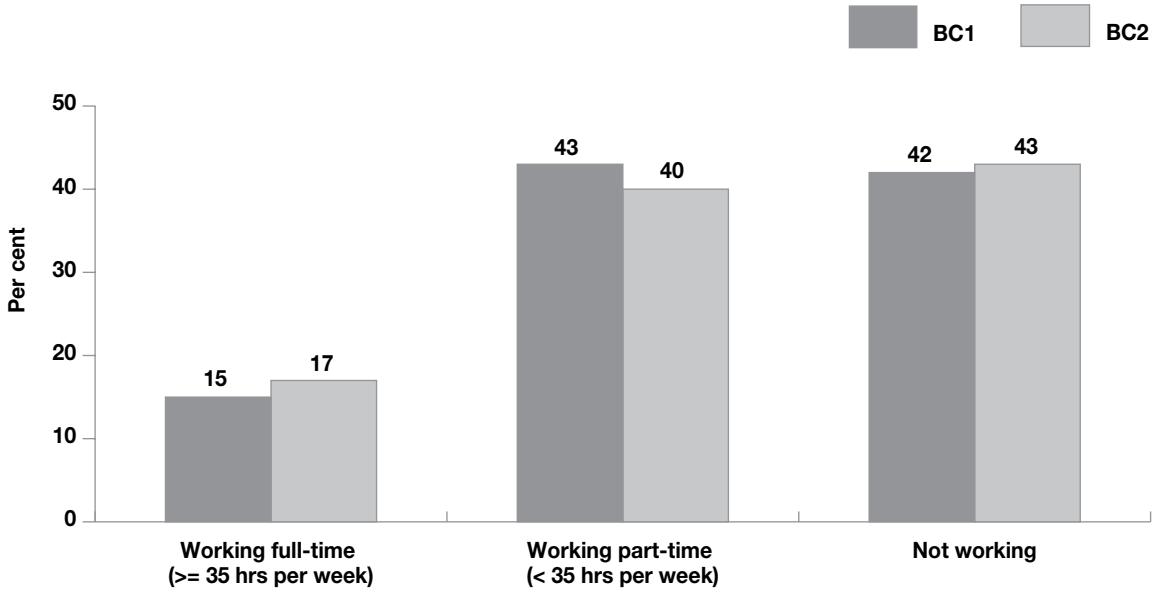
## 2.6 Employment and socio-economic classification

### Employment status of mothers

At the time of the interview, 57% of mothers were in some form of paid employment (including those on maternity leave). Mothers were more likely to be working part-time (40%) – defined as less than 35 hours per week – than full-time (17%) – defined as 35 hours per week or more.

As shown in Figure 2.6, there was little change in maternal employment status between the two cohorts. In 2005/06, 58% of mothers were currently employed including 15% who were working full-time and 43% who were working part-time.

**Figure 2.6 Mother's employment status at the time of the interview by cohort**




*Base – all households where child's mother was resident: BC1 = 5199, BC2 = 6104*

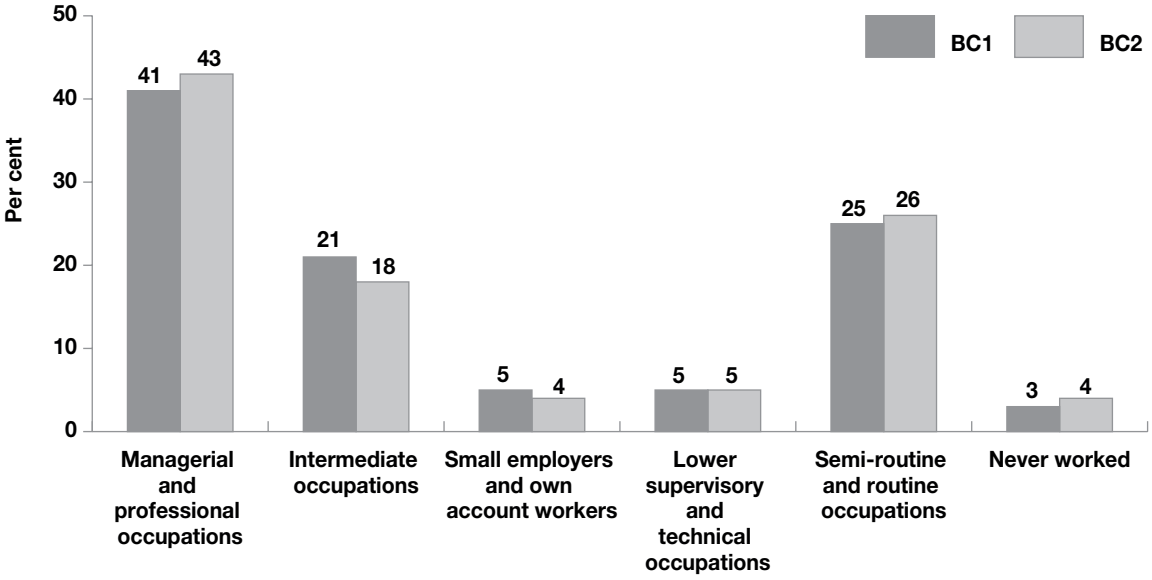
Changes to maternity leave entitlement introduced between the birth of children in each cohort meant that mothers in BC2 took longer periods of maternity leave than mothers in BC1 (see chapter 8). Mothers in BC2 were also more likely to still be on maternity leave at the time of the interview than mothers in BC1 (17% compared with 9%). As those mothers still on leave gave details of their employment prior to going on leave, and were more likely to therefore report a full-time rather than part-time position, the comparison was re-run excluding those cases still on leave (thus including only those who had returned to work or were not employed). This analysis provided more differentiation between the cohorts. Mothers in BC2, while just as likely to work full-time (20% compared with 20% in BC2), they were less likely to be working part-time and more likely to be not working than those in BC1 (60% and 20% compared with 65% and 14% in BC1 respectively).

Younger mothers and lone mothers were less likely to be in employment than were older mothers and those in couple families. For example, 74% of mothers who were teenagers at the time of the child's birth were employed when the child was aged 10 months compared with 48% of those in their twenties and 31% of those in their thirties. Almost twice as many lone mothers as mothers in couple families were not working (68% compared with 35%).

### Socio-economic classification

Figure 2.7 illustrates the spread of National Statistics Socio-economic Classification (NS-SEC), measured at household level, by cohort. There has been very little change between the two cohorts. For both cohorts, the largest, single group was those in managerial or professional occupations, followed by those in semi-routine and routine occupations. Only very small proportions of households were classed as small employers and own account workers, in lower supervisory and technical occupations or had never worked.

**Figure 2.7 Household socio-economic classification (NS-SEC) by cohort**




*Base – all families: BC1 = 5210, BC2 = 6118*

## 2.7 Religion, ethnicity and country of birth

### Religion

Information was collected on religious affiliation of the child and parents. The majority of children (63%) did not belong to a religion, religious denomination or body. Similar proportions of children belonged to the Church of Scotland (14%) and Roman Catholic (14%) faiths with a further small proportion (4%) following other Christian faiths. 2% were Muslims and 2% belonged to another non-Christian religion.

Religious membership amongst children has decreased between the two cohorts. In BC1, 41% of children were described as being part of a religion. In BC2, this had decreased to 37%.

In those cases where children belonged to a religion, parents were asked how often the child attended related meetings or services. 48% said they very rarely or never attended, 14% attended less often than once a month, 15% around once a month and 23% at least once a week.

### Ethnicity

Almost all children were white with 5% being of minority ethnic background. These figures are almost identical to those for BC1 and reflect patterns in ethnicity amongst the general Scottish population.

Children from minority ethnic backgrounds were significantly more likely to be living in more disadvantaged circumstances than were white children, at least on some indicators. For example, 36% of minority ethnic children had annual household incomes in the lowest quintiles compared with 22% of white children. However, children in both groups were just as likely to be living in areas in the most deprived quintile (24%). In addition, whilst children

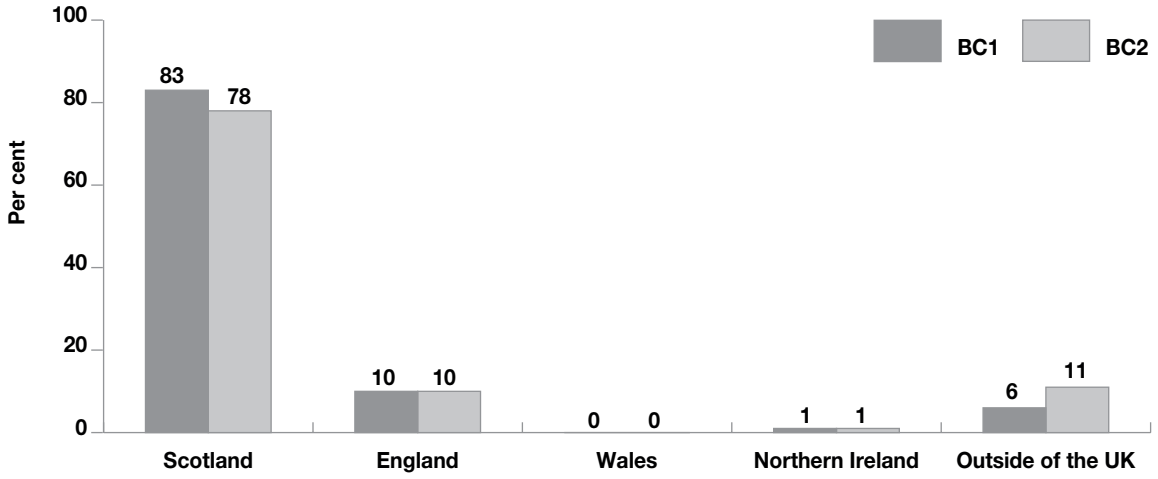
from minority ethnic backgrounds were twice as likely to have carers with no educational qualifications (11% compared with 5% for white children), they were also more likely to have a carer educated to degree level (50% compared with 40% amongst white children).

### Country of birth

Almost all children (99%) were born in Scotland. Those who were not were mainly born in England, with just a small number born outside of the UK.

In contrast, a little over one-fifth (22%) of main carers were born outside of Scotland (Figure 2.8). This proportion had increased from 17% since 2005/06. The change was mainly accounted for by an increase in the proportion of parents who were born outside of the UK. With no corresponding increase in the proportion of parents from minority ethnic groups (suggesting influx from Asian or African countries) and – as will be shown below – with Polish emerging as the most common language spoken after English, these parents therefore appear to represent those who have migrated from the predominantly white European A8 countries – such as Poland, Latvia, Czech Republic and Hungary – since the accession of these countries to the EU in 2004.

**Figure 2.8 Main carer's country of birth by cohort**




*Base – all families: BC1 = 5213, BC2 = 6115*

### Languages spoken at home

Parents were asked if English was the only language in the household, whether other languages were also used, or if no English was used. Reflecting the ethnicity and migration data seen above, English was the only language spoken in the vast majority of households (91%). 7% of families used both English and at least one other language, whilst just 2% spoke no English at home.

There was some small, but statistically significant, change between the cohorts. The proportion of households where only English was spoken decreased from 94% whereas those speaking English and another language, and no English each increased, from 5% and 1% respectively.

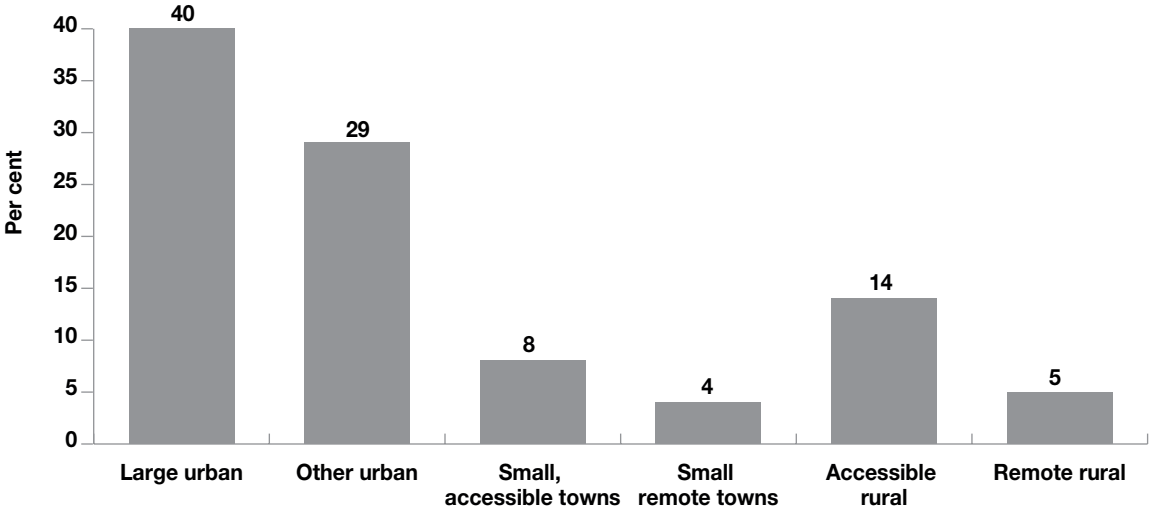
Polish was the most prevalent single other language, being spoken in 3% of *all* households and 31% of those where any other language was spoken. The South-Asian languages of Urdu and Punjabi were spoken in around 1% of all households and 10% of the households where any other language was used. All other languages, including Gaelic, were used by less than 1% of families.

## 2.8 Area and housing

### Urban-rural classification

Each family's address was assigned an urban/rural status according to the Scottish Government's six-fold Urban/Rural Classification. The spread of families across the various urban and rural areas is shown in Figure 2.9.

**Figure 2.9 Household urban/rural classification**




*Base – all families: BC1 = 5213, BC2 = 6115*

Most families (69%) were living in urban areas, with 19% living in rural areas and 12% living in small towns. 91% of families lived in areas broadly classed as 'accessible' (that is all categories except remote towns and remote rural) whereas 9% lived in remote areas. The results do not differ significantly from BC1 and relate very closely to whole population patterns in urban/rural characteristics (Scottish Government, 2012b).

### Neighbourhood

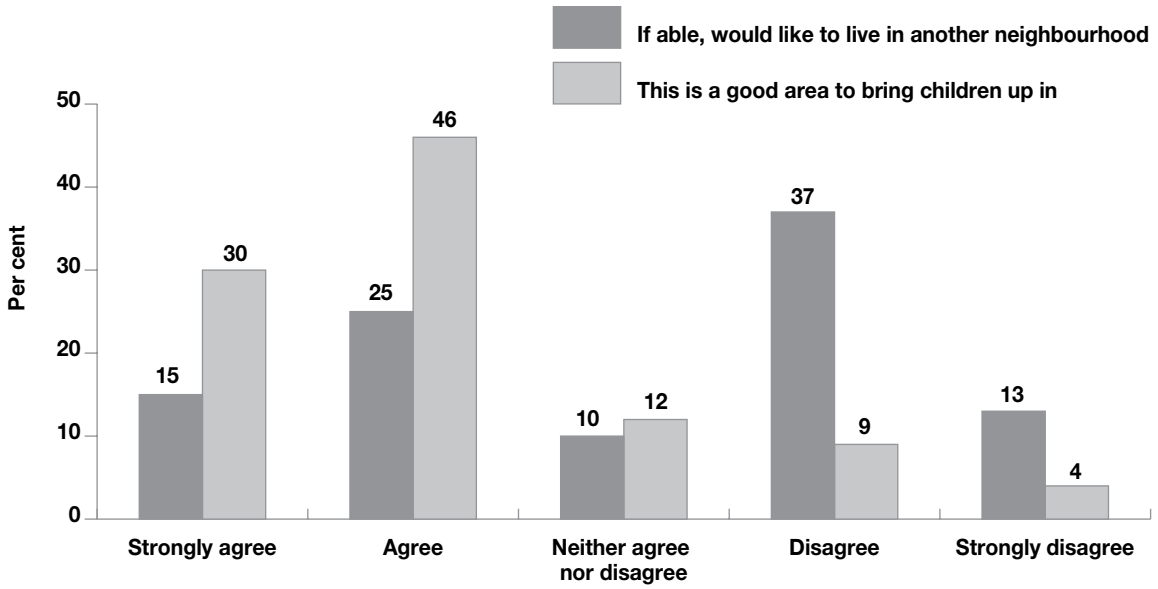
To measure satisfaction with their local neighbourhood, parents were simply asked how satisfied or dissatisfied they were with the area they lived in. They were also asked how much they agreed or disagreed with a series of statements about the local area:

- "If I was able to, I would like to live in another neighbourhood"
- "This is a good area to bring children up in"

The vast majority (84%) of parents were satisfied with where they were living, including 48% who were very satisfied and 36% who were fairly satisfied. Only 4% were very dissatisfied whereas 6% were fairly dissatisfied.

Results from the two agree/disagree statements are shown in Figure 2.10. Most parents agreed that they lived in an area that was good for bringing up children (76%) and half (50%) did not want to live in another neighbourhood. However, 40% agreed that they would like to live elsewhere, and 13% disagreed that their local area was good for children.

**Figure 2.10 Level of agreement and disagreement with statements on neighbourhood**




*Base – all BC2 families:* n = *6113*

As may be expected, parents' perceptions of their neighbourhood were associated with broader area measures such as deprivation and urban-rural classification.

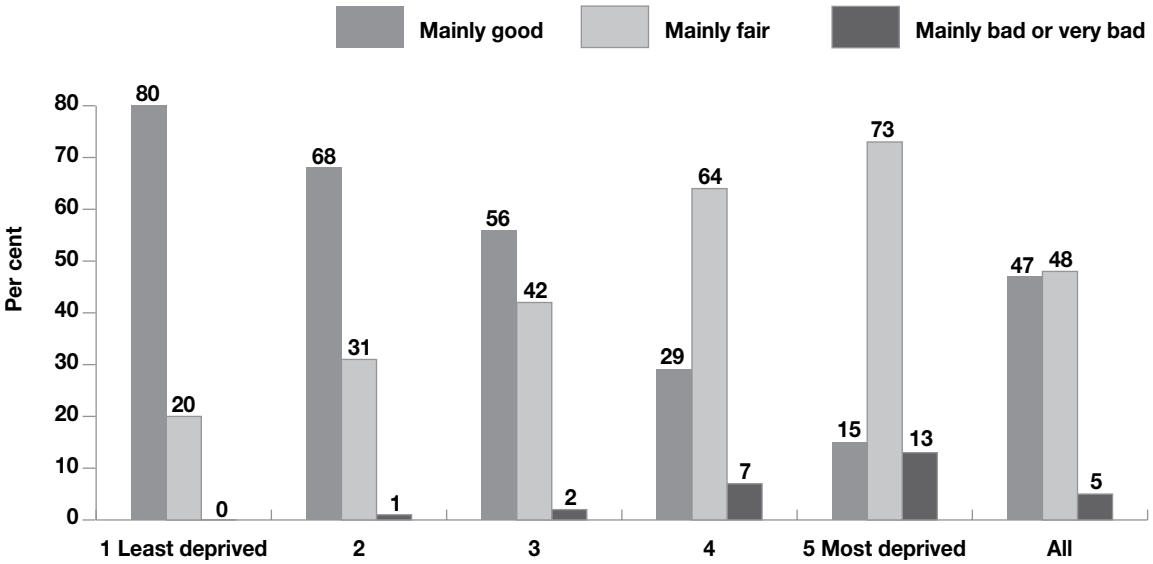
Satisfaction increased as area deprivation decreased. Three-quarters (75%) of parents living in areas in the least deprived quintiles were very satisfied compared with one-quarter (25%) of those living in areas in the most deprived quintile. The other measures followed a similar pattern. Differences in relation to area child-friendliness were particularly stark, though high area deprivation did not always equal poor child friendliness. For example, 50% of parents living in the most deprived areas agreed their neighbourhood was good for bringing up children. Nevertheless, 95% of parents living in the least deprived areas said the same.

Those in rural areas were more likely than those in urban areas or small towns to be very satisfied with their local neighbourhood. For example, 62% of parents in accessible rural areas were very satisfied with their local area compared with 44% in large, urban areas. Trends on the other measures were similar with those living in rural areas tending to perceive their local area more favourably.

In addition to information on parents' perceptions of their neighbourhood, survey interviewers also answered a series of questions based on their observations of the area surrounding each child's home. These questions covered the condition of residential properties in the area and the presence of unsightly features such as boarded houses, litter and graffiti.

Interviewers reported the conditions of a little under half of all residential properties to be good (47%) and a similar proportion to be fair (48%) with only a small proportion being bad or very bad (5%). The condition of properties deteriorated significantly as area deprivation increased (Figure 2.11). 80% of properties in the least deprived areas were said to be in good condition compared with 15% in the most deprived areas.

**Figure 2.11 Conditions of residential properties in area as observed by interviewers by area deprivation**




*Base – all BC2 cases where observations made:* n = *6127*

At least one unsightly feature was observed by interviewers in the local area in relation to 14% of households. Litter or junk in the street was most common, being reported for 11% of cases. Graffiti (5%) and boarded up, abandoned or demolished buildings (4%) were less common. All were more prevalent in deprived than non-deprived areas, though the occurrence of the last two items was generally low across all areas. For example, graffiti was observed local to 13% of households in the most deprived areas and less than 1% in the least deprived areas. However, litter or junk was reported local to 28% of households in the most deprived areas compared with 1% in the least deprived areas.

### Accommodation details

Most children lived in a house (68%), though many lived in a flat or maisonette (32%). These arrangements were identical across the two cohorts.

31% of children lived in accommodation which had six or more rooms (not including bathrooms or hallways), 30% with five rooms and 33% with four rooms. Only a small proportion (6%) lived in accommodation with less than four rooms.

63% of children had their own bedroom, a proportion similar to that for BC1 (62%). Of those who did not (*n* = 2183), around two-thirds (66%) shared with their parents and one-third (34%) shared with a sibling.

Virtually all homes (97%) had some form of central heating with most (82%) using gas. The vast majority of parents (94%) said they were able to keep their home warm enough during the winter, though the proportion was lower amongst those in more disadvantaged circumstances.

Parents were asked whether there were any repairs needing done on the family home. As shown in Table 2.5, three-quarters of parents said no repairs were required meaning 26% of homes required at least one repair. The most common repair mentioned was window replacement, though problems caused by draughts and from water ingress were reported in similar proportions. Repairs associated with plumbing and electrics, and with insects or vermin were less common.

**Table 2.5 Repairs required to family home**

| Repair required | % |
|---|---|
| None | 74 |
| Windows need replacing | 8 |
| Draughts | 7 |
| Water getting in from roof, gutters or windows | 6 |
| Bad condensation problems | 5 |
| Rising damp in floor and walls | 5 |
| Other | 5 |
| Problems with mould growth | 4 |
| Electrical wiring | 3 |
| Plumbing | 3 |
| Problems with insects | 2 |
| Problems with mice/rats | 2 |
| General rot and decay | 1 |
| *Base* | *6127* |

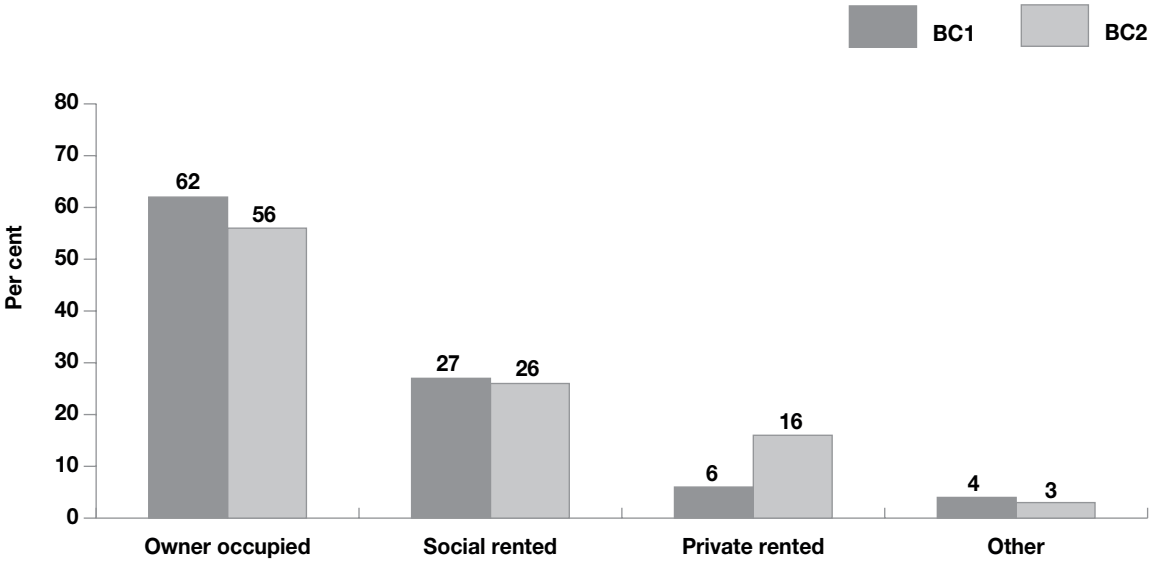
13% of families needed one repair on their home, 6% needed two and 6% needed three or more. Families living in areas of higher deprivation were more likely to need multiple repairs on their home. 16% of those living in areas in the highest deprivation quintile required two or more repairs compared with 7% living in areas in the lowest deprivation quintile.

### Tenure

Most children (56%) lived in a property that was 'owner occupied'. That is it was either being purchased using a mortgage or loan or was already owned outright. 26% lived in homes that were being rented from the local authority or a housing association, 16% were in private rented homes and 3% had some other tenure arrangement (such as living rent free).

There has been significant change in tenure characteristics between the two cohorts (Figure 2.12). In particular, the proportion of families in owner occupied homes has decreased (from 62% to 56%) whereas the proportion in private rented homes has increased (from 6% to 16%).

**Figure 2.12 Housing tenure by cohort**




*Base – all families: BC1 = 5210, BC2 = 6106*

## 2.9 Summary

In terms of their family characteristics and circumstances, it seems that much has changed for children born in Scotland in 2010/2011 compared with those who were born six years earlier. Yet, many aspects of family life are also very similar between the two groups.

Much of the change noted reflects the broad policy and societal changes discussed in the introduction. The financial crisis, for example, has clearly had an impact on family incomes with a greater proportion of families getting by on lower incomes (in real terms) now than previously. Small increases in receipt of key benefits such as jobseeker's allowance, council tax and housing benefit were also evident.

These changes in income do not appear to have resulted from a decrease in levels of parental employment which were similar in both cohorts. This seems unusual given that employment is the main source of income for most families. It is possible that further, more detailed, analysis would therefore show a change in the occupations of parents and /or differences in wage levels which may explain this apparent contradiction.

There have been knock-on effects on housing tenure. Greater numbers of families in rented properties suggests that many more are having difficulty getting a mortgage or finding suitable homes at affordable prices.

Demographic change is also evident. Mothers in BC2 were, on average, slightly younger than those in BC1, mirroring trends noted elsewhere. Whilst there has been no significant change in ethnicity, more parents in BC2 were born outside of the UK and slightly more children live in bilingual households, with Polish in particular emerging as a more common spoken language.

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chapter 3

# PREGNANCY AND BIRTH

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## 3.1 Background

In the six years between the births of GUS birth cohorts 1 (in 2004/5) and 2 (in 2010/11), Scotland has seen the publication of a range of policies having potential to impact on outcomes in pregnancy and birth. A few years prior to the birth of children in birth cohort 1 (BC1), the Scottish Government published its first ever *Framework for Maternity Services in Scotland* (Scottish Executive Health Department, 2001). The overarching aim was that all Scottish women should receive *high quality* maternity care before, during and after the birth of their child. The framework was developed from the *General Health Action Plan* published the year before, a programme of work designed to improve the quality, but also access and responsiveness, of healthcare in Scotland (Scottish Executive Health Department, 2000). Therefore, the maternity services framework also placed an emphasis on the importance of access, to routine services, to accurate information to inform decisions, and to specialist services (if needed).

One of the key principles underpinning the first maternity services framework was that "good health before and during early pregnancy benefits the woman, her unborn baby and the wider family" (Scottish Executive Health Department, 2001). One aim of the framework was that all women of reproductive age should be empowered and encouraged to be as healthy as possible. While it was noted that "social influences before, during and after pregnancy have a significant and far-reaching impact on child and maternal health", it was also judged that "pregnancy is an ideal opportunity to involve women, their partners and their families in a far greater understanding of their personal health, the benefits of health promotion and changes that can affect future health".

This was forward-thinking, because in the subsequent years attention focused more and more strongly on the stark inequalities in health found in Scotland. This culminated in the *Equally Well* ministerial report (Scottish Government, 2008), and then two frameworks – Achieving our Potential, to tackle poverty (Scottish Government, 2008), and the *Early Years Framework* (Scottish Government, 2009). Both the *Early Years Framework* and *Equally Well* place emphasis on the key role antenatal care has in reducing inequalities in health and improving health in the early years (Scottish Government, 2009, Scottish Government, 2008). They also address concerns regarding usage of alcohol, drugs and tobacco during pregnancy, but contend that women will do what is best for their babies, and will be willing to change their lifestyles, if their social and emotional circumstances are acknowledged and their hopes and aspirations for themselves and their babies are addressed. All of these policies addressing inequalities were published in the time period between the two GUS cohorts. While there was no inequalities policy specifically addressing maternity care, it is reasonable to assume that increasing attention was being given to find ways in which health care efforts could be focused to help reduce inequalities in health.

Subsequently, in January 2011, a 'refreshed' maternity services framework for maternity care in Scotland, was introduced – developed by the Maternity Services Action Group (MSAG) (Scottish Government, 2011). The revised framework acknowledged that the many determinants of poor outcomes are interlinked in a complex way, and that they cannot be addressed by health policy or healthcare alone. Nevertheless, the main aim of the new framework was to strengthen the contribution NHS maternity care makes to improving maternal and infant health and to reducing the observed inequalities in maternal and infant health outcomes. However, as hinted above, by the time this 'refreshed' framework was published, most of birth cohort 2 (BC2) had been born, and the remaining ongoing pregnancies were in their last trimester. Therefore data from GUS BC2 is slightly too early to evaluate any impact of this 2011 framework.

This chapter provides a detailed description of the pregnancies resulting in, and the births of, the BC2 children. In addition, selected characteristics and outcomes of BC2 are compared with the pregnancies and births of the BC1 children who were born six years earlier. For selected outcomes there was examination in a multivariate model of associations with key socio-demographic variables – maternal age group at birth, education, ethnicity, first child and, as at applying at time of interview, deprivation, equivalised household income, single parent or not, urban-rural living. This enables estimation of the association of the maternity outcome of interest (for example, attendance at antenatal classes) with each socio-demographic variable when there is simultaneous adjustment for all the other socio-demographic variables in the model. This is necessary because of the many-interlinked factors associated with behaviours and outcomes[8].

Multivariate modelling was also utiltised to adjust for socio-economic variables when undertaking other analyses such as comparing some outcome or behaviour between cohorts, or examining certain associations (eg. with receipt of Healthy Start Vouchers).

The main policy changes between BC1 and BC2 were associated with the growing concern to address inequalities in health in Scotland, although this was not enshrined in specific maternity care policy until after most of BC2 had been born (Scottish Government, 2011).

## 3.2 Key findings

It is important to bear in mind that each GUS cohort is representative, not of all pregnancies in the relevant timespan, but of the subset of pregnancies resulting in a live birth in Scotland, following on from which that infant is still resident in Scotland at 10 to 12 months of age.

- Median timing for first antenatal appointment (booking) was 9 weeks gestation, with 75% of women booking by 12 weeks.
- 19% of BC2 women reported they had been 'not very' or 'not at all well' during pregnancy, an increase from 13% in BC1 six years before. The proportion of women reporting an 'illness or problem' during pregnancy increased from 38% to 41% between BC1 and BC2.

8 See Appendix for further information on multivariate analysis

- 90% of women took folic acid during pregnancy but only 38% took vitamin D. Women in receipt of Healthy Start Vouchers (HSV) were less likely to have taken these supplements. After adjustment for socio-demographic factors it was found that there was no difference in vitamin D intake between those receiving HSV or not, but the difference for folic acid persisted (fewer receiving HSV took folic acid).
- 84% of BC2 mothers believed it is better to avoid alcohol altogether during pregnancy, while 80% reported that they had drunk no alcohol during the pregnancy with the BC2 child. This latter percentage is higher than for BC1 (74%).
- 73% of BC2 women never smoked during pregnancy, compared with 75% in BC1, but a further 9% of BC2 stated that they gave up once they discovered they were pregnant (a response option not offered in BC1).
- 40% of all BC2 mothers attended antenatal classes, a decrease from BC1 (from 46%), however there was no significant difference between cohorts in the number of first-time mothers who attended antenatal classes (71% of BC1 compared with 69% of BC2)
- Sources of information when pregnant that were most commonly cited were health professionals (90%), family/friends (71%), internet (55%), and Ready Steady Baby booklet (48%), with mention of the internet having more than doubled since BC1. The three sources felt by parents in BC2 to be most helpful were health professionals, family/friends and then internet, which was similar to BC1 except that internet had replaced books/ magazines in third place.
- 60% of BC2 births were described as 'normal', a small, but statistically significant reduction from BC1 (62%).
- Mean birthweight of children in BC2 was 3391g, very similar to BC1, and the prevalence of low birthweight (<2500g) was 7% in both cohorts. As would be expected, low birthweight was associated with whether the baby arrived early, on time or late and with socio-demographic factors (lower education, low household income and older maternal age).

### 3.3 Planning and recognition of pregnancy

Overall, responses regarding planning of the pregnancy did not change statistically significantly between the two cohorts. However, the proportion of pregnancies planned *jointly* by the couple increased marginally from 58% in BC1 to 60% in BC2. There was also a change in the proportion of completely unplanned pregnancies, reducing from 24% in BC1 to 21% in BC2. Percentages for one-sided planning (by the woman) and for not-planned-but-not-prevented were unchanged across the cohorts (1% and 17% respectively).

In BC2, the weeks of gestation when the mother became aware of the pregnancy had a median of five weeks, with half of all responses lying between four to six weeks gestation, and the range running from zero weeks (four respondents) to 39 weeks (one respondent).

### Commencing antenatal care

The median timing for the mother's first antenatal appointment for BC2 was 9 weeks (with three quarters booking by 12 weeks). The proportion having their first booking at 23 weeks or later was 1%. The range in gestation at booking ran from 0 weeks (10 respondents) to 38 weeks (1 respondent).

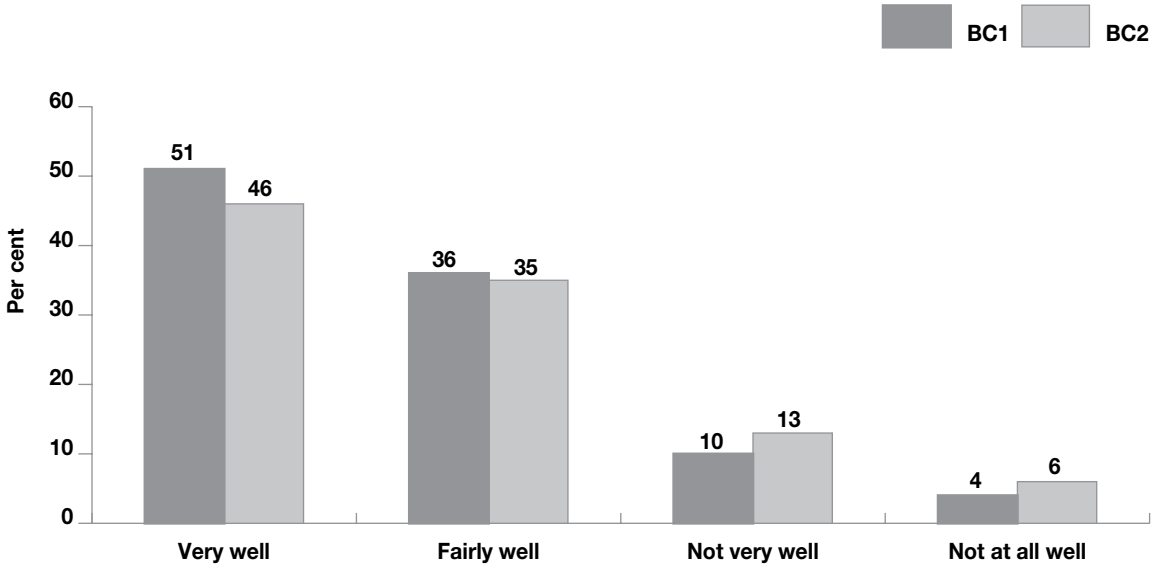
The first antenatal appointment was with a midwife for 59%, GP for 22% and hospital clinic for 19%.

## 3.4 Health during pregnancy

### Self-reported health during pregnancy

The comparison of self-reports of general health in pregnancy by cohort is shown in Figure 3.1. Self-reported health during pregnancy deteriorated between the two cohorts, with fewer mothers in BC2 reporting having been very well (46% compared with 51% in BC1) and *more* reporting 'not well' to some degree (19% compared with 14%).

**Figure 3.1 Self-report of health during pregnancy by cohort (BC1 vs BC2)**




*Base – all families: BC1 = 5210, BC2 = 6106*

### Specific medical problems

To the specific question about 'any illness or problem in pregnancy' the number of respondents answering 'yes' increased between BC1 and BC2 from 38% to 41%. Table 3.1 lists the most frequently reported illnesses/problems out of the 30 items coded. 'Multiple pregnancy' is one of the list of possible 'problems' enquired about, but in these GUS cohorts, the number is very low – just 6 in BC1 and 4 in BC2, well less than 1%.

**Table 3.1 Illness or problems occurring during pregnancy (BC1 and BC2)**

| Problem/illness | BC1 % | BC2 % |
|---|---|---|
| (Pre-)eclampsia or raised BP* | 7 | 4 |
| Persistent vomiting* | 4 | 5 |
| Anaemia during pregnancy | 4 | 4 |
| Threatened miscarriage* | 4 | 3 |
| Symphysis pubis | 3 | 3 |
| Backache* | 2 | 3 |
| Urinary infection | 2 | 2 |
| Non-trivial infection | 2 | 2 |
| Blood group incompatibilities or other disorders* | 2 | 1 |
| Other pelvic joint problems* | 1 | 3 |
| Diabetes in pregnancy/ Gestational diabetes* | 1 | 2 |
| Depression/mental illness | 1 | 1 |
| Liver/gall bladder problems | 1 | 1 |
| 'Other'* | 9 | 14 |
| *Base: all families where mother was respondent* | *5139* | *5996* |

** Statistically significant difference between cohorts,* $p<0.05$

Between the two cohorts there was a reduction in the proportion of women reporting 'raised blood pressure (BP), pre-eclampsia or eclampsia during pregnancy', threatened miscarriage and blood group disorders. However there was an increase in the proportions reporting persistent vomiting, backache, pelvic joint problems, diabetes in pregnancy and 'other' problems. The table reports combined percentages for 'diabetes in pregnancy' and 'gestational diabetes', but in each cohort there was a very similar mix of the two problems reported – roughly half and half.

### Taking supplements (BC2 only)

Parents in BC2 were asked whether they had taken certain supplements during their pregnancy with the cohort child. Overall, 62% of BC2 women took no vitamin D supplement at all. The percentages taking some vitamin D were:

- 15% prior to pregnancy
- 32% during the first three months of pregnancy
- 26% during the second three months
- 1% during the last three months

The percentages of BC2 women reporting having taken folic acid were:

- 48% prior to pregnancy
- 90% during the first three months of pregnancy

One possible impact of the Healthy Start voucher (HSV) scheme (see also 3.3.2) is that it might improve intake of supplements around pregnancy. Women who were receiving HSVs at interview were compared with those who were not, in respect of supplement intake in pregnancy. It was found that there was a statistically significant difference in rates between the two subgroups for all six forms/timing of supplementation listed above, in that women receiving HSVs were less likely to have taken vitamin D supplements (26% of those receiving HSVs took any vitamin D at all compared with 42% who were not receiving HSV. For specific timings of vitamin D in order of the list above: 6% of HSV recipients compared with 18% of non-recipients; 20% compared with 36%; 18% compared with 28%; and 16% compared with 25%). For folic acid there was a similar picture (27% amongst HSV recipients compared with 54% for non-recipients for prior and 80% compared with 92% during pregnancy).

However, this might be partly to do with the fact that those eligible for receipt of HSVs have multiple characteristics that have been found to be associated with less 'healthy' behaviours and actions in pregnancy. Hence it is possible that the HSVs have nevertheless ameliorated what would have been a worse situation. The association of supplement intake around pregnancy was therefore examined in a multivariate model[9], to determine factors associated with 'folic acid in first three months of pregnancy' and 'any vitamin D intake around pregnancy'. This enabled examination of the association of HSVs with supplement intake *adjusted* for important socio-demographic variables.

On multivariate analysis, 'any' intake of vitamin D was statistically significantly and strongly associated with education (the more extended the education the more prevalent was intake) and household income (the more affluent the more prevalent folic acid intake). There was also a modest association with age (vitamin D use more likely if younger), but no association with ethnicity nor deprivation. The lack of association with ethnicity is disappointing, since people with dark or black skins living in high latitudes have *greater* requirement for vitamin D (regardless of pregnancy). When receipt of HSVs was added to the model, it was *not* found to be statistically significantly associated with folic acid intake, after adjustment for the socio-demographic factors. So this means that the significantly worse intake for any vitamin D, found above (via 'univariate' analysis), would appear to have been an artefact of confounding by socio-demographic variables that differ between recipients and non-recipients of HSVs. Therefore, after multivariate adjustment for socio-demographic variables, HSVs are *not* associated with differential vitamin D intake, better or worse.

9 See the technical notes in Appendix A for a full description of this analytical approach

On multivariate analysis of folic acid intake in the first three months of pregnancy, this was found to be significantly associated with education (the more extended the education the more prevalent folic acid intake), household income (the richer the more prevalent folic acid intake), and ethnicity, but not with maternal age nor deprivation. The association with ethnicity was that white mothers had odds of folic acid intake that were *higher* – by 170% – relative to other ethnic mothers. When receipt of HSVs was added to the model, this was found to be statistically significantly associated with folic acid intake ($p<0.002$), but again in the reverse direction from what might have been hoped, in that those ***not*** in receipt of HSVs had higher odds of folic intake, by 54% relative to those who did receive HSVs. This means that, contrary to the situation with vitamin D, even after adjustment for socio-demographic factors, there remained a statistically significant association of HSVs with worse folic acid supplement intake. However, the association was less strong after adjustment (odds ratio reducing from 2.94 to 1.54), so this suggests that in the initial univariate analysis above, there had been a degree of confounding by socio-demographic factors, which had inflated the apparent association.

In addition, Healthy Start vitamins are not normally available to mothers before their tenth week of pregnancy. Along with the time required to process applications, this may have resulted in few women taking HS vitamins before 12 weeks of pregnancy.

## 3.5 Alcohol, smoking and drugs in pregnancy

### Knowledge of alcohol guidelines

Almost all BC2 respondents said they knew the alcohol guidelines for pregnancy (93%). Their 'own words' statement, at interview, of the gist of the guidelines, was categorised as shown in the left section of Table 3.2. Respondents were also asked their personal views about drinking in pregnancy. Their distribution of responses (chosen from a show card) is as shown in the right section of Table 3.2. Considerably *more* women state that they believe there should be no drinking in pregnancy, than there are who believe the guidelines recommend abstinence (84% compared with 69%).

**Table 3.2 Respondents' understanding of the alcohol guidelines and views about drinking alcohol in pregnancy (BC2)**

| **Respondents' understanding of the guidelines about drinking alcohol in pregnancy** (said in own words and subsequently categorised) | % | **Respondents' own view about drinking alcohol in pregnancy** (wording as on showcard) | % |
|---|---|---|---|
| Regular alcohol OK during pregnancy | 17 | Women do not need to worry how much alcohol they drink when pregnant | >1 |
| Occasional alcohol OK in pregnancy | 6 | Drinking a moderate amount of alcohol can usually be considered safe | 1 |
| A little is OK but best not to drink | 6 | Drinking a small amount of alcohol can usually be considered safe | 16 |
| No alcohol | 69 | It is better not to drink at all during pregnancy | 84 |
| Not sure | 3 | | |
| Other specific views? | 4 | | |
| *Base: all families where mother was respondent* | *5984* | | *5990* |

### Amount of alcohol consumed while pregnant – self complete

In both cohorts respondents were asked how often they drank alcohol in pregnancy. The distributions of responses are given in Table 3.3. These percentages show a statistically significant reduction between the two cohorts in frequency of alcohol consumption in pregnancy. However, it should be noted that in BC2 there were 15 respondents (weighted) who drank alcohol more than three times a week while pregnant and eight who drank it every day. In BC2, views about drinking alcohol (views as reported in the right hand section of Table 3.2) were very strongly related to alcohol consumption during pregnancy.

**Table 3.3 Alcohol consumed in pregnancy (BC1 & BC2)**

| | BC1 % | BC2 % |
|---|---|---|
| 1-2 times a week or more often | 4 | 2 |
| 2-3 times a month | 5 | 3 |
| Less than once a month | 17 | 15 |
| Never | 74 | 80 |
| *Base: all families where mother was respondent* | *5107* | *5885* |

In BC2, respondents who drank alcohol during pregnancy were asked how many units they usually drank on a day they were drinking. The vast majority stated 1-2 units per day (96%), while 3-4 units were usual for 3%, and 5-10 plus for the remaining 1%.

### Smoking during pregnancy

The smoking questions (asked in the self-complete section) differed across the two cohorts. Item response options are presented in Table 3.4, roughly in order from unchanged smoking, or smoking most days during pregnancy, down to stopping once found out pregnant, and finally to never smoked at all while pregnant (75% and 73% in the two cohorts). No formal comparison is possible, but in terms of ***never smoking*** there has been a slight reduction, with the percentage falling from 75% to 73% between BC1 and BC2.

**Table 3.4 Smoking while pregnant (BC1 & BC2)**

| | BC1 % | BC2 % |
|---|---|---|
| Yes, most days | 13 | - |
| I continued smoking as before I was pregnant | - | 4 |
| I tried to stop but did not manage to | - | 5 |
| Yes, occasionally | 12 | - |
| I reduced amount | - | 9 |
| I stopped when I found out I was pregnant | - | 9 |
| Never | 75 | 73 |
| *Base: all families where mother was respondent* | *5107* | *5883* |

### Drugs during pregnancy

Of 1390 BC2 women who were past drug users, 32% had stopped well before becoming pregnant, 3% while trying to get pregnant or as soon as they found out, 62% did not use any drugs while pregnant, 2% reduced the amount used, while 1% continued (some of these having tried to stop and failed).

In all 6% of BC2 women had used drugs during some or all of their pregnancy. There were no specific questions as to which drugs were used during pregnancy, only 'ever' (life-time) use, and use in past 12 months (the latter would have included the last month or two of pregnancy for those 3% continuing throughout, but would not have included the 3% who stopped in the early stages). For the 59 BC2 women who took drugs at all during pregnancy, the drugs they had cited for use 'ever' were: cannabis (87%), methadone (36%), amphetamines (36%), heroin (32%), ecstasy (31%), cocaine (28%), LSD (16%), crack (14%) and 'other' (9%). In all, 19 women (weighted 21) who had been using drugs during pregnancy received treatment/ help/advice from a range of sources.

## 3.6 Antenatal classes

### Attendance by mother

Attendance by the pregnant women at antenatal classes became less common between the two cohorts, and fewer classes attended are NHS, as shown in Table 3.5. However, when attendance at classes was examined separately for those who were first-time mothers, versus those who had an older child, it was found that the proportion of firs-time mothers attending classes was essentially unchanged between cohorts (71% of BC1 compared with 69% of BC2). However, there was a statistically significant decline in the percentage of mothers with other children attending classes (20% compared with 13%).

**Table 3.5 Attendance at antenatal classes by mother (BC1 & BC2)**

| Frequency | BC1 % | BC2 % |
|---|---|---|
| Yes, went to all or most classes | 34 | 29 |
| Yes, but only went to some classes | 11 | 11 |
| No, did not attend any | 54 | 60 |
| *Base: all families where mother was respondent* | *5139* | *5996* |
| **Type of class** | | |
| NHS | 97 | 93 |
| Other | 2 | 4 |
| Both | 2 | 4 |
| *Base: all who attended antenatal classes* | *2366* | *2423* |

Over half of all mothers did not attend antenatal classes, and the reasons given are shown in Table 3.6. An asterisk against a reason indicates that the difference in percentage between the cohorts is statistically significant. For BC2, there has been an increase in non attendance 'because classes are not available' (from 2% to 4%), and 'for other reasons' (from 31% to 44%).

**Table 3.6 Reasons for mother not attending antenatal classes (BC1 & BC2)**

| | BC1 % | BC2 % |
|---|---|---|
| Done for previous pregnancy | 47 | 50 |
| Not needed | 29 | 28 |
| Do not like classes/groups* | 12 | 9 |
| Did not know of any | 5 | 5 |
| No childcare | 4 | 3 |
| None available* | 2 | 4 |
| Travel problems | 3 | 2 |
| Cost problems | >0 | >0 |
| Other reasons* | 31 | 44 |
| *Base: all who did not attend antenatal classes* | *2768* | *3568* |

Multivariate logistic regression showed that attendance at antenatal classes is strongly associated with all the socio-demographic variables (even after mutual adjustment for each other), other than for the urban-rural classification. The odds of attendance are most increased (19-fold) if there are no older children, but also significantly increased if there is more extended education, greater household income, less deprivation and older age, and if white ethnicity. Finally, after adjustment for all these socio-demographic variables, the effect of cohort is highly statistically significant, and indicates a reduction in antenatal class attendance across the time-span between the two cohorts as first suggested in Table 3.5.

### Attendance by father

This analysis was restricted to children whose mothers attended antenatal classes (at least to some extent), because the question pertaining to fathers was asked only if the mother reported attending. There has been a marginal increase in attendance at antenatal classes by the father, increasing from 66% in BC1, to 68% in BC2. Among fathers who did attend, Table 3.7 shows the frequency of attendance across the 'course', ie. the planned set of classes offered. There has been minimal change in the shape of this distribution of responses between cohorts.

**Table 3.7 Attendance at antenatal classes by father (BC1 & BC2)**

| | BC1 % | BC2 % |
|---|---|---|
| Yes all classes | 41 | 40 |
| Yes most classes | 23 | 25 |
| Yes some | 37 | 35 |
| *Bases (all where partner attended antenatal class)* | *1554* | *1673* |

## 3.7 Sources of information

Table 3.8 displays the sources of information mothers used when pregnant and indicates with asterisks the sources for which the percentages have changed significantly across the two cohorts. Almost all women use health professionals as a source of information, but this percentage has decreased from BC1 to BC2 (from 92% to 90%). The most dramatic increase has been for internet-based sources, which has more than doubled (increase from 27% to 55%), while use of books and magazines has fallen (from 48% to 35%).

**Table 3.8 Sources of information when pregnant for questions/concerns**

| | BC1 % | BC2 % |
|---|---|---|
| Health professionals* | 92 | 90 |
| Family or friends | 70 | 71 |
| Books/magazines etc* | 48 | 35 |
| Ready Steady Baby book | 46 | 48 |
| Other mothers | 29 | 31 |
| Internet* | 27 | 55 |
| TV radio | 13 | 7 |
| Not applicable – no concerns | 2 | 1 |
| *Base: all families where mother was respondent* | *5139* | *5996* |

Women were also asked to select what they felt was the most useful source for them, and the distribution of responses for this is given in Table 3.9. There has been a marked change between the two cohorts, with health professionals less often being identified as most useful source (down from 53% to 47%), and similarly for books/magazines (decreased from 10% to 4%), while believing the internet the most useful has increased from 5% to 14%.

**Table 3.9 Most useful source of information when pregnant**

| | BC1 % | BC2 % |
|---|---|---|
| Health professionals | 53 | 47 |
| Family and friends | 19 | 20 |
| Books/magazines | 10 | 4 |
| Ready Steady Baby leaflet | 9 | 11 |
| Internet | 5 | 14 |
| Other mothers | 3 | 4 |
| TV radio | 1 | >0 |
| *Base: those who used more than one source* | *4430* | *5133* |

Use of the internet as a source of information is strongly associated with all the socio-demographic variables other than ethnic group. The odds of using the internet for information increases with household income, level of education, and with more urban dwelling, but reduces with increasing deprivation. With respect to age, the odds are lowest in the youngest age group and highest in 30 to 39 years olds. Finally, with all other variables adjusted for, the odds of using the internet for pregnancy information are higher in cohort 2, by 260%.

## 3.8 The birth

### Type of delivery

The mode of delivery can be associated with various birth outcomes for both the mother and child. A range of work associated with the Keeping Childbirth Natural and Dynamic Campaign and the Maternity Services Action Group has sought to reduce the number of caesarean sections performed by improving antenatal and perinatal care to be more anticipatory of those at higher risk.

There was a statistically significant change in type of delivery between BC1 and BC2 (Table 3.10), with 'normal' deliveries decreasing from 62% to 60%, and elective caesarean increasing from 12% to 14%.

**Table 3.10 Type of delivery**

| | BC1 % | BC2 % |
|---|---|---|
| Normal | 62 | 60 |
| Forceps | 7 | 9 |
| Ventouse | 4 | 2 |
| Forceps & ventouse | 2 | 1 |
| Caesarean section prior to onset of labour | 12 | 14 |
| Caesarean section after onset of labour | 13 | 13 |
| *Base: all families where mother was respondent* | *5138* | *5995* |

### Delivery at due date

The woman's account of the timing of her delivery in relation to due date was very similar across the two cohorts, as shown in Table 3.11.

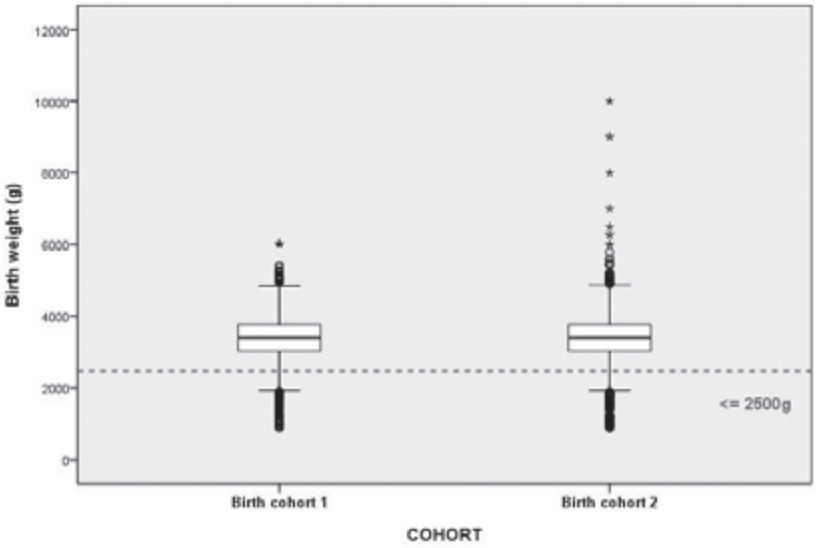
**Table 3.11 Gestation at delivery**

| | BC1 % | BC2 % |
|---|---|---|
| Weeks early | 23 | 24 |
| Days early | 18 | 18 |
| On time | 14 | 14 |
| Late | 45 | 45 |
| *Base: all families where mother was respondent* | *5141* | *5997* |

### Birthweight

The mean birthweight has very slightly increased across the two cohorts, from 3376g to 3391g, giving a mean increase 14.5g (95% CI -11.4g to 40.4g). The distribution of birthweights for the two cohorts is shown in the box plot of Figure 3.2. The 'boxes' plot the middle 50% of each distribution (vertically encompassing the lower to upper quartiles), while the thick line across the box indicates the median. The additional circles and asterisks plotted show the upper and lower tails of the distributions, that is, the upper and lower 25% of infant weights. Visual comparison of these box-plots shows very little change in birthweight distribution across the time-interval between the two cohorts, but suggests some stretching of the upper tail of the distribution for BC2 to include a number of heavier birthweights.

**Figure 3.2 Box-plot of the distributions of birth weight (g) in the two cohorts**




*Base – all children: BC1 = 5199, BC2 = 6109*

Clinical judgement of gestation at birth is not available for analysis, but maternal recollection of the timing of birth relative to due date was ascertained at interview – as presented in Table 3.11. There was a strong association of birthweight with this timing variable such that the mean weight for babies born early, compared to those 'on time', was 510g lower if 'weeks' early, and 83g lighter if 'days' early, while for babies born late the mean weight was 192g heavier.

The prevalence of 'low birthweight' (<2500g) babies was almost identical across the two cohorts (7%), and as would be expected was strongly associated with recalled timing of birth (overall, 25% LBW if 'weeks early', 3% if 'days early' or 'on time', and <1% if 'late'). The distributions were almost identical in the two cohorts. Low birthweight is strongly associated with older maternal age, no educational qualifications, lower household income, and 'other' ethnic group. Low birthweight is also strongly associated with type of delivery, being most common in elective caesarean deliveries.

## 3.9 Summary

The main reason for collecting the pregnancy and birth data within GUS is as a context for later development of and outcomes for the child. The fact that only live births can progress to be BC2 participants, means that the GUS data is not representative of all births in Scotland in 2010/11. Furthermore, the fact that first interviews took place when BC2 babies were 10 to 11 months old, means that details of the pregnancy, antenatal care and information sources are subject to a considerable recall interval. For this reason only fairly imprecise information can be gained about, for example, gestation at birth, and so there is no possibility of examining a standard outcome such as birthweight adjusted for gestation. However there are plans to link GUS data to the NHS maternity health record, in the near future, which will provide an opportunity to obtain prospectively-collected and more accurate clinical information about the pregnancy and birth.

In absolute terms there have been, generally, very small changes in outcomes for BC2 compared with BC1. Improvement was observed in that more BC2 mothers reported not drinking alcohol during pregnancy, but on the other hand fewer BC2 births were described by the mothers interviewed as 'normal' and fewer BC2 mothers overall attended antenatal classes (although there was no change for first time mothers).

The first Framework for maternity care in Scotland (Scottish Government, 2001) noted that social factors have a far-reaching impact on maternal health and the recently published 'refreshed' framework (Scottish Government, 2011) commented on the many complex and interlinked determinants of health. Multivariate modelling with respect to use of supplements in pregnancy, attendance at antenatal classes, and use of the internet as a source of information, gave results that are in line with these statements – showing strong evidence of inequalities in health behaviours and access to information.

## 3.10 References

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chapter 4

# INFANT FEEDING

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CENTRE FOR RESEARCH ON FAMILIES AND RELATIONSHIPS**

## 4.1 Background

Almost all of the children in birth cohort 2 (BC2) had been born by January 2011 when the Scottish Government published *Improving Maternal and Infant Nutrition: A Framework for Action* (Scottish Government, 2011). However, this framework was based on evidence that was already in the public domain and aimed to support and promote strategies to improve infant feeding in the population. Many of these strategies would have been developed or piloted in the preceding 12 months, when the babies were being born. The framework was influenced by the UNICEF UK Baby Friendly Initiative which, in 2009, when publishing a strategy for improving breastfeeding outcomes, noted that "although the World Health Organization (WHO) and the Department of Health recommend that all babies are exclusively breastfed for the first six months, the rate of exclusive breastfeeding at six months in the UK is less than 2 per cent" (UNICEF UK, 2009).

The rationale for the infant feeding part of the framework is that "the feeding received by the infant in the first few months of life, the process of weaning onto solid foods and the diet and nutrition status of the growing infant all contribute significantly to the long term health of the population" (Scottish Government, 2011). The framework recognises the detrimental effect of health inequalities on infant nutrition and recommends targeted support to those most in need, with the aim of optimising health outcomes for children and reducing the gap between the most and least healthy.

Infant feeding guidance focuses on two main areas: breastfeeding and weaning (or the introduction of solid foods). With respect to breastfeeding, the first aim is to maximise rates of breastfeeding initiation, and the second is to optimise duration of exclusive breastfeeding, if possible until at least six months of age, as per the recommendations of the WHO systematic review (Kramer et al. 2002). In this context, 'exclusive' breastfeeding is defined as breast milk only, with no other liquid or solid foods[10]. With respect to introduction of solid foods, whether exclusively breastfed, formula fed or mixed, the aim is to delay solids until six months of age (Kramer et al. 2002; NHS Health Scotland, 2011), but also to ensure children receive a variety of foods and textures at an age appropriate to their developmental stage (NHS Health Scotland, 2011).

### *4.1.1 Breastfeeding: initiation, duration, and information provision*

#### 2004-2005 policy context – relevant to the first birth cohort (BC1)

Infant nutrition policy in Scotland developed considerably following the Scottish Joint Breastfeeding Initiative in 1990 (Scottish Office, 1993) culminating with the Breastfeeding etc. (Scotland) Act (2005), while more recent public policy has continued to promote breastfeeding in Scotland (Scottish Government, 2008, 2011). In the decade preceding the birth of the first birth cohort (BC1), the Scottish Government worked on national targets to

10 http://www.unicef.org.uk/Documents/Baby_Friendly/Research/4/infant_feeding_definitions.pdf?epslanguage=en

raise breastfeeding rates among mothers in Scotland. While no specific target was set with regard to breastfeeding take-up (ie. mothers who breastfeed at least once), in 1994 a national target was set to increase the proportion of mothers who were still breastfeeding at six weeks from 30% to 50% by 2005 (Scottish Executive, 2000).

A National Breastfeeding Adviser was appointed in 1995 to provide training resources and advice and assist NHS Boards in meeting targets. The Scottish Breastfeeding Group was also launched in 1995 which provided a national resource of information and advice about breastfeeding and set up a website providing information for mothers (NHS Health Development Agency, 2003). In subsequent years, NHSScotland also worked to implement the joint WHO/UNICEF initiative on breastfeeding and raise awareness of breastfeeding benefits by promoting support groups set up by professionals and peers (Scottish Executive, 2000). Subsequently, the Integrated Strategy for Early Years focused on improving service provision, particularly for vulnerable children aged 0-5 and their families, and increasing the proportion of women breastfeeding (Scottish Executive, 2004). By 2004, Scotland had the highest level of participation in the UNICEF UK Baby Friendly Initiative of any UK country (more than 85%), and there were nine breastfeeding peer support programmes across Scotland and 150 breastfeeding support groups. The *Ready Steady Baby* booklet was also launched in 1998 as an all-inclusive booklet with breastfeeding information for parents.

### 2010-2011 policy context

In the years preceding the birth of children in the second birth cohort (BC2), there was some policy change related to breastfeeding. In 2007 and 2008, new HEAT targets were aimed at increasing the proportion of infants being exclusively breastfed at 6-8 weeks from 26.2% in 2006-2007 to 32.7% in 2010-11 (Scottish Government, 2007; 2008). This represented a move from the previous mixed (breast and formula) feeding targets, towards exclusive breastfeeding and reflected the WHO recommendations on exclusive breastfeeding, albeit for six months. Whilst the Scottish Government endorsed the WHO guidelines (Scottish Intercollegiate Guidelines Network and NHS Quality Improvement Scotland, 2010), the working target itself focused on exclusive breastfeeding at 6-8 weeks (NHS Health Scotland, 2011).

In support of the revised breastfeeding targets, an Infant Nutrition Co-ordinator was appointed in 2008 to lead the development and the implementation of the Maternal and Infant Nutrition Strategy. This strategy was aimed at improving the nutrition of pregnant mothers and their infants (Scottish Government, 2008). In 2010, the Maternal and Early Years website was launched to provide accessible and updated information to early years professionals, on topics including breastfeeding (http://www.maternal-and-early-years.org.uk/topic/background).

Significant funding allocations by the Scottish Government to encourage breastfeeding (and other measures to improve maternal and infant nutrition) between 2008-2011 were made following the publication of CEL 36 (*Nutrition of Women of Childbearing Age, Pregnant Women and Children under 5 in Disadvantaged Areas*). Breastfeeding was a key priority for implementation, and Health Boards were encouraged to use a proportion of their allocation to assist with progress towards achieving the breastfeeding HEAT target. Emphasis was also

placed upon the connected *Equally Well* recommendation that NHS Boards should improve breastfeeding rates in deprived areas and among disadvantaged groups.

**Change between the two cohorts**

The box below highlights changes in breastfeeding targets between BC1 and BC2. Duration of exclusive breastfeeding was not assessed for BC1, so the two cohorts can not be compared in this respect. However, if the extensive promotion of breastfeeding prior to, and at the time of, the births of children in BC2 has resulted in behaviour change then we would expect to see an increase in rates of breastfeeding initiation and of continuation to six weeks and six months.

**Relevant breastfeeding policy targets for BC1 and BC2**

| | BC1 | BC2 |
|---|---|---|
| Percentage breastfeeding at all at six weeks | 50 | |
| Percentage breastfeeding exclusively at six weeks | | 33 |
| Percentage breastfeeding exclusively to six months | | No target |

Breastfeeding promotion initiatives gained momentum between 1995 and 2005, but since then (and hence the context for BC2), breastfeeding promotion has largely built on existing initiatives. It is expected that the breastfeeding support networks that have evolved may mean the mothers of BC2 will feel they had access to and used more breastfeeding resources than mothers of BC1.

### *4.1.2 Timing of weaning and drinks*

**2004-2005 policy context: BC1**

In the years running up to the birth of BC1, the guidelines on weaning recommended that parents introduce solids at four to six months (Scottish Intercollegiate Guidelines Network (SIGN), 2003; Scottish Executive, 2005). Since 1996, sugar has been discouraged for infants (Scottish Office Dept. of Health, 1996), and in 2002 it was recommended that parents should avoid sugary juice in babies' bottles (Scottish Executive – Dept. of Health and NHS Scotland, 2002). While in 2003, the only drink recommended for children aged under 2 years was full-fat milk (SIGN, 2003).

**2010-2011 policy context: BC2**

Recommendations for the introduction of solid foods changed in the years preceding the birth of children in BC2. From 2006 to 2010, revised guidelines recommended that the introduction of solids should be avoided until six months, for both breastfed and formula fed children (NHS Health Scotland, 2006; SIGN and NHS Quality Improvement Scotland, 2010). More recent advice for mothers allows for a little more flexibility, with weaning recommended at 'around six months', but still with a clear recommendation that babies need nothing more than milk until six months of age, and advising mothers wishing to wean earlier to avoid certain foods (NHS Health Scotland, 2011). However, as children in BC2 were born between

March 2010 and February 2011 and this version of weaning advice was first disseminated in July 2011, most of the cohort would have already been six months of age or older by the point of its release.

With regards to drinks other than breast or formula milk, advice from 2006 suggested that children aged under 2 years should not be offered sweetened drinks and that fresh unsweetened fruit juice should be offered only at meal times (Scottish Executive, 2006). More recent guidance, from 2011, recommends that, in order to protect teeth, fruit juice should be offered only at meal times and should also be diluted with water (NHS Health Scotland, 2011). Milk and plain water were recommended as suitable drinks throughout the day and between meals, although cows' milk, as a main drink, is not suitable for babies under one year old.

**Change across the time between the two cohorts**

The box below shows changes in weaning guidance between BC1 and BC2. If these changes in guidance have changed behaviours, then we may expect to see, in BC2, a reduction in weaning prior to six months and a fall in consumption of natural, undiluted fruit juice, compared with BC1.

**Changes in weaning guidance between BC1 and BC2**

| | BC1 | BC2 |
|---|---|---|
| Age for weaning | 4 to 6 months | 6+ months |
| Giving child natural fruit juice | None | Restricted to mealtimes and should be diluted |

### *4.1.3 Receipt of Healthy Start Vouchers*

The Healthy Start scheme was launched in November 2006, replacing the longstanding Welfare Food Scheme. Healthy Start is a UK-wide Government scheme to improve the health of low-income, pregnant women and families. The scheme targets women and children aged under 4 in families who receive certain benefits and tax credits and all mothers under 18 years of age. At introduction, Healthy Start vouchers could be exchanged in participating shops for fresh milk, fresh fruit and vegetables, vitamins and infant formula milk (but only formula labelled 'suitable from birth'). In 2008, the government expanded the range of foods which could be purchased with vouchers to include plain frozen fruit and vegetables (Scottish Government, 2008).

If the Healthy Start scheme has improved nutrition then we would expect children in families who are entitled to the scheme to have an improved diet in terms of more milk, fruits and vegetables. However, this outcome can not be assessed by means of BC2 sweep 1 data, not least because of the very young age of the children and their limited diet, consisting of significant quantities of milk, over the reference period. As the children age, and with future data collection, it may be possible to consider whether receipt of Healthy Start vouchers has had such an influence.

## 4.2 Aims and methods

This chapter provides a detailed description of the infant feeding experiences of children born in 2010/11 (BC2) and, where possible, compares this to experiences of children born in 2004/05 (BC1).

For BC2, these experiences are described in relation to:

- breastfeeding initiation
- breastfeeding *at all* for six or more weeks
- exclusive breastfeeding for six or more weeks
- exclusive breastfeeding for at least six months and
- age at introduction of solids

Some examination of take up and use of Healthy Start vouchers is also included. However, this analysis does not permit an assessment of impact of these vouchers on nutrition. Unless otherwise stated, the data refer to BC2.

For BC1, there was no assessment of exclusive breastfeeding, so the two cohorts will be compared on their rates of: breastfeeding initiation, breastfeeding at all for six or more weeks, breastfeeding at all for six or more months, and age at introduction of solids.

There are a number of methodological issues that should be borne in mind when reflecting on the results reported here. The most crucial is the need for the respondent to have recalled details of events that occurred three to 11 months in the past. This is because the data collection interview with the child's main carer took place when the child was approximately 10 months old. While the fact of breastfeeding at all, or not, is likely to be well recalled, the features of infant feeding that are of particular interest (age at stopping breastfeeding, age at introducing solids) are likely to be considerably more prone to recall error.

There are other methodological issues which have been summarised in Appendix B. One of these is related to differences in how age at starting solid food was recorded for BC1 (months) and BC2 (weeks). This raised two methodological concerns: whether mothers recall the timing of events in mid-first-year of their baby's life as precisely as in weeks as they do in months; and if they remember in months, how well they manage the conversion into weeks. BC2 'weeks' had to be converted into 'months' to assess results against recommendations, and also to compare ages at introduction of solids between cohorts. As explained in the appendix (section 2), and shown in Table 1.1, two different methods of converting weeks to months were applied to the BC2 data to allow these comparisons.

**Table 4.1 Age group at starting solids – two versions of converting 'weeks' to 'months' for BC2 data**

| Coding version | | Before 4 months | 4 months | 5 months | 6 months | 7 months or older |
|---|---|---|---|---|---|---|
| | Months (as in BC1) | <= 3 | 4 | 5 | 6 | >= 7 |
| 'At least' | BC2 – weeks | <= 16 | 17 to 20 | 21 to 25 | 26 to 29 | >= 30 |
| 'Mid' | BC2 – weeks | <=14 | 15 to 18 | 19 to 23 | 24 to 27 | >= 28 |

## 4.3 Key findings

- 36% of children were exclusively breastfed for six or more weeks and 11% until six months or more.
- Breastfeeding outcomes are strongly associated with multiple socio-demographic factors.
- The proportion of children who were breastfed at all (but not necessarily exclusively) for six weeks or more was unchanged between BC1 and BC2 (42%). However, after controlling for socio-demographic factors, the rate was actually found to be lower in BC2.
- 42% of parents delayed introduction of solids until 21 weeks (five months) and 14% delayed until 26 weeks (six months).
- Introduction of solids at six months was more likely amongst parents who had breastfed for at least six weeks, and even more amongst those who continued breastfeeding to six months.
- 75% of mothers recalled having received breastfeeding advice 'at the time of birth' from any source. It is possible mothers also received such advice outside of the period they defined as 'at the time of birth'.
- Initiation of breastfeeding was higher amongst those mothers who recalled receiving breastfeeding advice, from any source, 'at the time of birth', but particularly amongst those who recalled receiving advice from a midwife.
- Among those who had initiated breastfeeding, recall of breastfeeding advice from a health visitor or other health professional was associated with continuation of breastfeeding to six weeks or more.

## 4.4 Breastfeeding

### *4.4.1 Description of infant feeding of birth cohort 2*

**Breastfeeding outcomes**

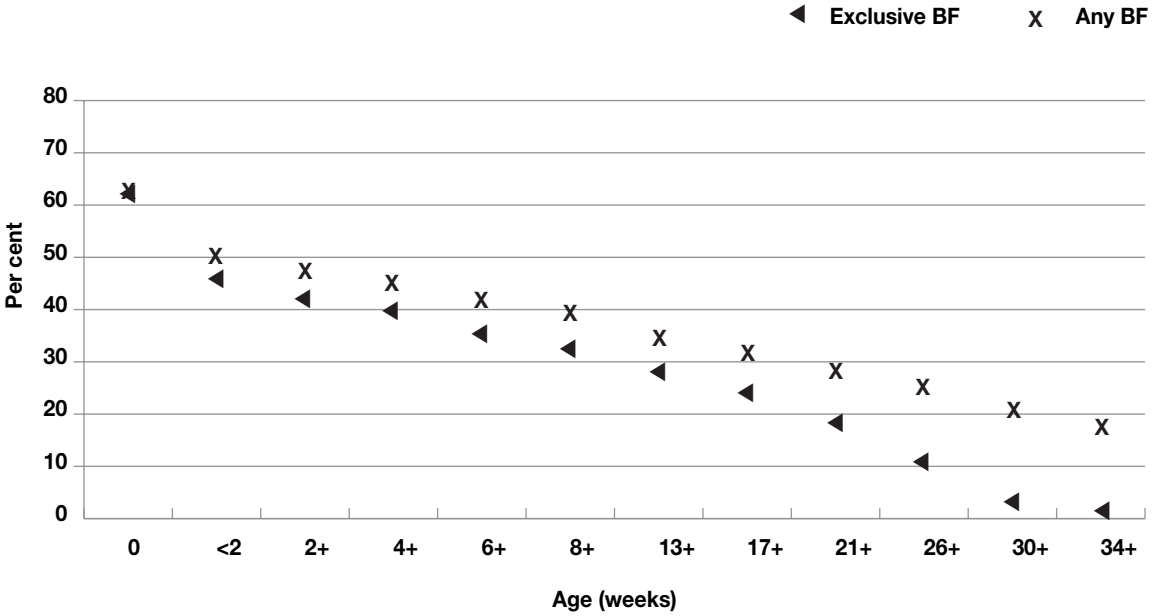
Table 4.2 shows the breastfeeding outcomes for birth cohort 2. The percentage of mothers initiating breastfeeding is 63%, but only about two-thirds of those initiating are still breastfeeding at six weeks (42% of all mothers), and even fewer are breastfeeding exclusively at that point (36%). However, this rate does exceed the target figure of 32.7%. Figure 4.1 shows, by milestones in cohort children's ages, the percentages of mothers continuing with breastfeeding at all (indicated by the symbol 'x'), and who were still breastfeeding exclusively (indicated by the symbol '◀').

**Table 4.2 Breastfeeding outcomes for BC2**

| | % | *Base: all families* |
|---|---|---|
| Child was breastfed at all | 63 | *6108* |
| Child was breastfed for >= 6 weeks | 42 | *6026* |
| Child was breastfed ***exclusively*** for >= 6 weeks | 36 | *5994* |
| Child was breastfed for >= 6 months | 25 | *6026* |
| Child was breastfed ***exclusively*** for >= 6 months | 11 | *5994* |

This graph shows that the early decrease in breastfeeding happens mainly in the first two weeks postnatally. It also shows that the exclusive breastfeeding rate begins to fall more sharply after 17 weeks of age (four months). By six months of age only 25% of babies are breastfed at all, and fewer than half of these are exclusively breastfed (11%).

**Figure 4.1 Percentage of BC2 still breastfeeding (BF) – 'any' or 'exclusively' – at selected milestones in terms of child's age (in weeks since birth)**




*Base – all families where mother was in household: exclusive BF = 5882, any BF = 5983*

## Reasons given for choosing not to breastfeed, or for stopping

Table 4.3 lists reasons given by mothers for choosing not to breastfeed. Personal preference or past bad experience are the most commonly cited reasons, but the largest group of all is 'other' which represents complex mixture of additional personal and specific reasons (33%).

**Table 4.3 Reasons for not breastfeeding**

| Reason | % of those who gave one or more reasons |
|---|---|
| I didn't want to | 29 |
| Previous bad experience | 12 |
| Embarrassed/not comfortable | 7 |
| Thought bottle feed better | 6 |
| Baby didn't want to/couldn't | 6 |
| I was ill | 5 |
| Not enough milk | 4 |
| Inconvenience/fatigue | 3 |
| Problem with technique | 3 |
| Sore nipples etc | 1 |
| Lack of information/support | 1 |
| Wanted to drink/smoke/had poor diet | 1 |
| Health professional advised not to | 1 |
| Partner/father did not want me to | <0 |
| Other | 33 |
| *Base: all who did not breastfeed* | *2351* |

Table 4.4 below gives reasons cited for stopping breastfeeding for those in BC2 who had initiated breastfeeding but had stopped prior to the interview (83% of those who initiated breastfeeding). Reasons are given at an overall level and subdivided according to whether at least six weeks breastfeeding was achieved (rightmost two columns).

The most common reason given overall was 'other', followed by 'not enough milk' (31% each). The table is ordered so the reasons more often given if stopping after six weeks are in the first set, with the rest given in the second set.

**Table 4.4 Reasons for stopping breastfeeding overall and by whether or not six weeks of breastfeeding was completed, with reasons grouped into three sets**

| Reason given | % of all who gave one or more reasons | Breastfed for 6 or more weeks | |
|---|---|---|---|
| | | No % | Yes % |
| **More often given if stopped after 6 weeks** | | | |
| Other reason | 31 | 13 | 18 |
| Not enough milk | 31 | 13 | 18 |
| Baby not interested | 12 | 3 | 9 |
| Returned to work | 9 | >0 | 8 |
| It was long enough | 6 | 1 | 5 |
| Inconvenience/fatigue | 5 | 2 | 3 |
| **Given more or less equally often whether or not stopped before 6 weeks** | | | |
| Problem with technique | 8 | 6 | 2 |
| Sore nipples | 6 | 4 | 2 |
| Painful | 8 | 4 | 5 |
| I was ill/on medication | 6 | 4 | 3 |
| Health professional advised not to | 1 | 1 | 1 |
| Embarrassment | <1 | <1 | <1 |
| Planned to stop then | <1 | <1 | <1 |
| Wanted to drink alcohol | <1 | 0 | <1 |
| Partner/father wanted me to stop | <1 | 0 | <1 |
| *Base: all who had stopped breastfeeding* | *3147* | *1241* | *1906* |

### Information and advice

Table 4.5 and Table 4.6 summarise the sources mothers recalled receiving breastfeeding advice from, for all mothers, and only those who breastfed, respectively. The question asked was: “Did you receive any help or advice about breastfeeding at the time of (childname’s) birth?”.

We have assumed that the 'time of childname's birth' has been interpreted broadly by parents. Information about breastfeeding and decision-making is needed both before birth – to inform feeding intentions and, whatever the decision, to make practical preparations – and following the birth. In addition, given the way pregnancy and birth services are organised, relatively few new mothers will see a health visitor until about 10 days after birth. Yet a 'health visitor advice' option was included and the percentage of women recalling advice from a health visitor was fairly high for 'at time of birth' (25%). Since there are no other questions about receipt of advice, we assume that the period in question covers both antenatal advice immediately prior to the birth and advice given in the early weeks, once breastfeeding is attempted.

**Table 4.5 Advice received about breastfeeding – all mothers**

| | % recalling advice from this source | | |
|---|---|---|---|
| | | Separately by whether breastfed at all | |
| Source of BF advice 'at time of birth' | All | % of Yes | % of No |
| Any | 75 | 85 | 60 |
| Midwife | 65 | 71 | 53 |
| Health visitor | 25 | 32 | 14 |
| Other health professional | 14 | 18 | 8 |
| *Getting Off to a good start* leaflet | 7 | 8 | 5 |
| *Bases: All cases where mother was in household* | *5987* | *3759* | *2217* |

Among all women, 75% recalled receiving advice about breastfeeding from any source 'at the time of birth' and 65% recalled having received advice from a midwife.

In general, midwives would have earlier, individual opportunities (that is, earlier than the time of birth) to raise the issue of breastfeeding with a pregnant woman, but it is unclear whether respondents considered such provision of advice as falling under the remit of the 'at the time of birth' question asked. Often the main way breastfeeding information is given is during antenatal classes (as a group) and it is uncertain whether women know the class leader is a midwife (if she is), or whether they see information gleaned in antenatal classes as 'receiving help or advice from a midwife', in the sense that the question asks.

However, there was a positive association for recall of advice from a midwife and attending antenatal classes, with 77%, 68% and 58% recalling such a source of advice if attending all, some or no antenatal classes. For those having a second or later baby, a midwife might not proffer advice if it was documented the mother had breastfed successfully before. Certainly, for all mothers, recall of advice was greater amongst those having first babies, particularly for 'any' advice (83% compared with 68%) and advice from a midwife (71% compared with 59%), but also for advice from a health visitor (28% compared with 24%) or other health professional (19% compared with 10%). For those who answered specifically for 'at the time

of birth', it might have been documented already in a woman's notes that she has rejected the idea of breastfeeding at a prior discussion, which could account for some omissions to raise the issue of breastfeeding at the time of birth. Alternatively, it might seem tactless if the birth has been exhausting or difficult.

Significantly more women who initiated breastfeeding than those who did not, recall receiving any breastfeeding advice (85% compared with 60%). Differences are also evident in relation to advice from a midwife or health visitor, or other health professional. Very few? mothers recall receiving advice via the *Getting Off to a good start* leaflet (7%), and only marginally more of those who started breastfeeding, compared with those who did not, recall the leaflet as a source of advice about breastfeeding (8%).

As discussed above, it does not seem that responses to this question were restricted to 'at time of birth', so temporally it is not possible to establish which source(s) cited were associated with the *decision* to breastfeed, and which supported successful continuation. It should be borne in mind that there is the possibility of some recall bias, in that receipt of advice has little chance of being recalled at later interview, unless it has some salience to a woman. That is, the advice might be readily forgotten if breastfeeding is unappealing and out of the question (women falling into the 'did not initiate breastfeeding' sub-group), or if the woman is not a first time mother and does not need to recall advice because she has succeeded before in breastfeeding. Certainly the association between recall of advice and initiating breastfeeding was significantly stronger among first time mothers than women having a later pregnancy (results not shown). So some of the apparent difference between those initiating or not could be recall bias. With regard to the association with antenatal classes, there is some possibility of confounding, in that first-time mothers, and perhaps particularly those who (already) have aspirations to breastfeed, are more likely to attend antenatal classes than mothers who already have children.

Table 4.6 presents, for all BC2 women who breastfed, the sources of advice they recalled having received about breastfeeding, overall (which repeats some data from Table 4.5) and subdivided according to whether they ultimately went on to breastfeed for at least six weeks.

Here, there was little relationship between having received 'any' advice and succeeding in breastfeeding to six weeks, with the difference being – if anything – in the reverse direction to that which may be expected. That is, six weeks breastfeeding was lower for those receiving 'any' advice than for those not recalling receipt of advice (83% compared with 88%). There was a similar trend for advice from midwives specifically. However, there was a difference in the expected direction for recall of advice received from a health visitor, and other health professional.

Again, the possibility of recall bias needs to be considered, and 'reverse causation', such that if one is determined to succeed in breastfeeding past six weeks, then one might be both more likely to attend more carefully to advice given (and make a point of recalling it so that it can be implemented) and be more likely to achieve this goal.

**Table 4.6 Advice received about breastfeeding – mothers who initiated breastfeeding**

| | Overall % of BC2 who ever breastfed | Separately by whether BF for 6 weeks or more | |
|---|---|---|---|
| | | Yes % | No % |
| Any | 85 | 83 | 88 |
| Midwife | 71 | 70 | 74 |
| Health visitor | 32 | 29 | 8 |
| Other health professional | 18 | 15 | 7 |
| *Getting Off to a good start* leaflet | 8 | 8 | 2 |
| NCT or other voluntary group/ organisation | 7 | 5 | 1 |
| *Bases* | *3769* | *2443* | *1278* |

### Association of 'exclusive breastfeeding' to six weeks with socio-demographic factors

Table 4.7 summarises findings from a multivariate logistic regression analysis of the association of 'breastfeeding exclusively for six weeks or more' with socio-demographic factors[11]. This shows that exclusive breastfeeding for past six weeks is strongly jointly associated to a number of factors: higher educational qualifications, couple parenthood, minority ethnic group, lower deprivation and maternal age of 20 years or older. After adjustment for these factors there was no association with income or the infant being first born.

11 See the appendix for a description of logistic regression analysis

**Table 4.7 Multivariate associations of breastfeeding *exclusively* for six weeks or more, with socio-demographic factors***

| Factor | Odds of exclusive BF for >=6 wks: |
|---|---|
| Resp. education | Highest amongst mothers with 'other' or 'higher education' qualifications, lowest if no qualifications |
| Single parent | Higher if living with partner (versus single parent) |
| Ethnic group | Higher amongst mothers from 'other' ethnic group (versus white) |
| SIMD quintile | Higher amongst mothers living in less deprived areas (the least deprived the highest) |
| Maternal age | Higher amongst mothers aged 20 years or older (versus under 20 years) |
| Income** | No association |
| First born | No association |

* *Multivariate logistic regression model:* p *values for 'income' and 'first born' non-significant, for 'maternal age group' = 0.004, and for all other factors <0.001; table arranged in order of strength of association with factor. ('Working now' and urban-rural were excluded after checking they were not statistically significant.)*

** *Equivalised household income (quintiles)*

The analysis reported in Table 4.7 was based on all mothers. However, 'not breastfeeding exclusively for 6 weeks or more' can arise either because there is no breastfeeding ever, or because breastfeeding is started but is not continued exclusively to six weeks, and so the associations estimated will reflect influences at one or both stages. It is therefore of interest to rerun this analysis, selecting only those who breastfed at all, so as to be able to explore associations with respect to proceeding to six weeks, at least, of exclusive breastfeeding, *given that breastfeeding has been initiated*. For this subset model (not shown), factors no longer associated with continuing exclusive breastfeeding to six weeks *given that breastfeeding has been initiated*, were age, ethnic group and deprivation. Factors which remained associated, were education and living with a partner. The child not being the mother's first born was also now associated (with *continuing* to six weeks). This suggests that deprivation, ethnic group and maternal age are primarily associated with the decision to start breastfeeding, in contrast to non-first born status which is associated with succeeding once a breastfeeding decision is made. In contrast, education and having a partner are associated both with the initiation decision and succeeding to six weeks.

## 4.5 Weaning (starting solid foods) and drinks

### When starting solid foods

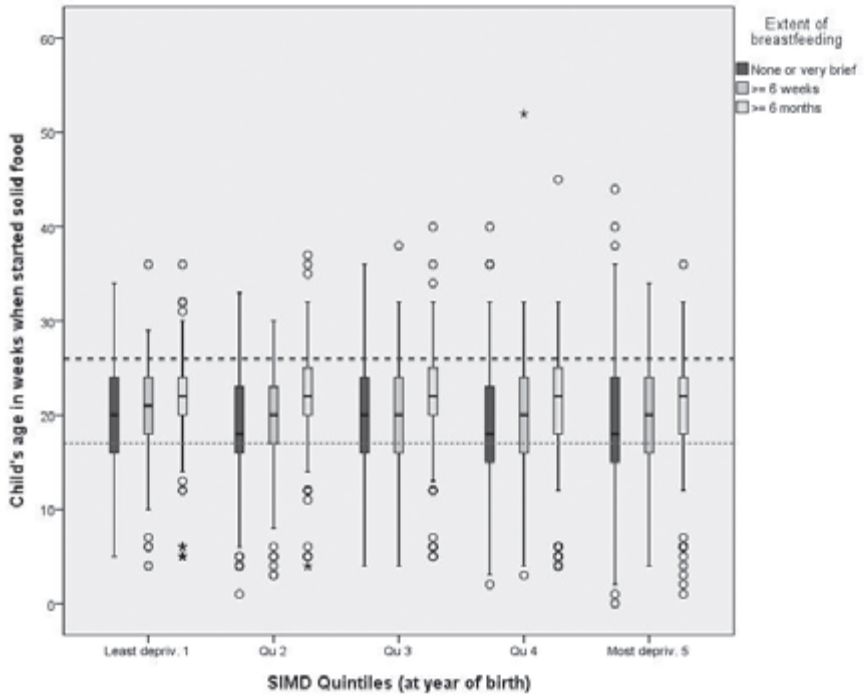
The median age for starting solids was 20 weeks. 25% of the cohort had started solid foods by one week short of four months of age (16 weeks), 50% by one week short of five months of age (20 weeks) and 75% by two weeks short of six months (24 weeks). In terms of policy guidance, only 14% had waited until six months of age before weaning, but 42% have waited until at least five months of age.

However, there is evidence of 'value preference' – that is, higher proportions of parents selecting 16 weeks, 20 weeks and 24 weeks and much smaller proportions selecting the ages one week either side of these, which is not what one would expect in random 'nature'. As it happens, these values (16, 20 and 24) are the (erroneous) 'age in weeks' one would calculate if converting age at starting solids from months to weeks by multiplying age in months by four, a common error, as discussed in the annex. If we act on this strong impression (that what many of the women who gave these specific responses were recalling was ages of four, five and six months respectively, but then converting inaccurately to weeks), we should for the six months threshold consider responses of 24 weeks (and, logically, 25 weeks too) as also denoting 'at least six months of age'. By that method, 31% of children did not start solids before six months of age.

The box-plots shown in Figure 4.2 demonstrate the wide range of weaning ages (in weeks) reported. Variations are shown by deprivation quintiles and by extent of breastfeeding (three sub-groups: none or very brief, >= six weeks, >= six months). The line and circles represent the full range of ages whilst the box represents the middle 50% of responses, from the lowest 25% to the highest 25%. The middle value (median) is shown by the dark cross bar. The dashed horizontal reference lines show thresholds of six months (bold) and four months (thin).

This graph shows the wide range of reported ages at starting solids, within each sub-group, with a number of babies in all deprivation quintiles starting at 10 weeks or younger, and also a number not starting until seven months (30 weeks) or older. In addition, the position of the boxes shows a relationship between 'extent of breastfeeding' (different coloured 'boxes') and age at starting solids. Within each SIMD quintile, this is seen as a generally lowest median age (thick line across 'box') for 'brief/none', and highest for '>= 6 months'.

**Figure 4.2 Box-plots for BC2 of child's age at starting solids (in weeks since birth), by SIMD deprivation quintile and extent of breastfeeding (not weighted)**




*Base – all cases where mother was in household: Most deprived = 1153, Qu4 = 1171, Qu3 = 1267, Qu2 = 1233, Least deprived = 1283*

Multivariate logistic regression analysis was undertaken to test for independent relationships between the various factors already considered, and starting solids before five months[12]. After controlling for socio-demographic variables – parental level of education, family type, maternal age, area deprivation and area urban-rural classification – the factors firstborn, household income and ethnicity were not significantly associated with delaying solids until at least five months of age. All the other variables had statistically significant associations despite mutual adjustment for each other ($p$<=0.001), with higher odds of waiting until five months or older in the case of:

- degree or 'other' education qualifications
- living with a partner
- older maternal age
- less deprived area
- large urban or remote rural area

If the three-group 'extent of breastfeeding variable' (as used in Figure 4.2) was added to the model, this showed by far the strongest association with delaying until five months, with the odds of doing so being increased by 25% (relative to no breastfeeding or very brief) if the baby had been breastfed to at least six weeks, and increased by 150% if breastfed for at least six months. Nevertheless, the socio-demographic variables listed above retained their significant associations, except for living with a partner (probably because its effect had been subsumed into 'extent of breastfeeding', which had been added to the model).

12 The binary variable created indicating starting solids before five months used the 'mid' version – see appendix for details

### Other drinks apart from milk and formula

At 10 months of age, the vast majority of children drink water or baby/sugar-free fruit juice during the day, as shown in Table 4.8. Once in bed, just under half drink nothing other than water (41%), and a similar proportion do not drink at all in bed (42%), leaving 17% who do have non-water drinks in bed. This proportion is associated with deprivation, ranging from 9% in the least deprived to 23% in the most deprived group.

**Table 4.8 What do children have for drinks?**

| Drink | % |
|---|---|
| Water | 83 |
| Baby juice | 31 |
| Fruit juice etc (diet/sugar free) | 24 |
| Fruit juice etc (NOT diet/sugar free) | 7 |
| Tea | 5 |
| Only milk or formula | 3 |
| Herbal drinks | 1 |
| Something else | 1 |
| Fizzy/soft drinks | <1 |
| Coffee | <1 |
| *Base: all families* | *6217* |

It is not possible to assess compliance with the diluted juice recommendation since the necessary questions were not asked at this stage (eg. whether or not drinks taken only at mealtimes, whether natural juice is diluted).

### Healthy Start vouchers

Overall 24% of main carers received Healthy Start vouchers. Of those who received vouchers (*n*=1327), 62% used them to buy fresh fruit and vegetables, 54% bought formula milk and 48% bought ordinary milk. Any other purchases using HSV are not allowed under the scheme, and would constitute fraud. Nevertheless, 7% of respondents reported using the vouchers for ordinary food shopping, 6% for non-food items and 4% other foods. This suggests some misunderstanding of the question, and/or erroneous responses. For example, some mothers may have confused HSV with the Health in Pregnancy grant.

As expected – given that only families on low incomes and in receipt of certain benefits or tax credits are eligible to receive the vouchers – there is a very strong association of receipt of Healthy Start vouchers with area deprivation, ranging from 44% in the most deprived quintile, to 9% in the least deprived quintile.

### *4.5.1 Comparing breastfeeding and weaning outcomes between cohorts*

**Breastfeeding outcomes and advice**

Table 4.9 shows the breastfeeding outcomes for birth cohorts 1 and 2. Ignoring any socio-demographic changes, the overall percentage of mothers who breastfed has increased marginally from 60% to 63%. The percentages breastfeeding for six weeks or more, and for six months or more, have remained virtually unchanged.

**Table 4.9 Breastfeeding outcomes by cohort**

| | BC1 % | BC2 % |
|---|---|---|
| Child was breastfed | 60 | 63 |
| Child was breastfed for >= 6 weeks | 42 | 42 |
| Child was breastfed for >= 6 months | 24 | 25 |
| *Base: all families where mother was in household* | *5135* | *5983* |

**The base for each measure is slightly different. The bases shown represent the lowest of the three*

Overall, there was little change between BC1 and BC2 in recall of 'any' advice about breastfeeding received at the time of birth (74% compared with 75%), or advice from a health visitor (24% compared with 25%). However, there was a significant reduction in recalling advice from a midwife (69% compared with 65%) and an increase in recalling advice from an 'other health professional' (9% compared with 14%).

**Assessing change between cohorts in the context of associations of breastfeeding outcomes with socio-demographic variables**

Logistic regression modelling was undertaken to explore the association of breastfeeding for six weeks or more, with the available socio-demographic variables, and taking account of cohort.

Table 4.10 lists the independent associations found (that is, after adjusting for all other variables included in the model). The first thing to note is that there is a statistically significant, albeit modest, difference between cohorts. Breastfeeding for six weeks or more was greater in BC1, after multivariate adjustment for the other factors in the model (odds of breastfeeding for at least six weeks are 13% higher in BC1 relative to BC2).

With respect to socio-demographic factors, the model shows that the circumstances most strongly associated with breastfeeding for six weeks or more, versus shorter duration or no breastfeeding at all, are:

- extent of education
- living with a partner
- non-white ethnicity
- not living in deprived areas

- older age of mother at birth
- living in more remote/rural areas of Scotland

Whether or not the child was first born was not associated.

**Table 4.10 Associations of breastfeeding (at all) for six weeks or more, with socio-demographic factors and cohort***

| Factor | Odds of BF at all for >=6 wks: |
|---|---|
| Education | Higher amongst mothers with degree or 'other' education qualifications |
| Single parent | Higher amongst mothers living with a partner |
| Ethnic group | Higher amongst mothers from non-white ethnic group |
| SIMD quintile | Highest amongst mothers living in less deprived areas, greatest in least deprived |
| Maternal age | Higher amongst older mothers, greatest in oldest age group |
| Urban-rural | Higher amongst mothers living in remote rural areas or remote small towns |
| Cohort | Higher amongst mothers in BC1 |
| Income** | Higher amongst mothers in highest two income quintiles |
| First born child | Not significant |

* *Multivariate logistic regression model,* p *values for 'first born' non-significant, for cohort and for income = 0.02, and for all other factors <0.001; table arranged in order of strength of association with factor ['Working now' omitted for the sake of stability of the model.]*

** *Equivalised household income (quintiles)*

Whereas Table 4.9 showed that, considered on its own, the percentage breastfeeding for six weeks was unchanged between cohorts 1 and 2 (42%), this multivariate analysis shows that, after adjustment for all the socio-demographic factors in the model (and how their distributions might have changed over the six years between cohorts), there was a small statistically significant effect for cohort, with cohort 2 having reduced odds of breastfeeding for at least six weeks, counter to policy aims.

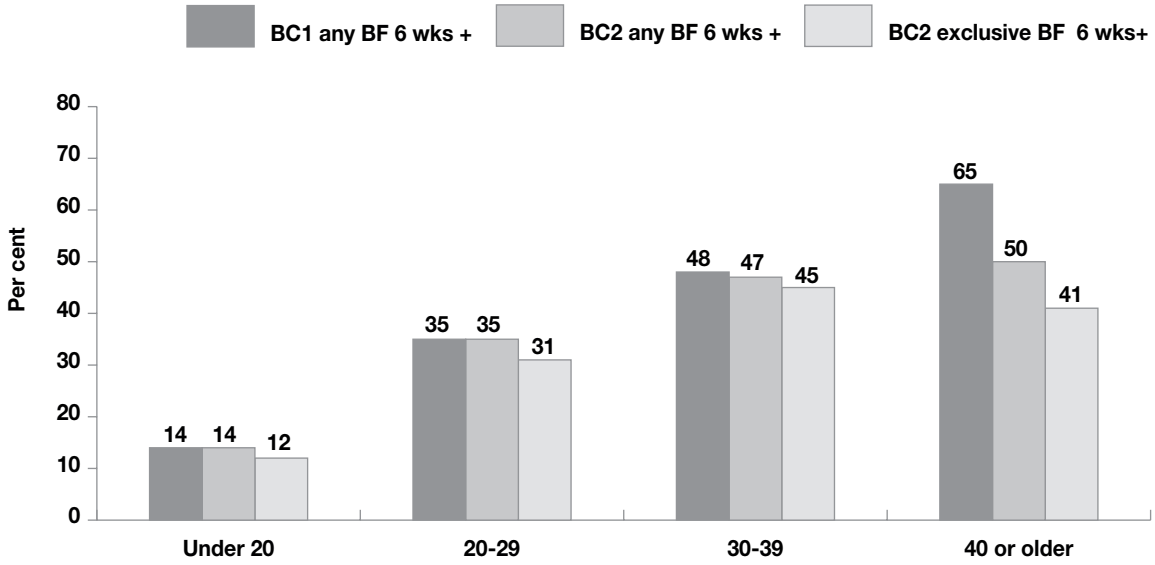
Figure 4.3, Figure 4.4 and Figure 4.5 each show the proportion of mothers who breastfed at all for six weeks or more in both cohorts 1 and 2 (first two bars), and who breastfeed exclusively for six or more weeks in cohort 2 (third bars). They report percentages for these outcomes across the key socio-economic variables: maternal age, education, and area deprivation. Examining first, the change across time between BC1 and BC2 for the 'any BF' outcome (first two bars in each set), it can be seen that:

- there has been very little change across time with respect to maternal age, except that the achievement of the target has fallen in mothers aged 40 or older

- there is minimal change across time with respect to deprivation quintile
- with respect to education, there has been an increase from BC1 to BC2 among those with no educational qualifications, albeit also deteriorations among those with standard grade or equivalent, higher or equivalent, or vocational level education short of degree

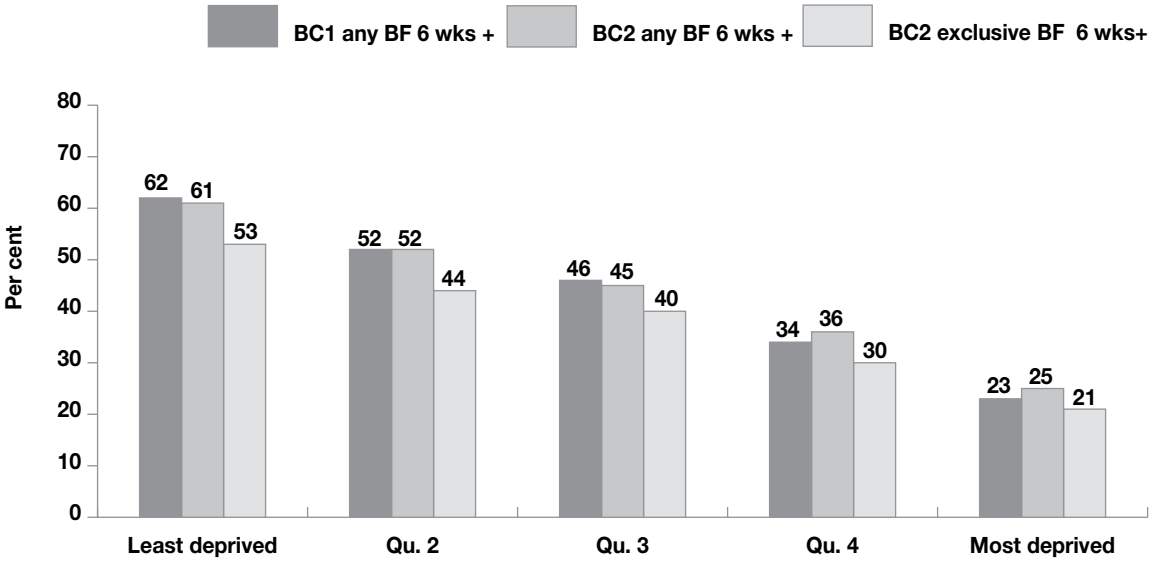
Exclusive BF for six weeks or more (third bar) is a more stringent condition, so percentages achieving this are generally lower, particularly in the groups who tend to have been most successful in achieving the previous less stringent threshold (the oldest age group, the least deprived and those with highest education).

**Figure 4.3 Percentage breastfeeding outcomes by maternal age at birth**



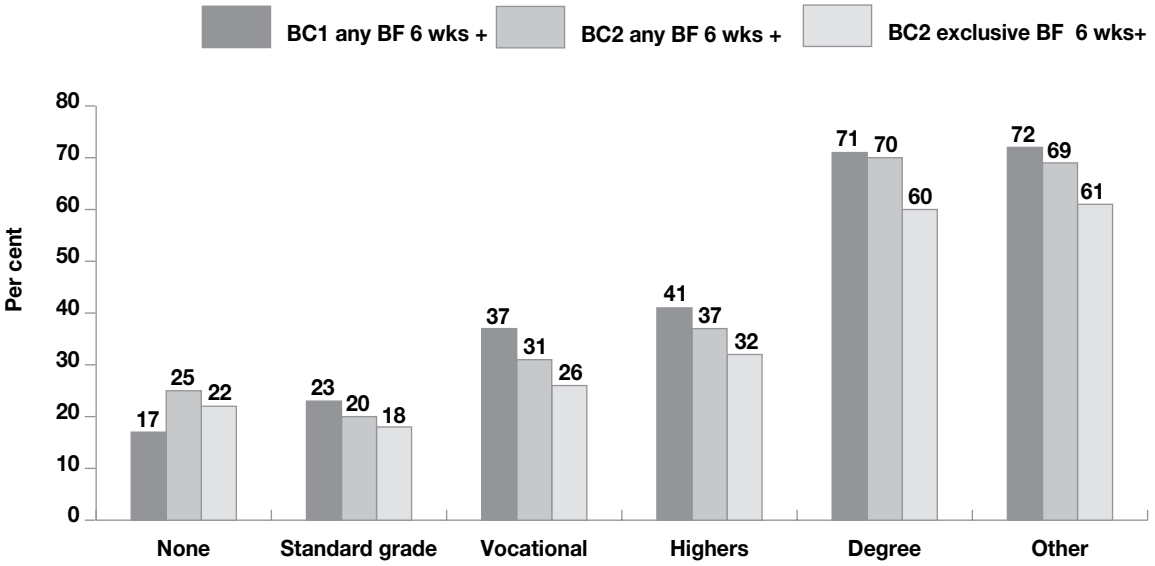

*Base – all cases where mother was in household: BC1 – under 20 = 353, 20-29 = 2098, 30-39 = 2569, 40 or older = 183; BC2 – under 20 = 343, 20-29 = 2550, 30-39 = 2948, 40 or older = 267*

**Figure 4.4 Percentage breastfeeding outcomes by SIMD deprivation quintile**




*Base – all cases where mother was in household: BC1 – Least deprived = 1170, Qu2 = 1057, Qu3 = 1043, Qu4 = 931, Most deprived = 1015; BC2 – Least deprived = 1283, Qu2 = 1233, Qu3 = 1267, Qu4 = 1171, Most deprived = 1153*

**Figure 4.5 Percentage breastfeeding outcomes by education**




*Base – all cases where mother was respondent: BC1 – None = 471, Standard grade = 938, Vocational = 1915, Highers = 382, Degree = 1456; BC2 – None = 388, Standard grade = 1002, Vocational = 1935, Highers = 489, Degree = 2135*

The modelling analysis reported in Table 4.10 was based on both (entire) cohorts, insofar as there is not missing data for one or other variable. It is of interest to rerun the analysis selecting only those who breastfed at all, so as to be able to explore the associations for continuing to six weeks at least, given that breastfeeding has been initiated. For this subset analysis, the model (not shown) reveals that associations remain with all factors except household income. One notable change is that cohort becomes more pertinent ($p<0.001$), with odds of continuing to six weeks at least, among those where breastfeeding has been initiated, being 27% higher in BC1 relative to BC2. Another change in the model is that the factor 'non-first-born child', which was non-significant in the full analysis, is strongly

associated with achieving six weeks, while ethnic group and maternal age have become less strongly associated. The strongest associations are with education, living with a partner, non-first born, cohort, not living in a deprived area, and remote rural living. This suggests that social factors are differentially associated with the decision to initiate breastfeeding, and once this decision is made, with succeeding to six weeks at least.

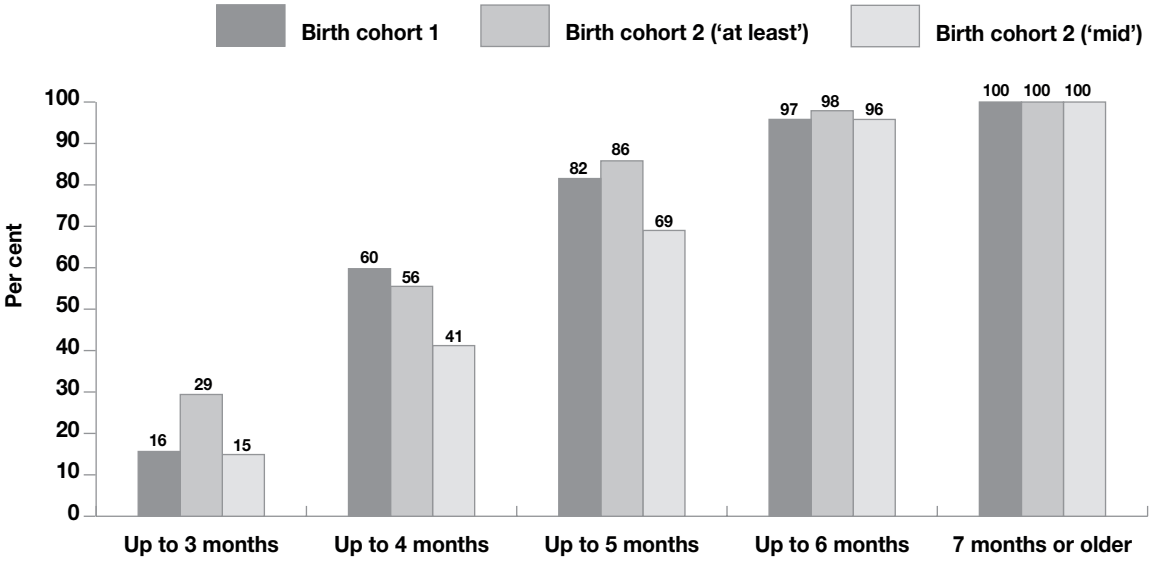
### *4.5.2 Solid foods*

#### When started solid foods

As explained above, the switch in measurement units (from months to weeks) for this item makes it difficult to undertake a reliable comparison between BC1 and BC2. Figure 4.6 shows a comparison for BC1 (recorded in months) against two versions of BC2 data (where age was recorded in days, weeks or months as preferred, and was subsequently recoded into age in 'months').

For both of these two versions of age at starting solids (BC2), the distribution was statistically significantly different from BC1. But the 'at least' version (middle bars) shows deterioration against BC1 (left-hand bars), with more babies starting solids as early as three months of age. On the other hand the 'mid' version (right-hand bars) shows an improvement over BC1, with fewer babies starting solids as early as four months (41% in BC2 compared with 60% in BC1) and as early as five months (69% in BC2 compared with 82% in BC1). This means more have waited until six months, in line with the refreshed recommendations.

**Figure 4.6 Cumulative percentage of children starting solids foods, by age at introduction – BC1 and BC2 (using two formats of 'age')**




*Please see Methods section for explanation of 'age'*

*Bases – all families: BC1 = 5133, BC2 = 6109*

## 4.6 Summary

With regard to breastfeeding rates, the target of 32.7% mothers breastfeeding exclusively to six weeks was exceeded (36%). However, the prior target of 50% breastfeeding (not necessarily exclusively) to six weeks has not been met (42%), and was unchanged from BC1, six years previously. In terms of exclusive breastfeeding, only 11% of BC2 continued this to six months of age, but this rate is substantially higher than the rate reported by the 2005 infant feeding survey (<1%). The percentages of mothers in BC1 and BC2 continuing breastfeeding to six months or more were also very similar – 24% and 25%.

Breastfeeding rates (initiation and continuation to six weeks/six months) are strongly associated with socio-demographic factors. Multivariate analysis showed that breastfeeding is more likely to occur, and continue to six weeks, if: either parent has a degree or 'other' educational qualification; the mother has a resident partner, is of a minority ethnicity, or is older; if the family live in a rural area, or a less deprived area; and, to a lesser extent, if the household has a high income. These are not easy circumstances to remedy.

Despite the simple comparison showing no change in rates of breastfeeding at all to at least six weeks between BC1 and BC2 (42%), the multivariate analyses suggested this was misleading. After adjusting for these relevant socio-economic factors, there was a statistically significant decrease between BC1 and BC2 in the rates breastfeeding to six weeks at least.

It is striking that one of the strongest factors for achievement of exclusive breastfeeding up to six weeks is 'other ethnic' group (ie. not white). Many of these mothers may have considerable difficulties of language and access to information, advice and support, but they succeed with breastfeeding. Perhaps the key is mind set and cultural experience and expectation as to how a mother should nourish her new infant. It is noticeable in the entire cohorts (mainly the majority white ethnic population) that there are big disparities in breastfeeding rates across the rural-urban classification, over and above the well-known effects of education, deprivation and young age. It might be fruitful to reflect why/how a pregnant woman with all the risk factors for *not* breastfeeding, but who lives in a remote/ rural location, succeeds with breastfeeding when a similar mother living in an urban environment does not, and what lessons can be learned.

Age at starting solids was measured in weeks for BC2. However, the guidance is measured in months making comparison difficult. The adjusted data suggests that only 14% of parents waited until six months (26 weeks), the threshold as per guidance. However, 42% had waited until at least five months (21 weeks). It was found that the age at starting solids was older if more extensive breastfeeding had happened, and even older if breastfeeding had continued to six months at least.

Given that age at introduction to solids was assessed in months for BC1, and the methodological concerns, it is difficult to be sure how to compare BC1 and BC2 with respect to starting solids, but it appears that fewer BC2 babies have been introduced to solids as early as four months of age (a reduction of between 4 and 18 percentage points depending on method applied to weeks-months calculation).

Efforts to improve infant feeding outcomes focus on information, advice and support, since this is what health services can deliver. The latest *Getting Off to a good start* booklet (a written resource providing breastfeeding information to new mothers), provided parents with information as well as contact details for a vast array of networks and resources, many of which are web-based, to which mothers can turn to for additional advice on breastfeeding (NHS Health Scotland, 2012). There is some evidence in the GUS data that this is helpful. Of those who recall receiving breastfeeding advice at the time of birth, 85% did try breastfeeding, versus 60% among the rest. In terms of continuing to six weeks, at least once initiated, there is evidence of the advantage of advice from a health visitor or other health professional.

The two most common reasons for stopping breastfeeding (31% each) were 'not enough milk' and 'other' (stated reasons that could not be categorised into any of the main themes). These might be fruitful areas for further research and development of initiatives.

It is important to bear in mind that the data on advice received regarding breastfeeding has to be recalled at interview, some 11 months to a year after the birth of the child, and the accuracy of recall is likely to be related to interest in breastfeeding. The same applies to reasons for not breastfeeding, or for stopping breastfeeding. There is potential for recall error, and recall bias. That said, temporal ordering is important, with information and advice most needed before delivery, to be prepared to breastfeed, and only 65% of mothers recalled having received advice from a midwife (and indeed, there has been a significant decline in advice from this source between birth cohorts 1 and 2). If midwives do not have the time to advise breastfeeding before or at the time of the birth, this would seem a missed opportunity.

## 4.7 References

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chapter 5

# PARENTING SUPPORT

**JUDITH MABELIS AND PAUL BRADSHAW, SCOTCEN SOCIAL RESEARCH**

## 5.1 Introduction

Parents manage better when they have sufficient and effective support. Social support can buffer the effect of stresses and difficulties which can arise from being a parent or other areas of life (Moran et al. 2004). Previous GUS reports have shown the importance of informal social networks for families with young children (Bradshaw et al. 2008; Bradshaw et al. 2009) and that grandparents are a key source of informal support for many parents, although the levels of closeness, contact and patterns of interaction between grandparents and grandchildren vary (Jamieson et al. 2011).

In terms of formal support, effectively engaging clients with support services and interventions is recognised as a key factor in successfully resolving problems and effecting positive change in families' lives (MacQueen et al. 2007).

Given the importance of support in parenting, and the importance of parenting to children's development, a range of policy initiatives have been introduced in Scotland with the aim of supporting families, increasing parenting capacity, and facilitating early intervention. These include the Early Years Framework, Equally Well and Achieving Our Potential (all launched in 2008) which together aim to improve children's life chances through early intervention; and Getting it Right for Every Child (2006), which aims to facilitate consistent working across services to support children. The Scottish Government's National Parenting Strategy, published in October 2012, aims to support parents to be the best that they can through a number of different measures including the provision of clear and concise information as well as coordinated support to improve parenting skills. Moreover, alongside universal services such as antenatal classes, targeted interventions have been introduced such as the Family Nurse Partnership (piloted in NHS Lothian and Tayside 2009-2012). Parenting programmes currently operating in Scotland include Triple P, Mellow Parenting and Webster Stratton/ Incredible Years. Campaign initiatives include Play Talk Read, aimed at parents of children aged 0-3 (launched in 2009).

Preventative services usually rely on parents actively seeking help or voluntarily accepting help offered to them (Katz et al. 2007; Hutton et al. 2007). However, previous GUS reports and other research suggests that parents in lower-income households, in social housing, or living in areas of high deprivation are less likely to have satisfactory networks and have lower levels of support, and are often the least likely to access services (Bradshaw et al. 2009; Ghate and Hazel, 2002; Mabelis and Marryat, 2011). Other groups of parents less likely to access services include: fathers, disabled parents, parents of teenagers, black and minority ethnic (BME) families, asylum-seeking parents, and homeless or peripatetic families, rural families (Katz et al. 2007), young parents and parents with literacy issues (Allen et al. 2012).

Parents can face a range of practical, material, social and cultural barriers to accessing services (Katz et al. 2007; MacQueen et al. 2007; Moran et al. 2004). Some parents associate professional family support with stigma and perceptions of parental failure (Mabelis and Marryat, 2011; Broadhurst, 2003; Katz et al. 2007), and can be concerned over issues of privacy, independence, and being seen as unable to cope (Ghate and Hazel 2002; Attree, 2005).

While the wealth of initiatives developed between BC1 and BC2 aim to increase both the numbers and range of parents accessing and benefiting from services, the factors outlined above offer a challenge to services aiming for prevention and early intervention. For some families, the stresses arising from the current recession may place additional strain on family circumstances, relationships, and wellbeing, all of which may undermine available social support networks and parents' capacity to offer support to others, as well as their capacity to engage with services.

This chapter explores the different sources and types of support that parents used in relation to information and advice on parenting. It covers both formal and informal support and, alongside use of support and services, also considers satisfaction with, and attitudes towards, parenting support. Consideration of the child's contact with his or her grandparents, and the support they offer to the family is also included.

## 5.2 Key findings

- Most parents were satisfied with the service provided by their health visitor during the first few months following the birth of their child. 83% of parents said their health visitor was either good or very good at providing helpful advice and 91% said the same in relation to listening to them.
- Just under half of parents (48%) had attended a parent-baby/toddler group in the last 12 months. Parental level of education and age had a key effect on whether or not the parent attended this type of group. For example, 22% of parents with no qualifications had attended such a group compared with 66% of parents with a degree.
- 70% of parents had not attended any parenting classes or programmes over the past 12 months. Just over half of parents (54%) indicated that they were unlikely to attend a parenting programme or class in the future. The most common reasons cited for not being likely to attend a programme or class in the future were not having enough time (25%) and feeling that they did not need to attend (22%).
- 58% of parents indicated that they had not used any of the government sponsored support services, such as Play@Home booklets and ChildSmile. Parents with no qualifications were less likely to have used these resources than parents educated to a degree level (70% had not used any compared with 54%). Minority ethnic parents were also less likely to have used these resources.
- Most parents said they preferred to receive information about parenting in person. 53% said they preferred to receive such information on a one-to-one basis from a professional such as a health visitor whilst 21% said they preferred to receive it in person from family or friends.

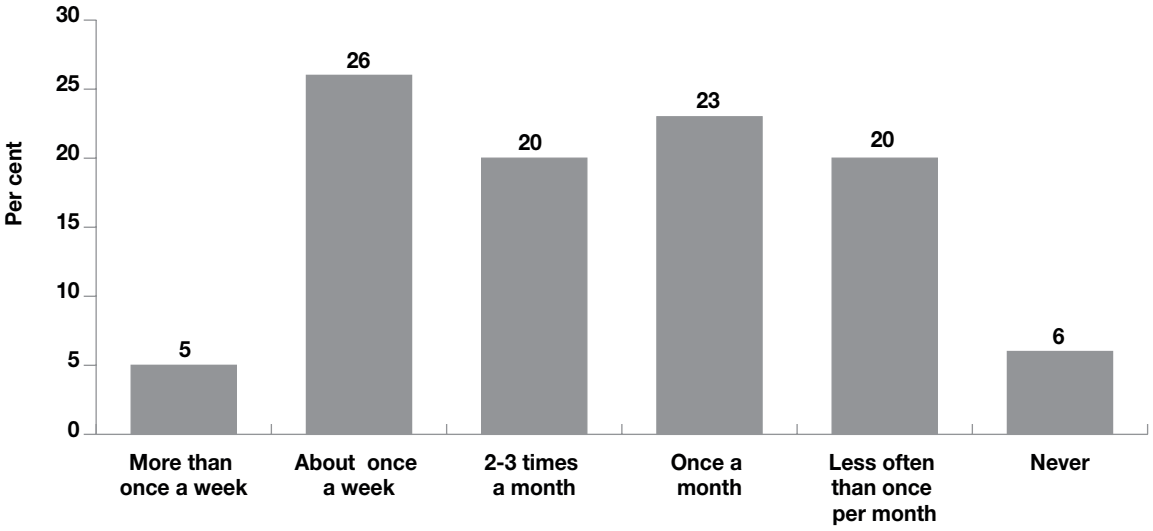
- 77% of parents stated that they were either very or quite satisfied with the information available to them about parenting and 72% said they were either very satisfied or quite satisfied with the services available to support them in their role as a parent. There were no differences in levels of satisfaction between parents of different socio-economic backgrounds.
- There were differences in attitudes towards formal support between different socio-economic groups. Younger parents, parents of lower educational level and income are more likely to find it harder to ask for formal help.
- Almost all children in BC2 were in regular contact with at least some of their grandparents including 67% who had regular contact with all of them and 33% with some. Children in BC2 were slightly less likely than those in BC1 to have contact with all of their grandparents – decreasing from 71% to 67%.
- Children whose parents had separated and those with younger mothers had contact with fewer of their grandparents than those whose parents were in a couple and those with older mothers.
- Most common forms of support from grandparents were buying toys or equipment for the child (93%), looking after the child during the day (84% get this support at least sometimes), and more generally providing advice or support (80%). Grandparents also frequently provided care for the children. 56% looked after the child at least once a week and 45% babysat at least once a month.
- Support was greater for parents in BC2 than parents in BC1. The most notable changes are in relation to helping out around the house – which increased from 44% to 69% – and helping out financially – which increased from 41% to 57%.
- Some families draw more heavily on support from grandparents than others, particularly lone parents, younger mothers and first-time mothers. These are some of the same characteristics of those families who are less likely to have contact with all of the child's grandparents meaning that, in many cases, a higher level of reliance is being placed on a more limited resource.

## 5.3 Contact with health visitor

Parents were asked about contact with their health visitor in the first three months following the birth of the child. As can be seen in Figure 5.1, parents were most likely to see their health visitor about once a week (26%), or once a month (23%). 6% of parents indicated that they never saw their health visitor.

Contact with health visitors varied according to level of maternal education. Health visitors visited mothers with no qualifications or lower levels of education more frequently than they visited mothers with degree level qualifications. 10% of mothers with no education received a visit more than once a week compared with 4% of mothers with a degree or above. No other significant differences were found between different groups of parents or geographical areas.

**Figure 5.1 How often mother saw health visitor in three months following birth of baby**




*Base – all cases where mother was respondent,* n=*6007*

### *5.3.1 Continuity of health visitor*

Those parents who saw a health visitor at least once a month were asked whether they spoke to the same or a different health visitor. As shown in Table 5.1, most parents (85%) indicated that they had contact with the same health visitor each time including 45% stating that it was *always* the same health visitor and 40% saying that it was *mostly* the same health visitor.

**Table 5.1 Whether parents saw same or different health visitor**

| | % |
|---|---|
| I **always** saw or spoke to the **same** health visitor each time | 45 |
| I **mostly** saw or spoke to the **same** health visitor each time | 40 |
| I **mostly** saw or spoke to a **different** health visitor each time | 12 |
| I **always** saw or spoke to a **different** health visitor each time | 3 |
| *Base: mothers who saw a health visitor at least once a month* | *4422* |

Again, education was a key influencing factor; mothers with no educational qualifications were more likely than mothers with higher levels of education to always see the same health visitor (60% compared with 38% of mothers with a degree or above).

There were also some differences by area deprivation. Parents living in the most deprived areas were more likely than those in the least deprived areas to say they saw the same health visitor (51% versus 38%).

### 5.3.2 Topics discussed with health visitor

Parents were asked about the types of things they discussed with their health visitor on these visits. As can be seen in Table 5.2, the most commonly discussed topic was the baby's feeding (57%), including issues such as reflux, weaning, and the baby's weight. Other topics that were widely discussed included the baby's illness/health or minor ailments (30%), the mother's own wellbeing (21%) and the baby's routine and general care (20%).

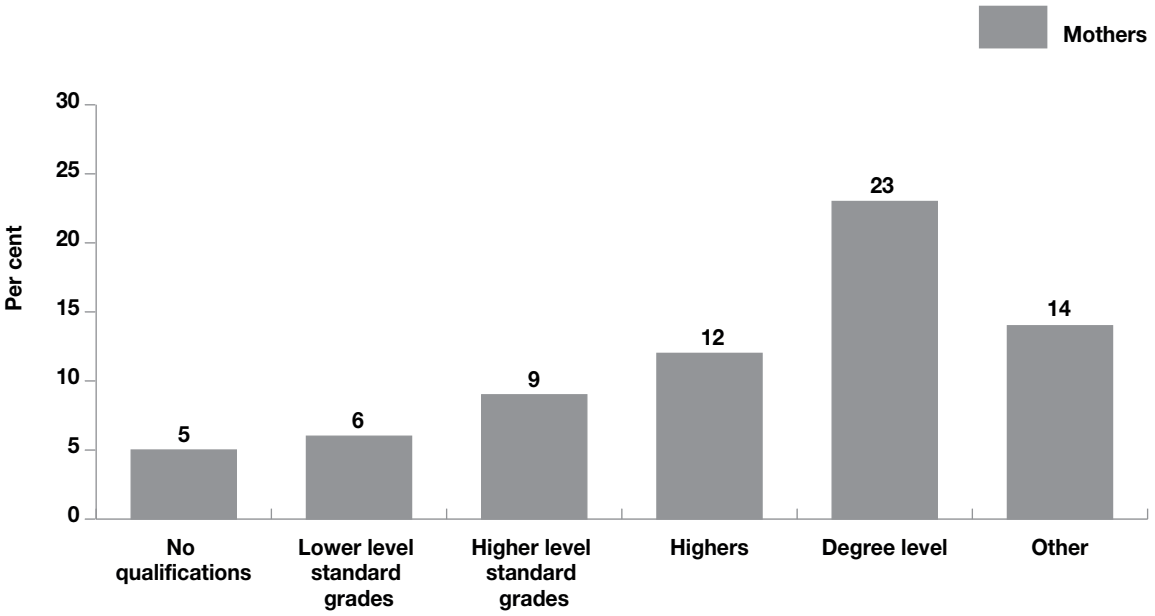
In response to this question, 3% of parents spontaneously indicated that they were either not satisfied with the information provided by the health visitor or did not ask the health visitor any questions.

**Table 5.2 Topics discussed with health visitor**

| | % |
|---|---|
| Feeding (including reflux), weaning, baby's weight | 57 |
| Baby's illness/health/minor ailment | 30 |
| Mother's wellbeing | 21 |
| Baby's routine and general care (including sleep patterns) | 20 |
| Breastfeeding | 14 |
| General chat | 7 |
| Child's development | 7 |
| Immunisations | 3 |
| Family relationships | 2 |
| Other | 9 |
| Nothing/didn't ask any questions/was not satisfied with response | 3 |
| *Base: all families who saw a health visitor* | *5627* |

Breastfeeding was specifically mentioned as a discussion topic by 14% of parents. The extent to which this had been discussed varied according to some key socio-economic factors – increasing with parental age, level of education and family income. As shown in chapter 4 of this report, all of these characteristics are associated with higher levels of breastfeeding. Figure 5.2 shows that there were particular differences between mothers of different levels of education. Just 5% of mothers with no qualifications had talked about breastfeeding with their health visitor compared with 23% of mothers with a degree or above.

**Figure 5.2 Parents who talked about breastfeeding with health visitor by level of education**




*Base – all families who saw a health visitor: No qualifications – 348, Lower level standard grades = 322, Higher level standard grades = 1141, Higher grades = 1604, Degree = 2069, Other = 128*

### *5.3.3 Perceptions of health visitor*

Parents were asked to rate how good their health visitor was at providing advice and listening. Table 5.3 shows that the majority of parents (83%) reported that their health visitor was either very good or fairly good at providing helpful advice. Feedback on how well they listened was also very positive with 91% of parents saying this was either very good or fairly good.

There were slight differences in rating according to area deprivation. Parents living in the most deprived areas were slightly more likely to think that their health visitor was very good at listening to them compared with parents in the least deprived areas (67% versus 61%).

**Table 5.3 How good health visitor was at**

| | ...providing helpful advice on parenting issues | …listening to you |
|---|---|---|
| | % | % |
| Very good | 55 | 66 |
| Fairly good | 28 | 25 |
| Neither good nor bad | 12 | 6 |
| Fairly bad | 4 | 2 |
| Very bad | 1 | 1 |
| *Base: all families who saw a health visitor* | *5602* | *5619* |

## 5.4 Parenting groups and classes

### *5.4.1 Parent and baby/toddler group*

Just under half of parents (48%) reported attending a parent and baby/toddler group during the last year. This is a significantly higher level of attendance than for BC1, where 39% of parents reported doing the same, and may reflect longer periods of maternity leave amongst BC2 mothers (see chapter 8).

In line with results seen at sweep 1 of BC1, there are a number of differences between those parents who attended parent and baby/toddler groups (see Table 5.5) many of which are similar to the patterns already seen in relation to attendance at antenatal classes (see chapter 3).

Older mothers and mothers from couple families were more likely to say that they had attended a group than lone parents and younger mothers. For example, 30% of mothers in their twenties and 29% of lone parents had attended a group compared with 54% of mothers in their thirties and 53% of parents in couple families respectively.

Attendance at a parent and baby/toddler group also varied by parental level of education and household income. As income and level of education increased so too did a parent's likelihood of attending one of these groups. 22% of mothers with no qualifications attended a group compared with 66% of mothers with a degree.

Area played some role in attendance at these groups. Parents living in urban areas were less likely to attend a parent and baby/toddler group than those parents living in rural or small remote towns.

First-time parents were more likely to attend a parent and baby/toddler group than parents with other children (57% in comparison to 39%).

**Table 5.4 Attendance at parent and baby/toddler group by selected parental characteristics**

| | | Yes | No | *Base: all families* |
|---|---|---|---|---|
| **Mother's age** | | | | |
| Under 20 | % | 30 | 70 | *340* |
| 20-29 years old | % | 44 | 54 | *2552* |
| 30-39 years old | % | 54 | 44 | *2948* |
| Over 40 years old | % | 49 | 51 | *267* |
| **Parental level of education** | | | | |
| No qualification | % | 22 | 78 | *389* |
| Lower level Standard grades | % | 27 | 73 | *341* |
| Upper level Standard grades | % | 35 | 65 | *1255* |
| Higher grades or equivalent | % | 51 | 49 | *1749* |
| Degree or above | % | 64 | 36 | *2222* |
| **Mother's first born child** | | | | |
| Yes, first born | % | 57 | 43 | *2918* |
| No, other children | % | 39 | 61 | *3199* |
| **Urban rural classification** | | | | |
| Large urban | % | 45 | 55 | *2270* |
| Other urban | % | 44 | 56 | *1777* |
| Small accessible towns | % | 51 | 49 | *491* |
| Small remote towns | % | 55 | 45 | *248* |
| Accessible rural | % | 58 | 42 | *977* |
| Remote rural | % | 52 | 48 | *353* |

### Reasons for non-attendance

Those parents (52%) who had not attended a parent and baby/toddler group were asked why from a list of answers provided. The results are shown in Table 5.5.

The most common reason given was lack of time, mentioned by 30% of parents. 16% reported that there was no particular reason for not attending a parent-baby/toddler group and 12% reported that they just simply did not want to go.

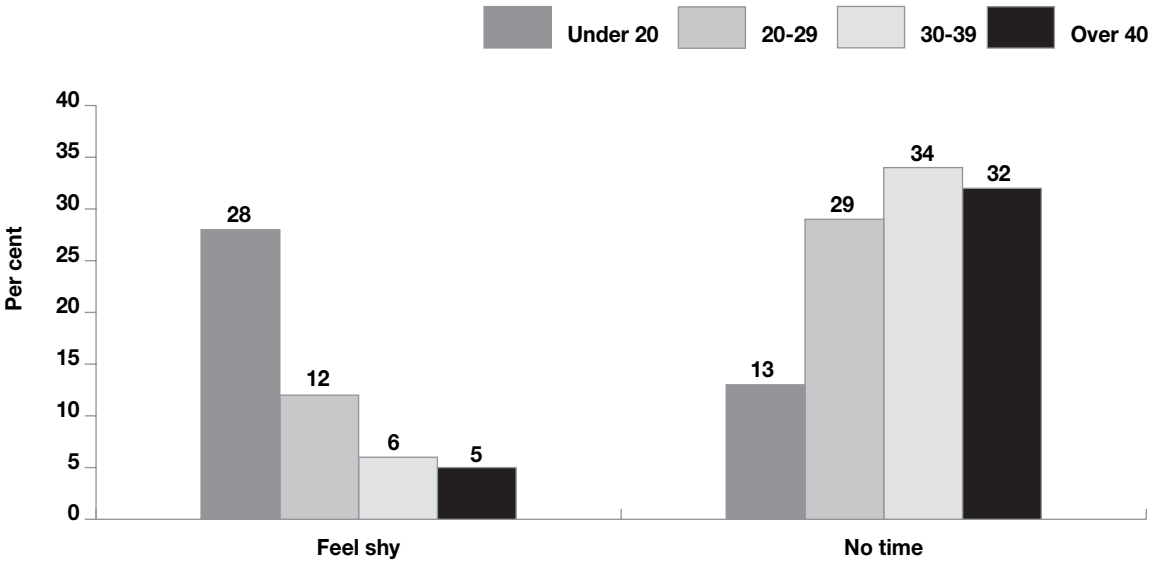
**Table 5.5 Reasons for non attendance at parent and baby/toddler group**

| | % of respondents mentioned |
|---|---|
| No time | 30 |
| No particular reason | 16 |
| Did not want to go | 12 |
| Feel shy or awkward | 11 |
| Don't like groups | 10 |
| Know it all already | 9 |
| Nothing suitable | 9 |
| Had no information | 8 |
| Someone else took child | 2 |
| *Base: respondents who had not attended a parent-baby/toddler group in the last 12 months* | *3076* |

Older mothers, mothers in couple families, mothers with other children and in employment were more likely than younger mothers, lone mothers and those where the cohort child was the only child and non-working mothers, to say that they had no time to go to a parent and baby/toddler group.

Around one in ten parents (11%) who did not attend parent and baby/toddler groups said they felt too shy or awkward to do so. Younger mothers, lone mothers and those with a lower level of education were more likely to cite this as reason for non attendance. For example, 28% of mothers in their twenties said they felt shy or awkward compared with 5% of mothers aged 40 or older. Younger mothers may lack confidence overall and may also lack confidence in their role as a parent. Previous research using GUS data indicates that parents who have less confidence in their parenting skills tend to be more reticent to use formal services (Mabelis and Marryat 2011). In addition, younger mothers may be put off by groups simply because there are not many parents of their age in these groups.

**Figure 5.3 Reasons for non attendance of parent and baby/toddler group by age of parent**

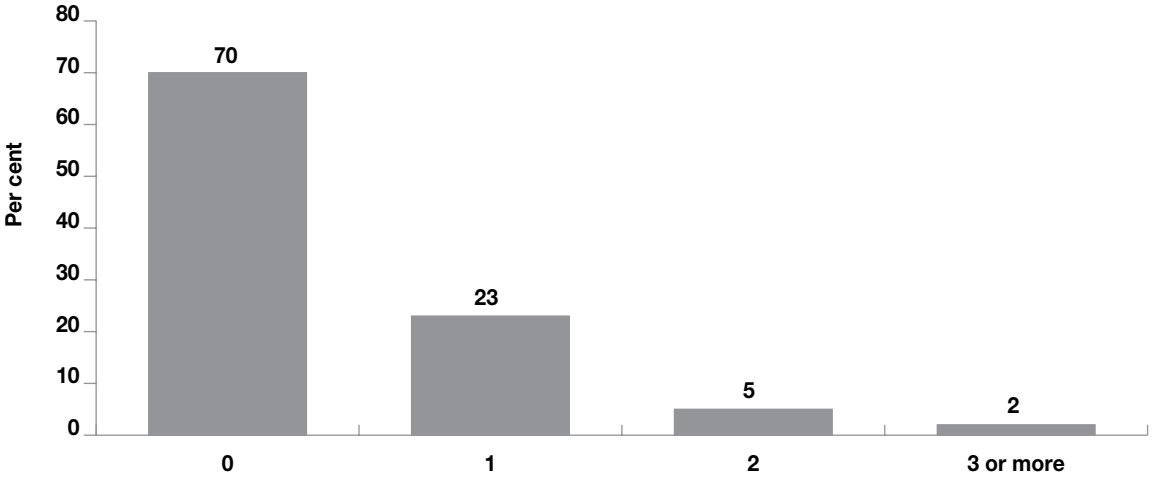



*Base – all parents who had not attended a parent and baby/toddler group: under 20 = 234, 20-29 = 1390, 30-39 = 1313, Over 40 = 135. Bases varied slightly on each question*

### *5.4.2 Parenting classes and programmes*

Parents were asked whether they had attended a programme, group or seminar on child development, child behaviour, or parenting during the past 12 months. Figure 5.4 shows that the majority of parents (70%) had not participated in any of these classes or programmes in the last year. 23% of parents had attended one class or programme and a small number (2%) had attended between three and six of these programmes. Of those who attended any class or programme, most (87%) went on their own, without their husband, wife or partner.

**Figure 5.4 Number of parenting programmes/classes attended**




*Base – all parents, n=6117*

The types of parenting programmes and classes that parents attended are shown in Table 5.6. The most commonly attended programme or class was baby massage, attended by 24% of all parents.

Overall the number of children a parent affected their participation in a parenting programme or class. First-time parents were more likely to participate in a parenting programme or class than parents with an older child (80% compared with 59%). However, if we look at these differences between the types of classes attended, the main difference relates to attendance at baby massage; 34% of new parents went to baby massage compared with 14% of parents with other children. Attendance at other types of parenting classes and programmes was otherwise at similar levels between first-time parents and parents of other children.

**Table 5.6 Attendance of parenting programmes or class**

| | % of all families mentioned | % mentioned amongst first time parents | % mentioned amongst parents of other children |
|---|---|---|---|
| Have not attended anything | 70 | 59 | 80 |
| Baby massage | 24 | 34 | 14 |
| Triple P-Positive Parenting Programme | 1 | 1 | 2 |
| Baby yoga | 1 | 1 | 0 |
| Swimming classes/groups | 1 | 2 | 1 |
| Baby Sensory | 2 | 3 | 0 |
| Tuneful Tots (music classes/rhymes) | 2 | 3 | 1 |
| PEEP parent education | 1 | 1 | 1 |
| Book Bug/libraries | 1 | 1 | 0 |
| Other | 6 | 10 | 4 |
| *Base: as detailed in top row* | *6117* | *2925* | *3198* |

Attendance at the most commonly attended class – baby massage – was examined in relation to a number of different socio-economic characteristics. Generally, participation in baby massage mirrored patterns seen in the attendance of the parent and baby/toddler groups (section 1.4.1). That is, older mothers were more likely to attend baby massage than younger mothers (29% of mothers aged 40 or over compared with 16% of mothers under 20). 33% of parents with a degree went to baby massage whilst 10% of parents with no qualifications attended this type of class.

Given that parents mostly have to pay for baby massage classes themselves, it is not surprising that income also played a role in participation. 36% of parents in the highest income quartile went to baby massage compared with 14% of parents in the lowest income quartile. 34% of parents who worked full-time attended baby massage compared with 16% of parents who did not work, which again, might reflect the cost of these classes.

Parents from couple families were also more likely to go to baby massage than single parents (26% compared with 14%). There were also differences by ethnicity – 25% of white parents attended baby massage compared with 8% of parents of other ethnicities.

There were no differences between attendance at baby massage between parents living in different urban and rural areas.

### Programme information and referral

As shown in Table 5.7, 44% of parents indicated that they had heard about their class or programme from their health visitor or midwife. More informal, word-of-mouth sources were also important – 33% of parents who attended simply said they had "heard about it and went along to find out more".

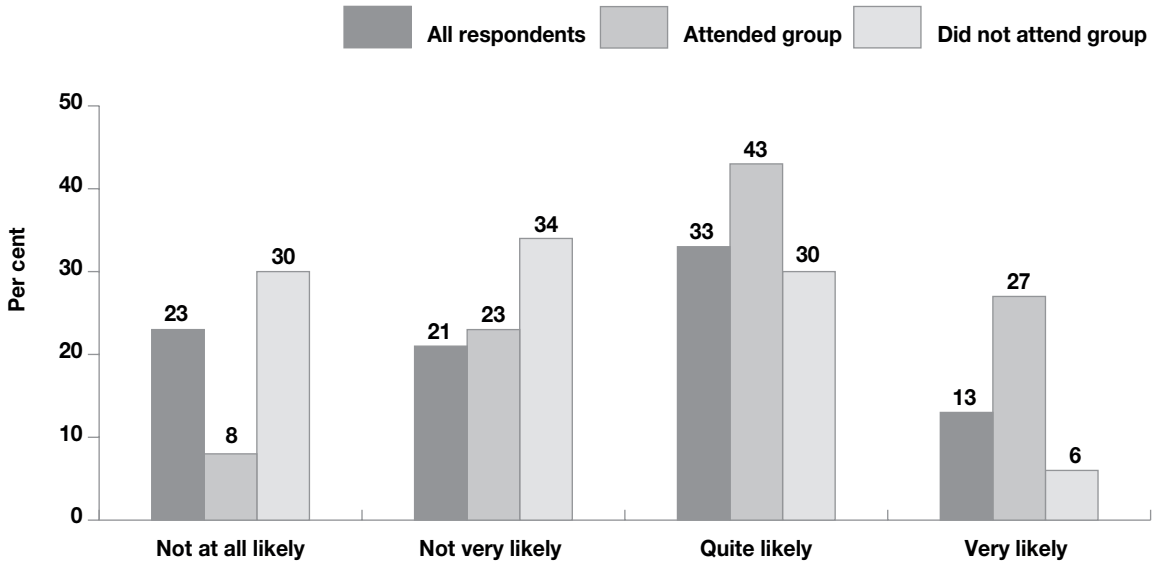
**Table 5.7 How parents found out about programme**

| | % |
|---|---|
| Health visitor/midwife | 41 |
| Heard about it and went along to find out more | 33 |
| GP referral | 6 |
| Friends/family members/other mums | 6 |
| Social worker referral | 3 |
| Internet | 2 |
| Other | 9 |
| *Base: respondents who had participated in a parenting programme* | *1933* |

### Likely participation in the future

All parents were asked how likely it was that they would participate in a parenting programme in the future. Just over half (54%) stated that it was either not at all or not very likely. Figure 5.5 shows that those parents who had previously taken part in a parenting class or programme tended to be in favour of attending a group in the future; 70% would either be quite or very likely to do so compared with 46% of parents who had not taken part in a parenting class or programme.

**Figure 5.5 Likely participation in parenting programme in the future by whether parents had previously participated**




*Bases: all parents = 5936, attended a parenting group = 1886, did not attend a parenting group = 4049*

To better understand any potential barriers to participating in parenting classes or groups, those parents who said that they were either not at all likely/not very likely to attend such a class in the future were asked the reasons why.

The most common reason given for not being likely to attend a programme in the future was lack of time, stated by 25% of those who were unlikely to attend (Table 5.8). 22% indicated that they did not need to go to such a programme, in some cases because they already had other children. 13% of parents stated that they were just not interested in going.

**Table 5.8 Reasons for non-participation in a parenting programme in the future**

| | % |
|---|---|
| I do not have time | 25 |
| Don't need to/not first child | 22 |
| I'm just not interested/don't want to | 13 |
| I'm managing ok | 8 |
| Nobody told me/I don't know anything about them | 8 |
| I don't like groups | 5 |
| There are no groups in this area | 3 |
| Other reasons (specific) | 27 |
| *Base: Parents who stated that they were not at all likely/not very likely to participate in a parenting programme in the future* | *3192* |

Two specific reasons given for not participating in a parenting programme in the future were analysed according to different socio-economic characteristics:

- "I'm just not that interested"
- "Nobody told me about them/I don't know anything about them"

The former shows a lack of interest in parenting classes whilst the latter shows a lack of information or awareness of classes.

As shown in Table 5.9, younger parents, lone parents and parents with a lower level of education and household income were more likely to say that they were not interested in attending these groups. A greater proportion of parents who did not work (19%) gave this as a reason compared with 9% of parents working full-time.

The extent to which parents said that they had not been told about these groups as a reason for not attending in the future varied according to parental education and household income. 11% of parents with a degree said that they were not aware of these groups compared with 5% of parents with no qualifications. This is somewhat surprising because the expectation would usually be that more educated parents have more awareness of services. However, it may also reflect that for this small group, the biggest barrier to attending a group is lack of knowledge rather than a lack of interest.

**Table 5.9 Parents who are unlikely to attend a parenting class in the future because they are not interested by parental socio-economic characteristics**

| | **Just not interested %** | *Base: all respondents unlikely to attend parenting class in future* |
|---|---|---|
| **Mother's age** | | |
| Under 20 | 21 | *158* |
| 20-29 years old | 15 | *1238* |
| 30-39 years old | 10 | *1624* |
| Over 40 years old | 8 | *167* |
| **Parental level of education** | | |
| No qualification | 20 | *215* |
| Lower level Standard grades or equivalent | 27 | *178* |
| Upper level Standard grades or equivalent | 19 | *667* |
| Higher grades or equivalent | 11 | *864* |
| Degree or above | 6 | *1184* |
| **Parent status** | | |
| Lone parent | 20 | *579* |
| Couple family | 11 | *2613* |
| **Number of children in household** | | |
| 1 | 15 | *1171* |
| 2 or 3 | 11 | *1847* |
| 4 or more | 12 | *174* |

## 5.5 Other sources of parenting support/advice

Parents were asked about their use of other sources of formal support. More specifically, they were asked whether they had used certain government sponsored schemes and initiatives aimed at helping parents and families. These are shown in Table 5.10 below.

Nearly one third of parents (29%) had either looked at the ChildSmile website or used ChildSmile dental services. 16% of parents had used the Play@Home booklets whilst 8% remembered looking at the Play, Talk, Read website.

58% of parents indicated that they had not used any of these services. Parents with no qualifications were less likely to have used these services than parents educated to a degree level (70% had not used any compared with 54%). There were also differences in use by ethnicity: 73% of white parents had not used these sources compared with 57% of parents from another ethnic background.

**Table 5.10 Other sources/services used**

| | % |
|---|---|
| None of these services | 58 |
| ChildSmile website or dental services | 29 |
| Play@Home booklets | 16 |
| Play, Talk, Read website | 8 |
| Childcare Link website or phoneline | 2 |
| ParentLine Scotland website or phoneline | 1 |
| *Base* | *6119* |

### Bookbug

Bookbug Baby, run by the Scottish Book Trust, is a programme which aims to encourage parents to read and sing to their baby from an early age. All parents are given, by their health visitor, a Bookbug pack that contains two board books, a CD of songs and rhymes, a buggy book and calendar. 78% of parents remembered receiving the Bookbug pack. These parents were then asked how they used the pack. Overall 93% of parents read the books with their child. 20% had read the book once with their child whilst 73% of parents regularly did so (Table 5.11).

**Table 5.11 How parents used Bookbug Pack**

| | % mentioned |
|---|---|
| Read the books once with my child | 20 |
| Read the books regularly with my child | 73 |
| Read the Bookbug magazine | 26 |
| Listened to the music CD once with my child | 21 |
| Listened to the music CD regularly with my child | 22 |
| Put the poster up on the wall | 10 |
| Don't know/can't remember | 2 |
| Didn't use it at all | 6 |
| *Base: parents who remembered receiving the Bookbug Pack* | *4738* |

### *5.5.1 Preferred method for receiving information*

All parents were asked how they liked to receive information or advice about parenting and were asked to select their single, preferred method (Table 5.12). Receiving information in person – either via formal services or informal networks – was by far the most preferred approach. 53% of parents said they preferred to receive information about parenting on a one-to-one basis from a professional such as a health visitor. 21% stated that they preferred to receive information in person from family and friends.

Parents living in the most deprived areas preferred to receive information in person, one-to-one, from a professional (preferred by 58% of parents in this category). Parents with lower levels of education were also more likely to prefer this method, than parents educated to degree level (60% compared with 44%).

When compared with older mothers, younger mothers tended to prefer receiving information about parenting in person from family or friends. For example, 28% of mothers aged under 20 preferred this approach compared with 12% of mothers in their forties.

**Table 5.12 Preferred method of receiving information about parenting**

| | % |
|---|---|
| In person, on a one-to-one basis from someone like a health visitor | 53 |
| In person from family or friends | 21 |
| Internet websites | 10 |
| Books, magazines, or leaflets | 7 |
| In person at a seminar or group | 4 |
| Internet forums | 3 |
| TV programmes or DVD | 1 |
| Other | 1 |
| *Base: all families* | *6107* |

## 5.6 Satisfaction with parenting support

Generally, parents stated that they were satisfied with the information and support services available to them about parenting. Only 6% of parents indicated that that they were dissatisfied (fairly or very) with the information available to them and 8% were dissatisfied with the services available to support (Table 5.13).

Around a fifth (17% and 20%) respectively said they were neither satisfied nor dissatisfied with the information and services on offer, which may indicate a lack of knowledge and/or awareness of the support which is available. There were no significant differences in levels of satisfaction between parents of different socio-economic groups.

**Table 5.13 Satisfaction with parenting support**

| | ...information available to you about parenting | ...the services available to support you in your role as a parent? |
|---|---|---|
| Very satisfied | 28 | 24 |
| Fairly satisfied | 49 | 48 |
| Neither satisfied nor dissatisfied | 17 | 20 |
| Fairly dissatisfied | 5 | 6 |
| Very dissatisfied | 1 | 2 |
| *Base: all families* | *6092* | *6057* |

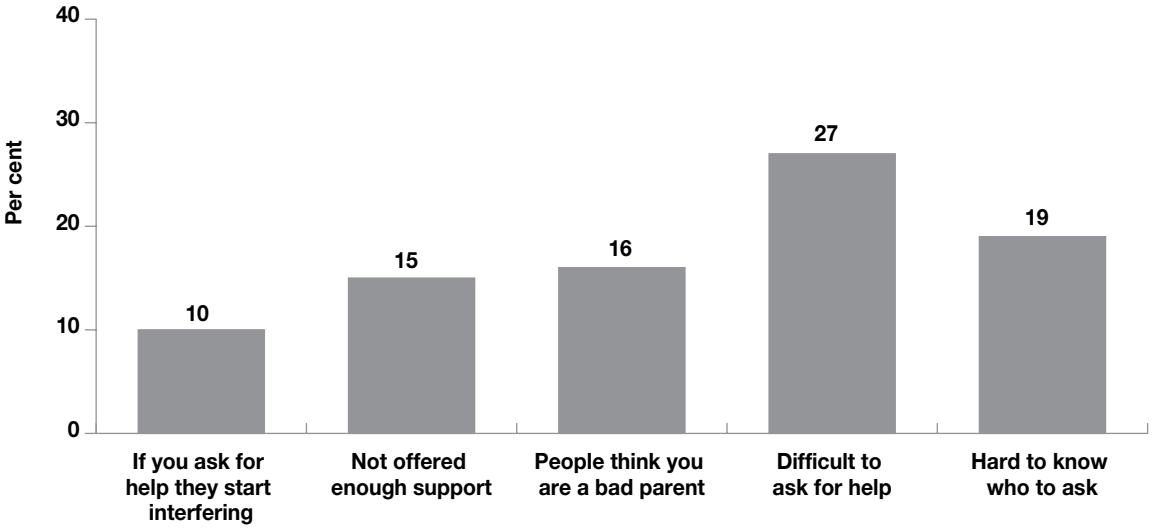
## 5.7 Attitudes towards support

Parents were asked the extent to which they agreed or disagreed with a series of statements[13] on how comfortable they were seeking support and engaging with support services. The statements asked are shown below:

- "If you ask for help or advice on parenting from professionals like doctors or social workers, they start interfering or trying to take over"
- "Professionals like health visitors and social workers do not offer parents enough advice and support with bringing up their children"
- "If other people knew you were getting professional advice or support with parenting, they would probably think you were a bad parent"
- "It's difficult to ask people for help or advice unless you know them really well."
- "It's hard to know who to ask for help or advice about being a parent."

As shown in Figure 5.6, parents were most likely to have difficulty asking for advice or establishing who to ask. 27% agreed that it was difficult to ask for help or advice and 19% agreed that it was hard to know who to ask.

**Figure 5.6 Proportion agreeing or strongly agreeing with statements about accessing support/advice**




*Base – all parents,* n *= 6079. Note that bases varied slightly on each item. This figure relates to the statement with the lowest response: "If you ask for help from professionals they start interfering"*

There was lower agreement with the more negative perceptions associated with seeking support such as stigma, interference from formal services, and lack of formal support. 16% of parents agreed that by seeking formal help, others would think you were a bad parent, 15% felt that professionals did not offer parents enough advice and support, and 10% agreed that asking for help from formal sources would lead to interference in family life.

13 Five categories of response were available for each statement: strongly agree, agree, neither agree nor disagree, disagree, disagree strongly.

Table 5.14 shows the proportion of parents in different subgroups who either agreed or strongly agreed with the statements.

As shown in a previous GUS report (Mabelis and Marryat 2011), younger parents, lone parents, parents with lower levels of education and income were generally less comfortable engaging with formal support and more likely to perceive a stigma attached to seeking formal support.

For example, 31% of parents aged under 20 agreed that people would think you were a bad parent if they knew you were getting professional support with parenting compared with 13% of parents aged over 40. In addition, 39% of parents in the lowest income quintile agreed that it was difficult to ask for advice compared with 18% of parents in the top income quintile.

There were also differences in perceptions of potential 'interference' from formal agencies. 24% of parents under 20 agreed with this statement compared with 7% of parents aged 40 and over.

There were also differences between parents of different ethnic backgrounds. Parents from other ethnic backgrounds were less likely to think that people would think badly of you if you sought help than white parents (7% versus 16% respectively) but were more likely to agree that it was difficult to ask for help (40%) than white parents (26%).

**Table 5.14 Agreement with attitudes to support by parental characteristics**

| | | People think you are a bad parent | Difficult to ask for advice | If you ask for help they start interfering | *Bases* |
|---|---|---|---|---|---|
| **Parent's age** | | | | | |
| Under 20 | % | 31 | 43 | 24 | *337* |
| 20-29 years old | % | 17 | 29 | 13 | *2536* |
| 30-39 years old | % | 12 | 23 | 5 | *2933* |
| Over 40 years old | % | 13 | 21 | 7 | *263* |
| **Parental level of education** | | | | | |
| No qualification | % | 26 | 43 | 22 | *386* |
| Lower level Standard grades | % | 25 | 39 | 18 | *338* |
| Upper level Standard grades | % | 20 | 31 | 14 | *1247* |
| Higher grades or equivalent | % | 15 | 23 | 9 | *1736* |
| Degree or above | % | 10 | 21 | 4 | *2215* |
| **Parent status** | | | | | |
| Lone parent | % | 25 | 37 | 17 | *1129* |
| Couple family | % | 13 | 24 | 8 | *4950* |
| **Number of children in family** | | | | | |
| One | % | 13 | 24 | 10 | *2791* |
| Two or three | % | 17 | 29 | 10 | *3032* |
| Four or more | % | 21 | 33 | 16 | *256* |
| **Household equivalised income** | | | | | |
| Bottom quintile | % | 24 | 39 | 18 | *1120* |
| 2nd | % | 17 | 31 | 13 | *1031* |
| 3rd | % | 14 | 23 | 9 | *821* |
| 4th | % | 10 | 20 | 5 | *1351* |
| 5th | % | 11 | 18 | 3 | *1047* |
| **Parent ethnicity** | | | | | |
| White | % | 16 | 26 | 10 | *5765* |
| Other background | % | 7 | 40 | 16 | *299* |

*Bases varied slightly on each item. Those shown relate to the statement: "If you ask for help from professionals they start interfering".*

## 5.8 Grandparents

Grandparents are known to be a key source of support for parents. Findings detailed earlier in chapter 2 showed that virtually all children had at least one grandparent alive at the time of the interview, 53% had four grandparents, and 13% had more than four. In addition, a grandparent lived with the child in 6% of families.

The age and employment status of grandparents may be expected to influence the level and type of support they provide. On average, maternal grandmothers[14] were aged 56 years old, whilst maternal grandfathers were a little older at 58. Paternal grandparents tended to be older; paternal grandmothers had a mean age of 59 and paternal grandfathers a mean age of 61. 50% of maternal grandmothers and 60% of maternal grandfathers were employed.

### *5.8.1 Contact with grandparents*

As shown in Table 5.15, all children in BC2, bar a very small number (less than 1%), were in regular contact with at least some of their grandparents including 67% who had regular contact with all of them and 33% with some. Children in BC2 were slightly less likely than those in BC1 to have contact with all of their grandparents – decreasing from 71% to 67%.

Children were most likely to be in contact with a grandmother, particularly their maternal grandmother (90% compared with 73% who were in contact with a paternal grandmother). Contact with grandfathers was lower, especially paternal grandfathers with whom only a little over half of children had contact (53% compared with 70% who had contact with a maternal grandfather).

Children in BC2 were less likely than those in BC1 to have all of their grandparents living locally – dropping from 48% to 42% (Table 5.15). Proximity of grandparents will undoubtedly affect the extent to which they have contact with their grandchildren which may partly explain the change in contact figures shown above. Indeed, amongst children in BC2 for whom all grandparents lived locally, 79% had contact with all of them. In contrast, for those where only some grandparents lived locally, 58% had contact with all of them.

We noted earlier (in section 2.3), that children in BC2 tended to have more grandparents than those in BC1 (13% had more than four compared with 4% in BC1). The data shows that, as may be expected, those children with a greater number of grandparents were less likely to have contact with all of them. For example, whereas 70% of children with two grandparents had contact with all of them, the same was true for 46% of those with five or more grandparents. Thus, the increased number of grandparents reported by BC2 parents may also explain the change in contact levels. It is possible that more 'peripheral' grandparent relationships were being recognised by parents in BC2 where there is no or little contact between child and grandparent.

14 After providing the number of the child's grandparents alive, respondents were asked to define who each grandparent was in relation to themselves – eg. their mother, father, their partner's mother and so on. As most respondents were the child's natural mother, in the report we refer to the respondent's parents as the child's maternal grandparents and the partner's parents as the child's paternal grandparents.

**Table 5.15 Summary of grandparent contact, relationship and location by cohort**

| | BC1 % | BC2 % |
|---|---|---|
| **Grandparents in regular contact with** | | |
| All | 71 | 67 |
| Some | 28 | 33 |
| None | 1 | <1 |
| **Grandparents who live locally** | | |
| All | 48 | 42 |
| Some | 52 | 58 |
| None | 1 | 0 |
| **Grandparents that child has a close relationship with** | | |
| All | 40 | 42 |
| Some | 52 | 51 |
| None | 9 | 6 |
| *Bases** | *5171* | *6099* |

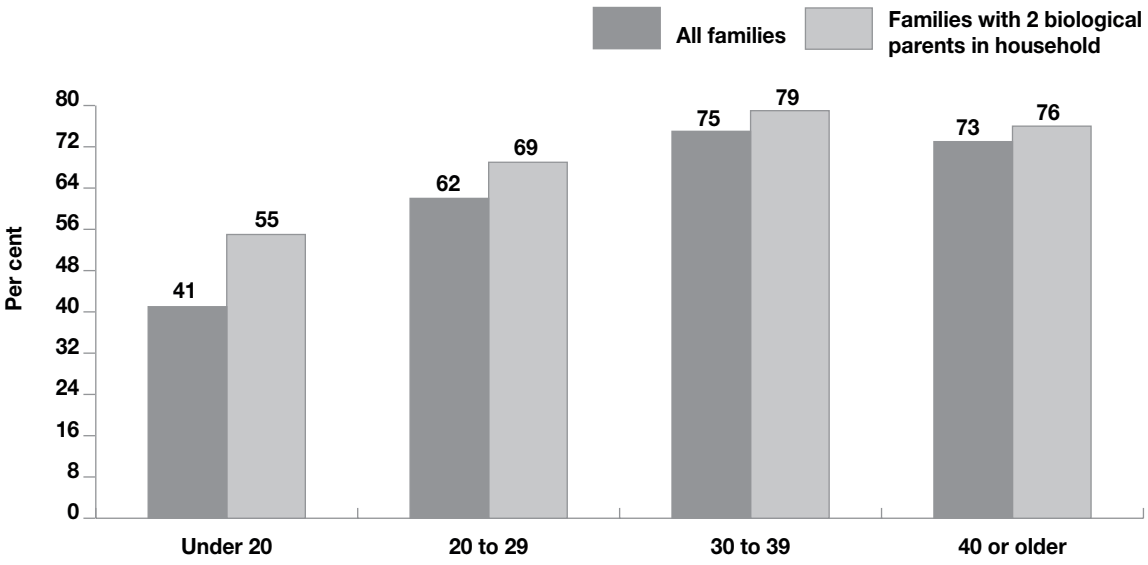
**Bases vary slightly on each item. Those shown are the lowest of the three.*

Despite a lower likelihood of contact with all grandparents, children in BC2 were very slightly (and statistically significantly) more likely than those in BC1 to have a close relationship with all of their grandparents (42% compared with 40%). However, a small proportion of children (6%) did not have a close relationship with any of their grandparents.

As well as proximity and number of grandparents, a range of other factors affected whether or not children had contact with all of their grandparents. Parental separation was a key influence. Children with a non-resident father, for example, did not always have contact with their paternal grandparents. 41% of children in lone parent families had contact with all of their grandparents compared with 73% of those in couple families.

Children with younger mothers also had contact with fewer grandparents than those with older mothers. 41% of children whose mother was aged under 20 at the time of birth had contact with all of their grandparents compared with 75% of those who mother was aged between 30 and 39. Some of this difference is explained by the greater likelihood of an absent parent in families with younger mothers (noted in section 2.3). However, even amongst families where both biological parents live in the household, contact with all grandparents was lower in families with younger mothers (Figure 5.7).

**Figure 5.7 Percentage in contact with all grandparents by mother's age at child's birth and family characteristics**




*Bases: All families – under 20 = 340, 20 to 29 = 2550, 30 to 39 = 2950, 40 or older = 267; Families with two biological parents in household – under 20 = 108, 20 to 29 = 1939, 30 to 39 = 2668, 40 or older = 231*

Contact with all grandparents was also less likely amongst families living in areas of higher deprivation. 57% of those who lived in an area in the most deprived quintile had contact with all grandparents compared with 78% of those living in the least deprived quintiles. Again, even amongst those families with two biological parents in the household, these trends persisted.

After controlling for differences in family type by urban-rural classification (families in urban areas tend are more likely to have an absent parent), there were only small differences in the extent to which children living in different areas had contact with all of their grandparents.

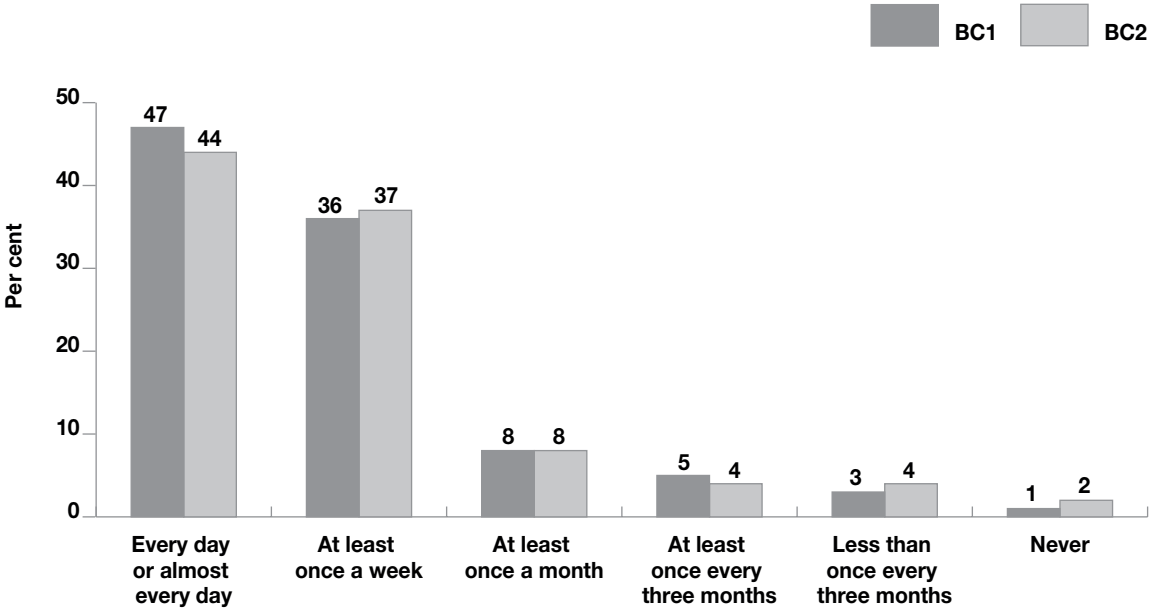
## Frequency of contact

After identifying who each set of grandparents was in relation to the child, and whether or not the child had contact with each set of grandparents, detailed information was collected on the frequency of that contact. Due to limitations of space, and to allow for comparison with BC1, data on each set of grandparents was merged to allow consideration of frequency of contact with *any* grandparent[15].

As shown in Figure 5.8, most children (81%) had contact with a grandparent at least once a week or more often, including 44% who had daily contact. There was no notable change in frequency of contact between the two cohorts.

15 For more information on the structure of the questions on grandparents, and a detailed overview and analysis of existing grandparent data from BC1, see Jamieson et al. (2012).

**Figure 5.8 Frequency of contact with any grandparents by cohort**




*Bases: BC1 = 5176, BC2 = 6095*

Children in lone parent families and those with younger mothers had more frequent contact with a grandparent than did children in couple families and those with older mothers. 63% of children in a lone parent family saw a grandparent most days compared with 40% of children in a couple family. Similarly, 69% of children whose mother was under 20 saw a grandparent most days compared with 36% of those whose mother was in her thirties.

At least some of these differences are explained by variations in the extent to which a grandparent is resident in the household with the child, particularly by maternal age. 29% of teenage mothers lived in the same household as one of the child's grandparents compared with 2% of mothers in their thirties. However, when analysis was restricted to those families where a grandparents is not resident with the child, the same trends remain.

### *5.8.2 Support received from grandparents*

To measure the different types and levels of support offered by the child's grandparents, parents were asked a number of questions about how often the child's grandparents babysat and had the child to stay overnight, and whether they ever took the child out, bought toys or clothes for the child, helped out around the house, helped out financially or helped by providing advice or support. The results, by cohort, are displayed in Table 5.16[16].

16 Note that the structure of the questions varied between the two cohorts. Parents in BC1 were asked about support from any grandparents and all items measured the frequency that support was given. Parents in BC2 were asked all items in relation to each individual set of grandparents with which the family were in contact. Only the items on looking after the child during the day and babysitting in the evening measured frequency. The data shown here represents variables which have been derived to allow comparison and differences should therefore be interpreted with caution.

**Table 5.16 Support received from any grandparent by cohort**

| | BC1 % | BC2 % |
|---|---|---|
| **How often look after child during the day** | | |
| Every day or almost every day | 20 | 15 |
| At least once a week | 37 | 41 |
| At least once a month | 14 | 16 |
| At least once every three months | 5 | 6 |
| Less than once every three months | 4 | 7 |
| Never | 19 | 16 |
| **How often babysit for child in the evening** | | |
| Every day or almost every day | 3 | 2 |
| At least once a week | 16 | 16 |
| At least once a month | 28 | 27 |
| At least once every three months | 14 | 15 |
| Less than once every three months | 9 | 12 |
| Never | 30 | 27 |
| **Taken the cohort child on outings or daytrips without you** | 54 | 63 |
| **Bought toys, clothes or equipment for the cohort child apart from on special occasions like birthdays** | 90 | 93 |
| **Helped out around the house – for example by cooking, cleaning or doing DIY** | 44 | 69 |
| **Helped out financially in some other way** | 41 | 57 |
| **Helped by providing advice or support** | N/A | 80 |
| *Base: all families** | *5171* | *6099* |

**Bases varied slightly on each item. Those shown are the lowest amongst all items.*

It is clear that grandparents provide a wide range of support to families, though some forms are more prevalent than others. Most common are buying toys or equipment for the child (93%), looking after the child during the day (84% get this support at least sometimes), and more generally providing advice or support (80%). Grandparents frequently provided care for the children. 56% looked after the child at least once a week and 45% babysat at least once a month.

The likelihood of having ever received each type of support was greater for parents in BC2 than parents in BC1. The most notable changes are in relation to helping out around the house – which increased from 44% to 69% – and helping out financially – which increased

from 41% to 57%. Figures for the more common types of support (childcare, babysitting and buying things) were more similar between cohorts.

To allow an easier comparison of how levels of support from grandparents varied across different families, as well as considering responses on individual questions, each item was converted into a scale[17] and all items added together to give an overall index of 'grandparental support'[18]. A higher score on the index indicated a higher level of support from grandparents. Scores on the index ranged from a potential minimum of zero to a potential maximum of 14.

The average score on the scale for BC2 was 7.8 compared with 7.3 for BC1. This reflects the higher reporting of each individual support item shown in Table 5.16 and noted above.

As may be expected, contact with and proximity of grandparents affected the level of support families received from them. The average score on the support scale for those families in contact with all of the child's grandparents was 8.0, slightly – but statistically significantly – higher than for families only in contact with some grandparents, who had a mean score of 7.6. Proximity had a greater influence. Families where all grandparents lived locally scored an average of 8.8 compared with 7.1 for those who had some grandparents living locally.

Scores on the scale did vary according to differences in grandparental employment, though perhaps not in the direction expected. Levels of support were higher in cases where the maternal grandmother was in employment than where she was not (mean scores of 8.5 and 7.6). The same pattern was evident in relation to the whether maternal grandfather was employed. Differences emerged, in particular, in the extent to which the child was taken on outings or daytrips by the grandparent. This was reported by 71% of parents where the maternal grandmother was employed compared with 59% where she was not employed.

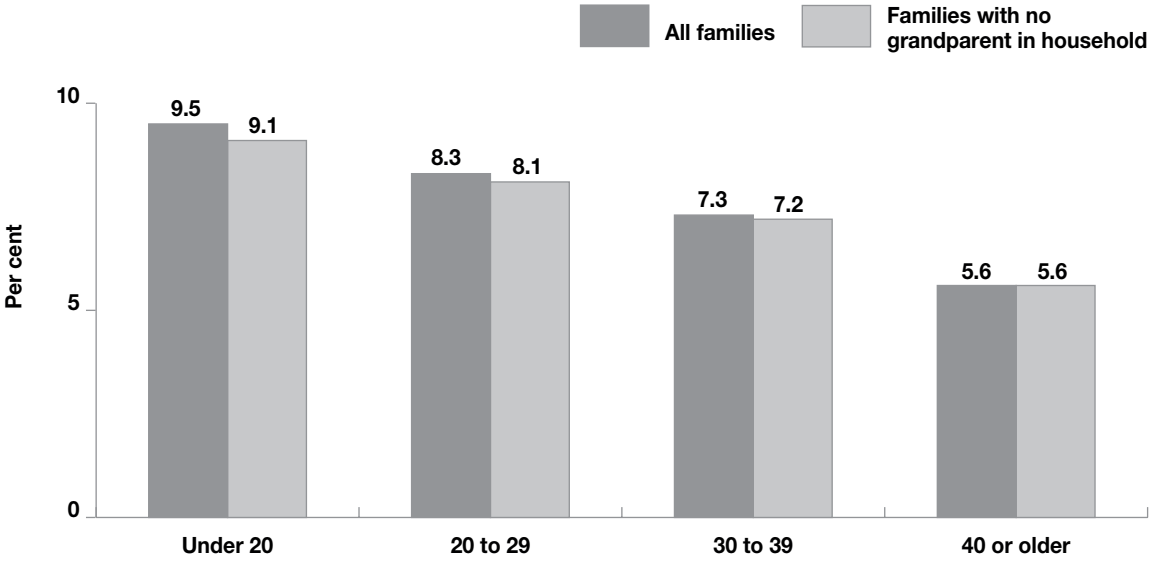
Support also varied according to a range of family characteristics. For example, lone parents reported significantly higher levels of support than those in couple families (mean scores of 8.5 and 7.7 respectively). A key difference between lone parent and couple families was in the frequency that grandparents looked after the child during the day. 24% of lone parents reported a grandparent looking after the child every day compared with 12% of parents in couple families. However, much of the difference by family type is accounted for by differences in the extent to which a grandparent lives with the child. After excluding those cases, there is no significant difference in the mean grandparent support score. Nevertheless, some differences remain on individual items. Across all families where no grandparent is resident, lone parents are significantly more likely than those in couple families to get support from grandparents in the form of weekly babysitting (25% compared with 12%) and financial help (61% compared with 54%).

17 For the items which measured frequency, responses were coded as follows: Every day or almost every day = 5, At least once a week = 4, At least once a month = 3, At least once every three months = 2, Less often than once every three months = 1, Never = 0; The other items were coded '1' if the support was given, and '0' if not.

18 To allow comparison between cohorts, the final item – 'helped by providing advice or support' – was excluded from the scale.

There was also variation by maternal age at the child's birth (Figure 5.9). Families where the mother was younger tended to report higher levels of support from grandparents than those with older mothers. Indeed, the mean score for mothers aged under 20 was almost twice as high as that for mothers aged 40 or older. As the graph shows, these differences persisted even amongst those families that did not live with a grandparent. As shown in section 2.3, children with older mothers tended to have fewer grandparents which limits the pool of support available and explains some of the differences seen here. Children with younger mothers also tended to have younger grandparents than children with older mothers. By virtue of their younger age, these grandparents are perhaps more likely to be able to provide a wider range of support more frequently. The largest differences were in relation to childcare, taking the child on trips or outings and providing financial support. For example, 76% of mothers aged under 20 and 69% of mothers aged 20 to 29 said a grandparent had taken the child on an outing or daytrip compared with 57% of mothers in their thirties and 43% of mothers aged 40 or older.

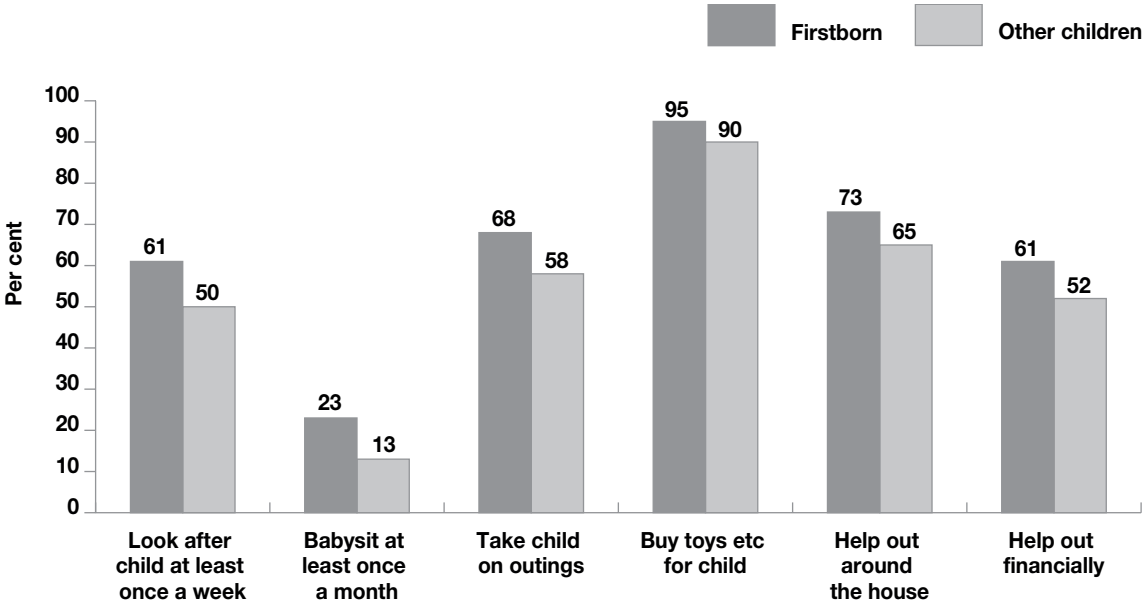
**Figure 5.9 Mean score on grandparent support scale by maternal age at child's birth and whether grandparent resident in household**




*Bases: All families – under 20 = 340, 20 to 29 = 2549, 30 to 39 = 2947, 40 or older = 267; Families with no grandparents in household – under 20 = 245, 20 to 29 = 2362, 30 to 39 = 2898, 40 or older = 259*

First-time mothers reported a significantly higher level of support from grandparents than did mothers with other children, scoring an average of 8.5 on the scale compared with 7.2. This remained even amongst families where a grandparent was not resident. Statistically significant differences of around 10 percentage points were found on each individual type of support with the exception of buying toys or equipment where the difference was 5 percentage points.

**Figure 5.10 Support from grandparents by parity**




*Bases: first born = 2918, other children = 3195*

There were no statistically significant differences in mean scores on the support scale according to area deprivation. However, some small differences were found in relation to area urban-rural characteristics. The highest levels of support were reported by families living in other urban areas (mean score of 8.2); small, accessible towns (8.1) and accessible rural areas (7.9). Those living in small, remote towns (6.9) and remote rural areas (7.3) scored lowest, and families in large urban areas emerged in between (7.6). As may be expected, the largest differences between those living in other urban areas and those in small, remote towns were seen in the types of support which required the physical presence of a grandparent – looking after the child, and helping out around the house. 61% of families living in other urban areas said a grandparent looked after the child at least once a week and 71% said a grandparent had helped out around the house compared with 46% and 57% of families in small, remote towns respectively.

## 5.9 Summary

Most parents indicated that they were satisfied with the support and information available to them in their role as a parent. However, there are clear differences in the use of support services and attitudes towards formal services between parents of different socio-economic backgrounds.

Whilst attendance at the parent and baby/toddler groups had increased since BC1, there were still socio-economic divisions between those parents who were more and less likely to attend. Typically, lone parents, younger parents, parents from lower income households and with lower levels of education did not attend these groups. These patterns were also evident in attendance at other parenting-related classes and groups, including those which offered parenting support or information, and in the use of government sponsored parenting resources such as websites and phonelines. In many cases, those parents who the data suggests are less engaged with parenting services are also those who require greater

support. Furthermore, their lower use of such resources may stem from their lower willingness to seek out and use formal support. It appears that more work is needed to reach these parents. With the provision of information and support on a one-to-one basis preferred by many, it may be worthwhile building on the role, or model, of the health visitor in this respect.

Nearly all parents, irrespective of socio-economic differences, had contact with a health visitor during their child's first year. In the majority of cases this was a well received, positive source of support. For those parents who participated in a parenting programme or group, most had heard about it from their health visitor. Thus the health visitor is a visible and accessible source of support for most parents and plays an important role in doing so – by making a parent's early experience of support a positive one and by increasing awareness of parental sources of support and advice (whether this be through websites, giving out booklets or packs, such as BookBug or recommending local groups or classes).

In recent years, there has been a shift to providing information and support online. GUS data shows, however, that most parents preferred to receive information in person, whether this be from a professional or from an informal source of support (family member of friend). Interestingly, parents living in the most deprived areas and parents with lower levels of education preferred to receive information from professionals but it is also these groups that tend to be warier of seeking formal support and involving professionals.

It is important to acknowledge that parents have varying needs and will respond to different types of support in different ways. It seems necessary, therefore, to offer a range of different support services so that parents can choose what suits them best and what they feel most comfortable with. The various parenting programmes, groups and classes will appeal differently to different parents, and the idea of a more formal class or group will be entirely unappealing for some. The idea of informal support networks such as Community Mothers could be built upon in this respect (Mabelis and Marryat 2011).

For various reasons some parents are not comfortable with the idea of seeking or needing 'support'. It is therefore important to think about how parenting support is offered to avoid stigmatisation. The provision of support in an informal and practical way that does not appear to 'support' is a possible solution. For example, the provision of physical resources such as the BookBug pack may be more useful to parents than an internet site or a professional advising them to read to their child.

At the age of 10 months, most children in Scotland have contact with at least some of their grandparents and many have contact with all of them. Previous analysis of GUS data (Jamieson et al. 2012; Bradshaw et al. 2009) has consistently shown how grandparents provide a key source of support for families with young children. This continues to be the case with families in BC2, though it is evident that some families draw more heavily on this support than others, particularly lone parents, younger mothers and first-time mothers. These are some of the same characteristics of those families who are less likely to have contact with all of the child's grandparents meaning that, in many cases, a higher level of reliance is being placed on a more limited resource.

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chapter 6

# PARENTING

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## 6.1 Introduction

Parents play a critical role in their young child's socio-emotional and cognitive development (Campbell 1995; Taylor, Clayton et al. 2004; Bracken and Fischel 2008); yet the effectiveness of parenting behaviours may depend on how these are shaped by parents' psychological resources and sources of stress or support (Belsky 1984).

Psychological resources affecting parenting may include parents' attitudes on how their child should be brought up, stresses and other negative feelings associated with parenting; and parents' domestic organisation. Stress and other negative attitudes such as resentment, lack of confidence and hostility towards the child may impair responsive, effective parenting (Dix 1991; Deater-Deckard 1998; Peterson and Hawley 1998; Fagan, Bernd et al. 2007) and compromise the development of a secure attachment (De Wolff and van Ijzendoorn 1997). A number of studies suggest that household disorganisation may also impair effective parenting (Coldwell et al. 2006; Valiente et al. 2007; Deater-Deckard et al. 2009; Mokrova et al. 2010).

Factors shaping parents' psychological resources have, in turn, been linked to children's socio-emotional and cognitive development. Poor parenting appears to be part of the mechanism involved (Deater-Deckard 1998). Parental attitudes reflecting an authoritarian parenting style may result in poorer socio-emotional outcomes, such as increased conduct problems and lower self-esteem (Thompson, Hollis et al. 2003; Rudy and Grusec 2006). Parenting stress has been linked with the development of children's emotional and behavioural problems, although poor parenting practices may not always be responsible for such associations (Anthony, Anthony et al. 2005; Crnic, Gaze et al. 2005; Ashford, Smit et al. 2008; Pahl, Barrett et al. 2012). Children's behavioural and emotional problems may also be exacerbated by negative parental feelings such as hostility (Brannigan, Gemmell et al. 2002); and both poor adjustment and low school achievement have been linked to parents' own perceived lack of competence (Coleman and Karraker 2003; Jones and Prinz 2005). In addition, parental disorganisation has been found to predict children's behavioural problems (Dumas, Nissley et al. 2005; Coldwell, Pike et al. 2006; Valiente, Lemery-Chalfant et al. 2007).

Sources of stress on parenting behaviours may relate to economic and social deprivation (Conger, Ge et al. 1994; Belsky, Bell et al. 2007; Flouri 2007), while social support for parents may have a buffering effect (Crnic, Greenberg et al. 1983; Hashima and Amato 1994). In part, sources of stress and social support may act via their respective negative and positive influences on parents' psychological resources (Coleman and Karraker 1998; Leinonen, Solantaus et al. 2003; Mistry, Stevens et al. 2007), although stress and support may also have direct associations with parenting practices (Peterson and Hawley 1998). Poor parenting appears to account for some (but not all) of the associations found between stressors and young children's mental health and cognitive ability (Campbell 1995; Prevatt 2003; Kiernan and Huerta 2008; Lugo-Gil and Tamis-LeMonda 2008).

This chapter examines how parents' attitudes and domestic organisation may be shaped by family circumstances and parenting support, and how all these factors may in turn affect parenting and the parent-child relationship. A longer-term goal will be to examine associations with children's outcomes including cognitive development and behavioural and emotional problems. The role of parenting support is of particular relevance to the Scottish Government's recently launched National Parenting Strategy (October 2012). The Parenting Strategy aims to highlight the importance of parenting and the need to strengthen the support available in order to ensure that services meet a wide range of needs and are accessible to all. It includes continued investment in the Play, Talk, Read campaign aimed at building early literacy skills.

This chapter refers to 'parents' throughout, although for simplicity the analyses were restricted to 5870 families where the child's natural mother was the main carer interviewed, and where the child was a singleton birth. This represents 96% of the 6127 families interviewed.

## 6.2 Key findings

In these findings, 'family disadvantage' refers to indicators including low maternal education, low household income and area deprivation. 'Social support for parenting' refers to informal support from family or friends, and/or formal support (eg organised groups and classes). The findings relate to an analysis of mothers only.

- Family disadvantage and a lack of social support for parenting were both independently associated with parental attitudes and domestic organisation likely to impair responsive, effective parenting.
- Parenting stress was greater for:
  - parents without informal parenting support from family or friends
  - parents in both the most disadvantaged, and the most advantaged groups.
- Parents from disadvantaged families were more likely to have negative feelings about parenting (incompetence, resentment, impatience or irritation).
- Family disadvantage and a lack of social support for parenting were both independently associated with less frequent activities important for child development, including:
  - looking at books/reading stories
  - singing or saying nursery rhymes
  - visiting other families with young children.
- Almost all (95%) of mothers reported frequently hugging their child.
- Parents from disadvantaged families were less likely to have a warm relationship with their child, and to limit TV viewing to under 2 hours daily.
- Parental attitudes, feelings and domestic organisation were associated with lower frequency of activities important for child development. These associations held after taking account of family disadvantage and social support for parenting.

- Differences between the cohorts in parental reading to children (but not in negative feelings) are possibly attributable to increased provision of formal parenting support.

## 6.3 Parents' attitudes and organisation

This section examines parents' attitudes and feelings, together with aspects of the home environment that are likely to reflect parents' organisational skills. It describes the measures used, and gives information on their distribution in the whole sample.

### Parental views on bringing up children

Traditional, authoritarian beliefs about parenting were measured using three items drawn from the Parental Modernity Scale (Schaefer & Edgerton 1985, Shears et al. 2008). Items invited respondents to indicate their agreement with three statements:

- "The most important thing to teach children is absolute obedience to whoever is in authority"
- "Children should always obey their parents"
- "Parents should teach their children that they should be doing something useful at all times"

Responses (Cronbach alpha=0.65, indicating acceptable reliability) were coded on a 5-point scale (1) 'strongly agree', (2) 'agree', (3) 'neither agree nor disagree', (4) 'disagree', (5) 'strongly disagree'.

Mean scores were divided into three groups according to the strength of authoritarian beliefs. Since there were many parents who gave identical responses ('tied scores'), it was not possible to create three equal groups. In the sample overall, 50% of parents were classified as having high levels, 14% medium levels and 36% low levels of authoritarian beliefs. Those with 'high' levels were parents with a mean score of less than 3, indicating that on average, they 'agreed' with the importance of teaching absolute obedience, that children should obey parents and that parents should teach children to be useful.

### Parenting stress

Stresses involved in parenting were measured using three items from the Parental Stress Scale (Berry and Jones 1995) asking respondents for agreement with the following statements:

- "Having a child leaves little time and flexibility in my life"
- "It is difficult to balance different responsibilities because of my child"
- "Having a child has meant having too few choices and too little control over my life"

Responses (Cronbach alpha=0.62, indicating acceptable reliability) were on a 5-point scale from (1) 'strongly agree' to (5) 'strongly disagree'.

Mean scores were divided into three approximately equal groups, representing low (34%), medium (30%) and high (36%) parenting stress.

### Infant-maternal attachment: negative feelings about parenting

Negative feelings about parenting were measured via four items taken from the Condon Maternal Attachment Scale (Condon and Corkindale, 1998) relating to feelings of incompetence, resentment, annoyance and impatience (Cronbach alpha=0.54, indicating moderate reliability).

Parental perceptions of incompetence were measured with one item, asking respondents which statement applied best to them:

When I am caring for ^childname I feel…

1 Very incompetent and lacking in confidence

2 Fairly incompetent and lacking in confidence

3 Fairly competent and confident

4 Very competent and confident

5 Can't say

Parental resentment about being a parent was measured with one item, asking them which statement applied to them "when thinking about the things I have had to give up because of (the child)…":

1 I find that I resent or mind it a lot

2 I find that I resent or mind it a fair amount

3 I find that I resent or mind it a bit

4 I don't resent or mind it at all

5 Can't say

Parental annoyance or irritation when caring for the child was measured with one item, asking how often the statement: "When I am caring for ^childname I get feelings of annoyance or irritation…" applied to them. Responses were coded using a 6-point scale from 'almost all the time' to 'never'.

Impatience was measured with one item asking parents which statement applied to them:

"Usually when I am with ^childname …"

1 I am very impatient

2 I am fairly impatient

3 I am fairly patient

4 I am very patient

5 Can't say

Only a small minority of parents (5% or less) reported each negative attitude. Overall, 8% of parents reported one or more negative feelings.

### *6.3.1 Home environment*

Here an abbreviated version of the Confusion, Hubbub, and Order scale was used (Coldwell et al. 2006). The scale was devised as a measure of household disorganisation that captures noise, crowding, home 'traffic' (people coming and going) and a lack of routine or regularity. Respondents were asked for their agreement with three items (Cronbach alpha=0.65, indicating acceptable reliability):

- "It's really disorganised in our home"
- "You can't hear yourself think in our home"
- "The atmosphere in our home is calm" (responses to this statement were reverse-coded)

Responses were coded on a 5-point scale (1) 'strongly agree' to (5) 'strongly disagree'.

Mean scores were divided into three groups indicating low, medium or high levels of home disorganisation or 'chaos'. Due to the presence of tied scores, it was not possible to create three equal groups, and the distribution was high 47%, medium 37% and low chaos 16%. The 'high chaos' group comprised parents with a mean score of less than 4, indicating that they on average, agreed (or were ambivalent) with the notion that their home was 'disorganised' and it was difficult to 'hear yourself think'; and did not agree that the atmosphere was 'calm'.

### *6.3.2 Unrestricted household TV*

As previously mentioned, domestic disorganisation or "chaos" may affect parenting behaviours. Although the length of time a household television set is switched on has been found to correlate with home chaos measures (Matheny, Wachs et al. 1995), unrestricted TV access might additionally affect parents' ability to provide routine and structure. We therefore consider unrestricted TV access separately from home chaos here. This was measured using one item asking parents whether they agreed with the statement: "Sometimes the television can be on all day in our house even though no-one is necessarily watching it." Responses were coded on a 5-point scale. Nearly half of parents (49%) either disagreed or strongly disagreed with the statement, and this was taken as an indicator of parental

restriction of the time the TV set was switched on. This group was contrasted with the remainder, consisting of 45% of parents either agreed or strongly agreed and 5% who neither agreed nor disagreed.

## 6.4 Do parenting attitudes and organisation differ according to family circumstances?

This section describes how parenting attitudes and organisation varied by socio-economic status, and according to the type of any parenting support reported by mothers.

Maternal educational level, household income and area deprivation have been selected as indicators of socio-economic status. Other indicators, such as lone parent status, showed similar associations with parenting attitudes and organisation to those reported here.

GUS measured two main sources of social support for parenting: informal (from family, friends and/or neighbours)[19] and formal (including parenting programmes, groups such as mother and toddler groups, and use of government websites providing advice on parenting)[20]. The majority (90%) of parents had at least one form of informal support, with 25% having all three forms. The majority (71%) also used formal support, with 12% using all three forms.

### *6.4.1 Do parental attitudes and organisation vary according to socio-economic status?*

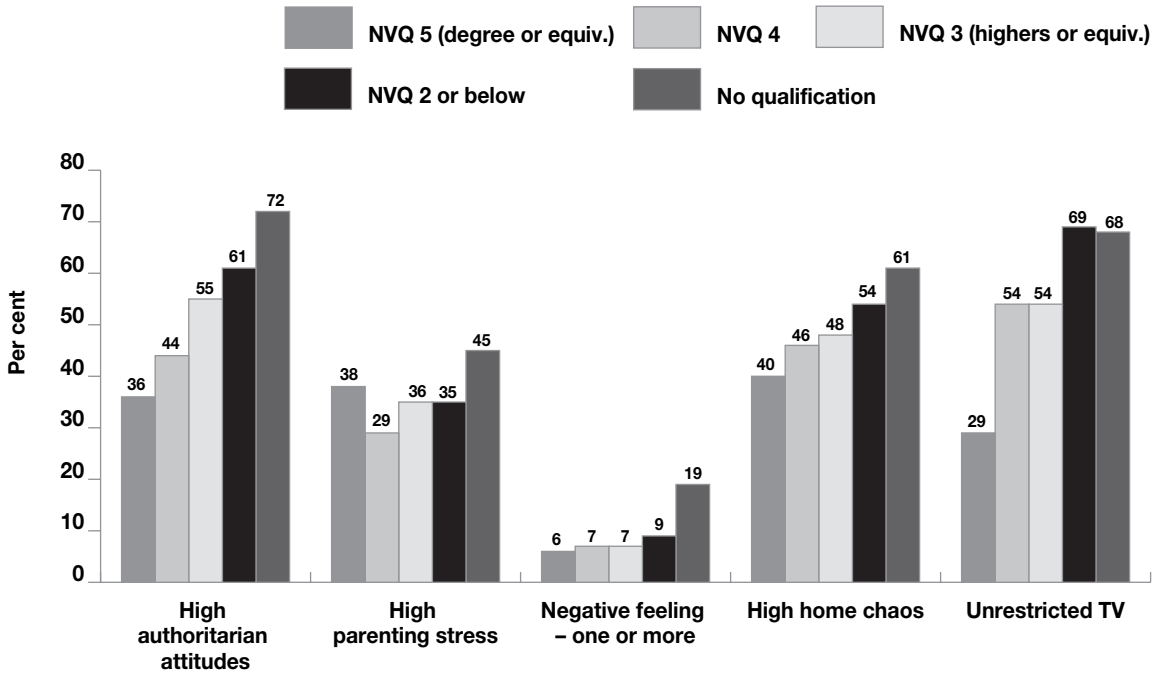
Overall, levels of negative feelings and disorganisation were higher for mothers with fewer educational qualifications (Figure 6.1). Gradients were particularly steep for authoritarian attitudes, home chaos and unrestricted TV. The same pattern existed for parenting stress with the exception that mothers with degree-level qualifications reported *higher* levels than all other mothers except those with no qualifications. Mothers with no qualifications were also more likely to admit to one or more negative feelings about being a parent than other mothers.

Similar trends were observed for household income and area deprivation (see Figure 6.2 and Figure 6.3). For area deprivation, differences in parenting stress and negative feelings were not statistically significant.

19 In this chapter, informal parenting support was measured using three items: agreement with the statement: "I feel close to most of my family"; parent sees or speaks to close friends at least weekly (either in person, by phone, on e-mail or using the internet); agreement with the statement: "There is someone I trust whom I would turn to for advice if I were having problems"

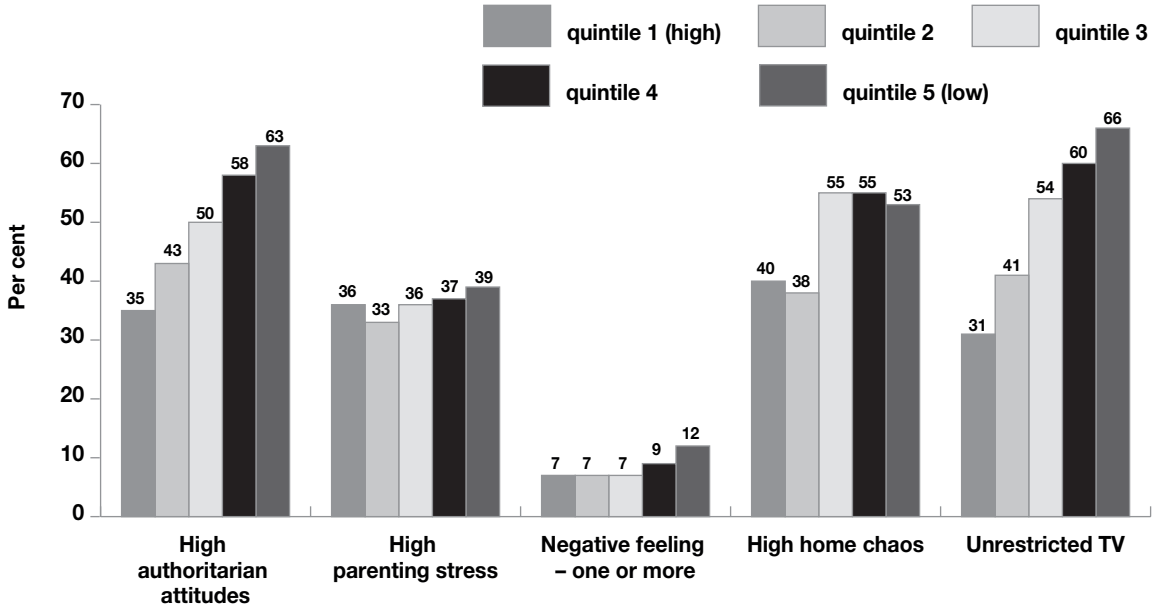
20 In this chapter, formal parenting support was measured using items concerning regular attendance at parent and baby or parent and toddler groups with the cohort child in the last year; any participation in a programme, group or seminar on child development, child behaviour, or parenting in the last year (examples given were Triple P – Positive Parenting Programme, Baby massage, Incredible Years Programme, Mellow Parenting, Baby yoga, Swimming classes/groups, Baby sensory, Tuneful tots (music classes/rhymes etc), PEEP parent education, Book Bug /libraries); and using, visiting or contacting any of five Government-sponsored resources (Childcare Link website or phoneline, ParentLine Scotland website or phoneline, ChildSmile website or ChildSmile dental services, Play, Talk, Read website, Play @Home booklets)

## Figure 6.1 Prevalence of parental attitudes and organisation according to mother's educational level



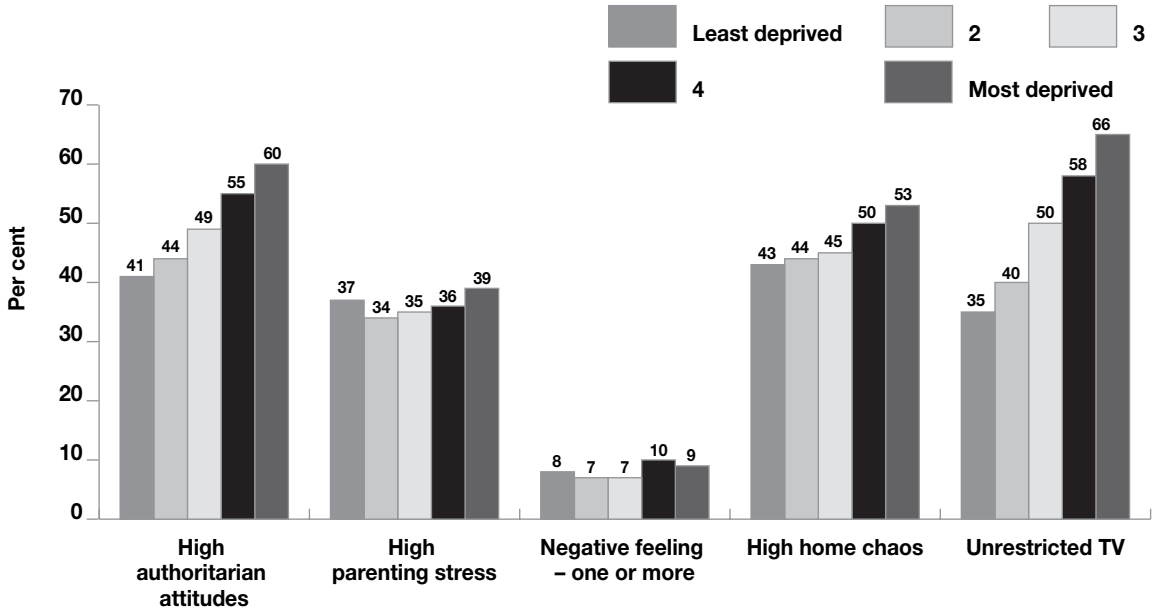

*Base – respondent was child's natural mother and child was a singleton birth,* n = *5870*

## Figure 6.2 Prevalence of parental attitudes and organisation according to household income




*Base – respondent was child's natural mother and child was a singleton birth:* n = *5870*

**Figure 6.3 Prevalence of parental attitudes and organisation according to area deprivation**



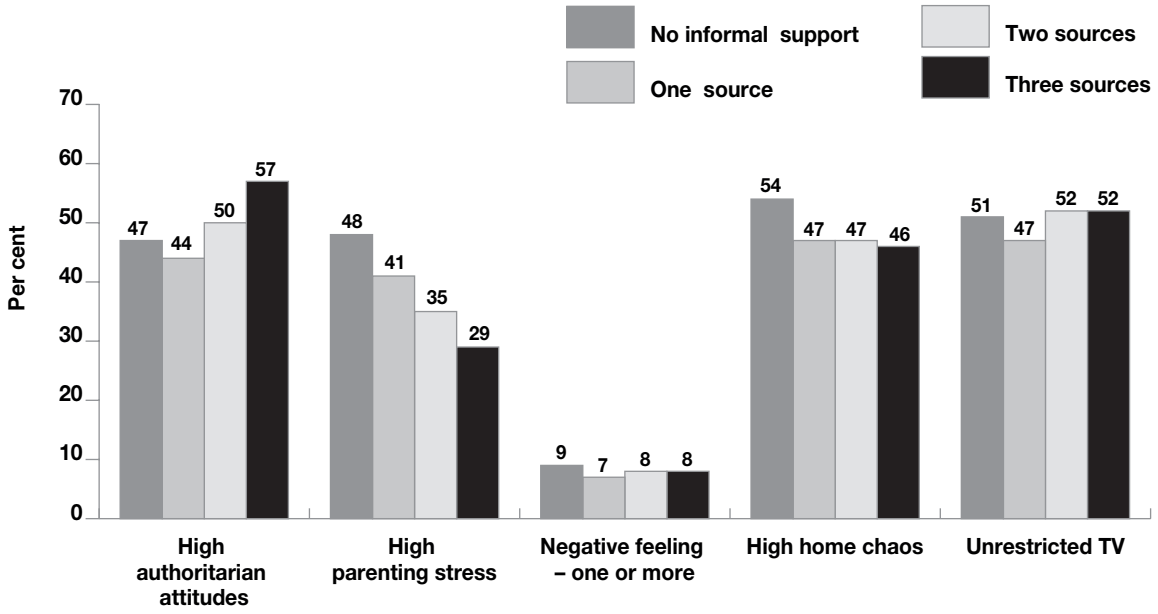

*Base – respondent was child's natural mother and child was a singleton birth:* n *= 5870. Differences in parenting stress and negative feelings were not statistically significant*

### *6.4.2 Do parental attitudes and organisation vary according to social support for parenting?*

Mothers with more informal support were most likely to report highly authoritarian attitudes, but less likely to report high levels of parenting stress and home chaos (Figure 6.4). Negative feelings and unrestricted TV did not seem clearly associated with levels of informal support.

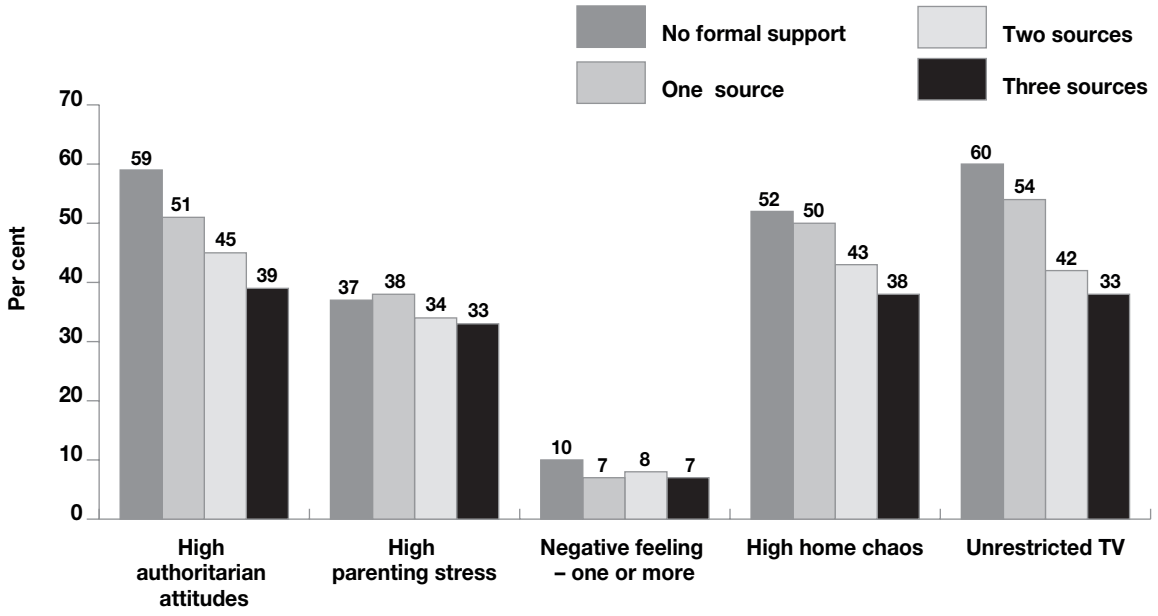
Mothers with more formal parenting support were less likely to have highly authoritarian attitudes, high levels of home chaos and unrestricted TV use (Figure 6.5). Mothers with some formal support were less likely to have one or more negative feelings about being a parent. There was no clear association with levels of parenting stress, although there is a trend for stress to be lower with higher formal support.

## Figure 6.4 Prevalence of parenting attitudes and organisation according to level of informal parenting support




*Base – respondent was child's natural mother and child was a singleton birth:* n = 5870. *Differences in negative feelings were not statistically significant.*

## Figure 6.5 Prevalence of parenting attitudes and organisation according to level of formal parenting support




*Base – respondent was child's natural mother and child was a singleton birth:* n = 5870. *Differences in parenting stress were not statistically significant*

### 6.4.3 *Multivariate analysis of family characteristics associated with parenting attitudes and organisation*

Variation in parental attitudes and organisation according to socio-economic status or parenting support described thus far have not allowed for the possibility that circumstances and support levels are linked. In practice, lower socio-economic status was associated with lower formal parenting support. Informal parenting support was less clearly associated with deprivation. In the GUS dataset, both highly educated mothers and those with no qualifications experienced relatively low levels of informal support.

In addition, there may be confounding influences, such as a mother's general health and the number of children in the family. Poor health and a greater number of children each had associations with more traditional attitudes, greater stress, greater chaos and unrestricted household TV; and poor health was also associated with more negative feelings (detailed findings are not shown here due to lack of space). Additionally, both health and family size were associated with family socio-economic status (as measured here by mother's educational level) and parenting support. Allowing for health and family size enables us to assess the role of parenting support and maternal education, independent of other key aspects of family circumstances likely to affect parenting.

Multivariate analysis assessed the simultaneous influence of maternal educational level, any informal parenting support and any formal parenting support on attitudes and organisation. (Here, maternal education was used as an indicator of socio-economic status: findings were similar when other indicators, such as household income and area deprivation, were substituted.) Logistic regression models were used for each measure[21]. In the case of authoritarian attitudes, parenting stress and home chaos, parents in the highest category of each measure described were contrasted with all other parents. Further details of multivariate models are available on request.

In these models, mother's educational level remained significantly associated with all the outcome variables (Table 6.1). The odds of mothers with no educational qualifications having highly authoritarian attitudes or negative feelings about being a parent were more than three times higher than for the most educated group. Their odds of having high levels of home chaos were also more than twice as high and were nearly five times as high for having the TV switched on all day. Interestingly, levels of high parenting stress in this group were no different from those in the most educated group. As we saw earlier in the simple associations between education and stress, levels of stress among mothers with qualifications below degree level were lower than those reported by the most highly educated group. In the multivariate model of stress, we allowed for differences in informal parenting support, which (as already noted) appeared lower for mothers with degree-level qualifications. The remaining difference in stress might be due to differences in other pressures (for example, employment-related), but might also reflect differences in reporting style.

21 See appendix A for a description of multivariate logistic regression analysis

Mothers without any informal parenting support were more likely to report high parenting stress and home chaos compared with mothers with such support, even allowing for other factors such as mother's education. However, informal support was not associated with authoritarian attitudes, negative feelings or TV restriction after taking account of other factors in the models.

Mothers with no formal parenting support were more likely to have highly authoritarian attitudes and to have the TV on all day, even after allowing for mother's education and other factors. Formal support was not associated with parenting stress, negative feelings or home chaos after taking account of other factors in the models.

**Table 6.1 Multivariate models of parental attitudes and organisation: summary of findings**

| | Highly traditional, authoritarian attitudes | High parenting stress | Negative feeling – one or more | High home chaos | Unrestricted TV |
|---|---|---|---|---|---|
| | *p* | *p* | *p* | *p* | *p* |
| Lower maternal educational qualifications | *** | *** | *** | *** | *** |
| No informal parenting support | NS | *** | NS | ** | NS |
| No formal parenting support | * | NS | NS | NS | *** |

*Base – respondent was child's natural mother and child was a singleton birth:* n *= 5870. Models adjusted for mother's health and number of children in the family. Probability* p *associated with effect of each measure where * denotes* p*<0.05, **p<0.01, ***p<0.005, NS = not statistically significant*

## 6.5 Child activities and the parent-child relationship

In this section, we examine several activities that parents undertake with their child, and the warmth of the parent-child relationship. Two of these activities (looking at books or reading stories, and reciting nursery rhymes or singing) form part of the GUS Home Learning Environment index associated with children's cognitive development (Melhuish, 2010). Warmth in the parent-child relationship was measured by asking about spontaneous affection through hugs or holding the child. Showing affection through bodily contact is likely to indicate secure attachment (Tracy and Ainsworth 1981).

This section describes the measures used, and their distribution in the whole sample.

### *6.5.1 Child activities*

Parents were asked three questions on frequency of activities undertaken with their child: "How often do you or your partner look at books with ^childname or read stories with him/her?"; "How often do you or your partner recite nursery rhymes or sing songs with (^childname)"; and "How often do you or your partner take ^childname to visit friends who have young children?". Answers to each question were recorded on a 9-point scale from 1 'every day/most days' to 9 'never'. For the purposes of this analysis, frequencies of looking at books and nursery rhymes/singing were divided into those who did the activity every day or most days, and those who did the activity less often. For visiting friends with young children, responses were divided into those who visited once a week or more often, and those who visited less than weekly.

Parents were also asked: "How long would ^childname usually watch television for in total on an average weekday?" (open-ended response). For this analysis, responses were divided into children watching for up to 2 hours daily, and those watching for more than 2 hours.

More than two-thirds of parents (70%) said they looked at books or read stories with their child every day or most days; a further 20% did so once or twice a week; while the remaining 10% looked at books or read stories once a fortnight or less often.

The majority of parents (88%) said they recited nursery rhymes or sang with their child every day or most days, with a further 9% doing so once or twice a week and the remaining 3% reporting this activity once a fortnight or less often.

Two-thirds of parents (67%) took their children to visit friends with other young children once a week or more often, 16% took them once a fortnight and 17% less often than this.

A quarter of children did not watch TV, a further 57% watched for up to 2 hours daily while 18% watched for over 2 hours on a typical day.

### *6.5.2 The parent-child relationship*

Mothers were asked: "Thinking about the time you spend with ^childname, how often do you hug or hold him for no reason?". Responses were on a 5 –point scale. 95% of mothers reported either 'often' or 'always/almost always' hugging for no reason, the remaining 5% 'sometimes', 'rarely' or 'never/almost never' showing affection in this way.

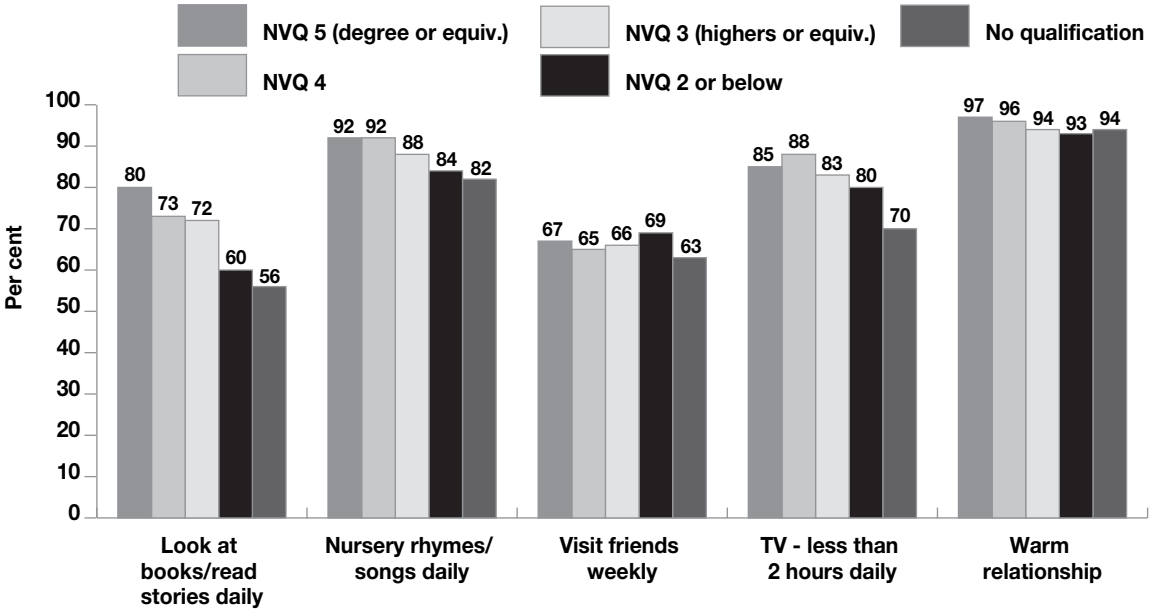
## 6.6 Do children's activities and the parent-child relationship vary according to family circumstances?

This section describes variation in children's activities and the warmth of the parent-child relationship, according to socio-economic status and parenting support.

Less educated mothers were less likely to report looking at books, saying rhymes or singing with their child daily, or limiting their child to 2 hours of TV a day. They were also less likely to enjoy a warm relationship with their child, although the differences were small and the vast majority of mothers at all educational levels reported giving their child spontaneous affection (Figure 6.6). Visiting friends with young children did not vary markedly with mother's educational level.

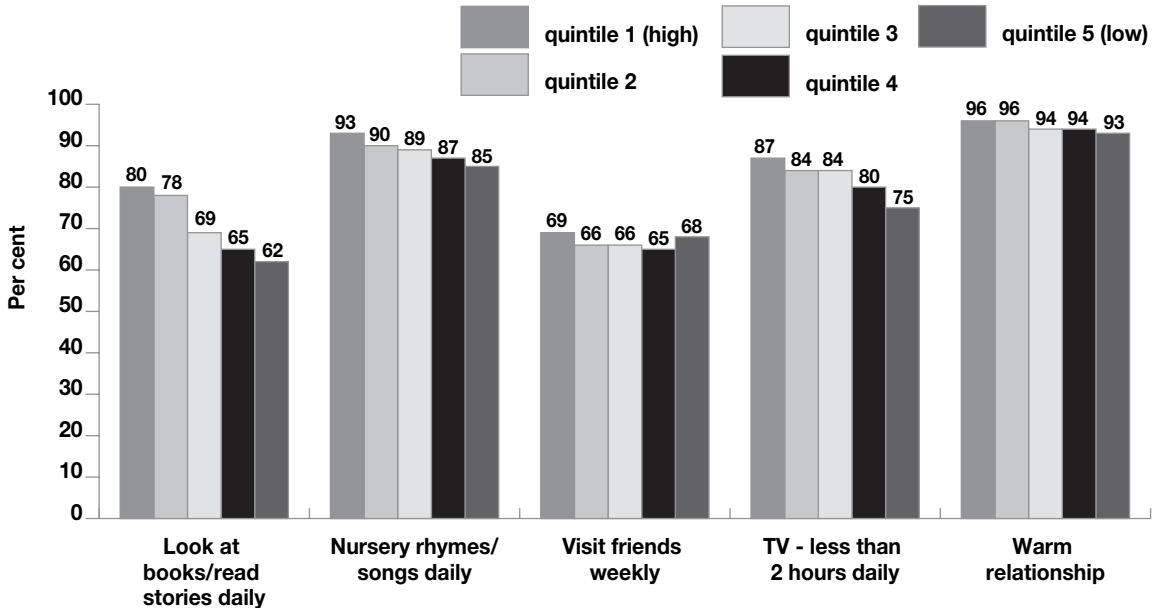
Similar associations were found for activities and warmth of relationship in relation to household income and area deprivation (Figure 6.7 and Figure 6.8).

**Figure 6.6 Prevalence of activities and warm relationship according to mother's education**



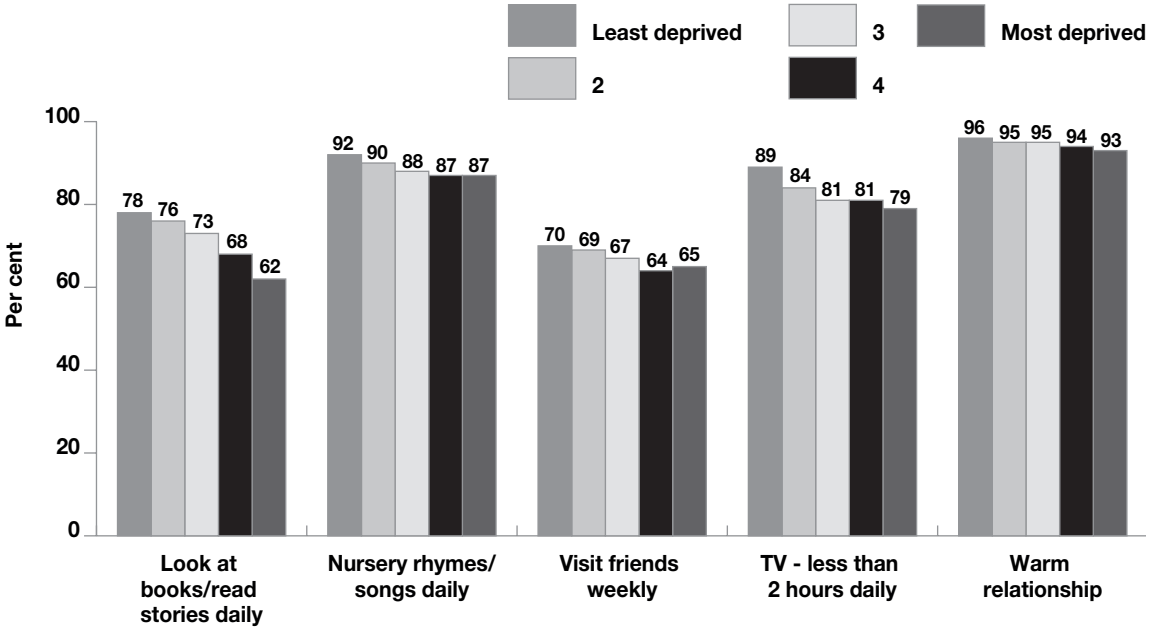

*Base – respondent was child's natural mother and child was a singleton birth:* n = *5870. Differences in visiting friends were not statistically significant*

## Figure 6.7 Prevalence of activities and warm relationship according to household income




*Base – respondent was child's natural mother and child was a singleton birth:* n = *5870. Differences in visiting friends were not statistically significant*

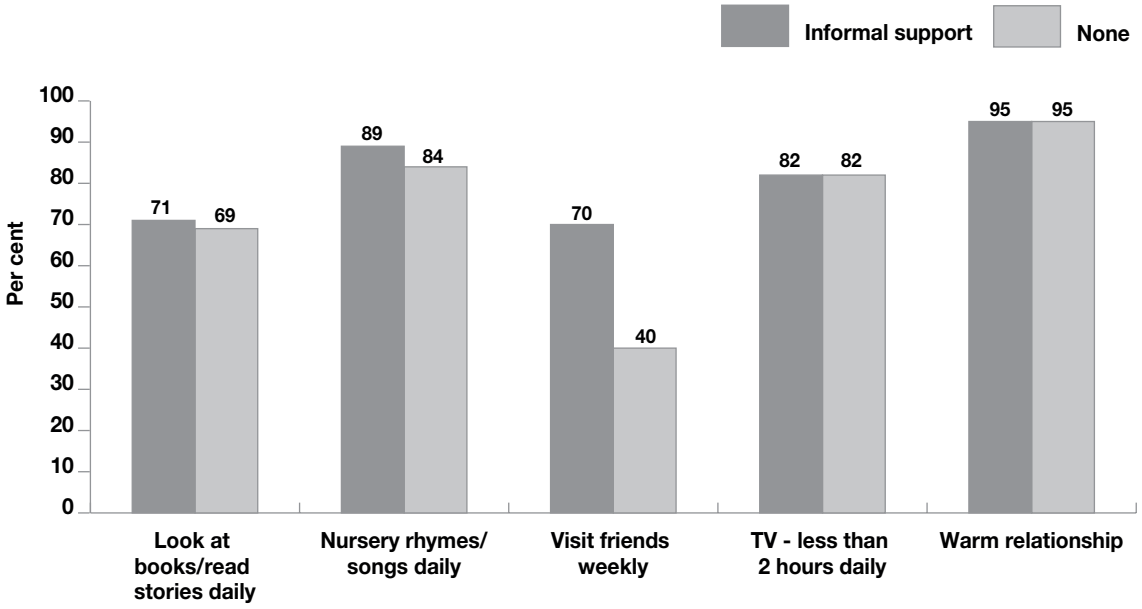
## Figure 6.8 Prevalence of activities and warm relationship according to area deprivation




*Base – respondent was child's natural mother and child was a singleton birth;* n = *5870*

Parents without informal parenting support were far less likely to visit other friends with young children at least weekly, and said rhymes or sang together less often, although differences for the latter activity were small. The presence/absence of such support was not associated with variation in other activities or with the mother-child relationship (Figure 6.9).

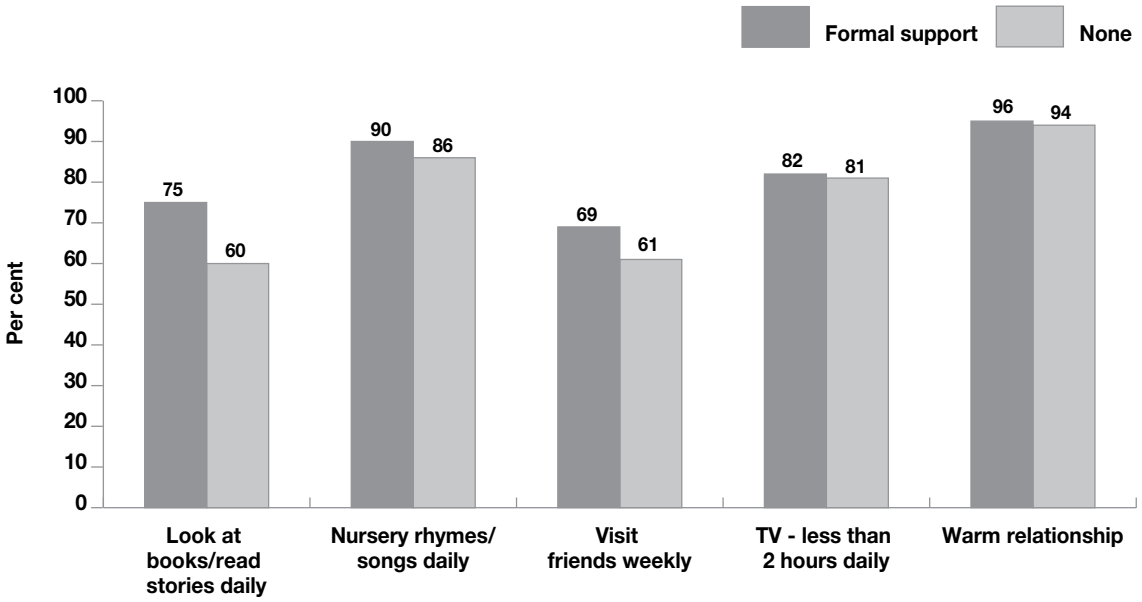
## Figure 6.9 Prevalence of children's activities according to informal parenting support




*Base – respondent was child's natural mother and child was a singleton birth:* n = *5870. Differences for looking at books, watching TV and warm relationship were not significant*

Mothers without formal parenting support were less likely to look at books, say rhymes or sing daily with their child, or to visit friends at least weekly. They also had a less warm relationship, although here differences between mothers with and without formal support were small (Figure 6.10). There was no statistically significant difference in children's TV according to take-up of formal support.

## Figure 6.10 Prevalence of children's activities according to formal parenting support




*Base – respondent was child's natural mother and child was a singleton birth:* n = *5870. Differences for watching TV were not significant*

## 6.7 Do children's activities and the parent-child relationship vary according to parental attitudes and organisation?

Parents' attitudes to bringing up children, feelings about being a parent and their organisational skills may affect both what they do with their child and the warmth of the relationship (see paragraph at beginning of section 6.2).

The key statistically significant individual associations between activities/warmth of relationship and measures of attitude and domestic organisation were:

- Reading and singing daily were both slightly less common among parents with highly authoritarian attitudes, high parenting stress levels, negative feelings about parenting, high home chaos and low household TV restriction.
- Visiting friends at least weekly was less common among parents with high stress levels, high home chaos and low TV restriction.
- Children were more likely to watch TV for more than 2 hours daily if their parents had high parenting stress levels, negative feelings about parenting and had the TV switched on all day.
- A warm mother-child relationship was slightly less common among mothers with highly authoritarian attitudes, and where there were high levels of home chaos and unrestricted TV. However, differences were very small. Most mothers reported showing spontaneous affection, regardless of their attitudes and level of organisation.

## 6.8 Multivariate analysis of factors associated with children's activities and the parent-child relationship

Thus far, our investigation of factors influencing children's activities or the parent-child relationship has not taken account of the interrelationships between socio-economic status, parenting support, parent attitudes and organisation (see section 6.4.3). Multivariate analysis modelled the simultaneous influence of all of these factors on each of the four children's activities measured, and on the warmth of the parent-child relationship.

This analysis also took account of mothers' general health and the number of children in the family, as possibly confounding influences. Mothers in poorer health were less likely to visit friends, more likely to let the child watch TV for more than 2 hours daily and less likely to report a warm relationship. Mothers with more children were less likely to read or say rhymes/ sing with their cohort child. Including health and family size in the Multivariate models allows for a better assessment of the role of parenting support and maternal education, independent of other key aspects of family circumstances likely to affect parenting.

The main findings are summarised in Table 6.2. Further details of models are available on request.

Children's activities and warmth of the mother-child relationship all varied according to mother's educational level, after allowing for other influences. In general, a higher level of education was associated with more beneficial outcomes with the exception of visiting friends, where less educated mothers visited slightly more often than highly educated mothers.

After controlling for other influences, including mother's education, informal parenting support was associated with more frequent nursery rhymes or singing, and with visiting friends. The latter is not altogether surprising, since friends provide one element of such support. Formal support was associated with looking at books and visiting friends.

There were also several associations between parenting attitudes and children's activities/ relationship with their parent, even after allowing for mother's education, parenting support and other influences. Authoritarian attitudes were associated with less frequent reading and rhymes/singing, and with a less warm relationship.

Parenting stress was associated with less reading, rhymes/singing, visiting and unrestricted TV. Negative feelings about being a parent were also associated with less rhymes/singing and unrestricted TV.

Home chaos and unrestricted household TV were both associated with less reading, rhymes/ singing and visiting, even after allowing for other influences. Perhaps surprisingly, after controlling for the influence of mother's education on patterns of TV use, parents who left the TV switched on all day were no more likely to report having a child who watched it for more than 2 hours daily.

**Table 6.2 Multivariate analysis of factors associated with less frequent children's activities and a less warm parent-child relationship: summary of main findings**

| | Looking at books – less than daily | Nursery rhymes/ songs – less than daily | Visiting friends – less than weekly | TV – more than 2 hours daily | Mother-child relationship – less warm |
|---|---|---|---|---|---|
| | *p* | *p* | *p* | *p* | *p* |
| Lower maternal education | *** | *** | * | ** | ** |
| No informal parenting support | NS | ** | *** | NS | NS |
| No formal parenting support | *** | NS | *** | NS | NS |
| Traditional, authoritarian attitudes to parenting | * | * | NS | NS | * |
| Higher parenting stress | *** | *** | *** | * | NS |
| Negative feelings about parenting | NS | * | NS | ** | NS |
| Higher home chaos | *** | ** | * | NS | NS |
| Unrestricted household TV | *** | * | * | NS | NS |

*Base – respondent was child's natural mother and child was a singleton birth:* n *= 5870. Models adjusted for mother's heath and number of children in the family. Probability* p *associated with effect of each measure where * denotes* p*<0.05, **p<0.01, ***p<0.005, NS = not statistically significant*

## 6.9 Comparison with the first birth cohort

This section examines differences between the two Growing Up in Scotland birth cohorts. Similar measures were collected at the first (age 10 months) sweeps of both the first cohort in 2005/06 (BC1) and the second cohort in 2011 (BC2). Note that it was not possible to compare all measures.

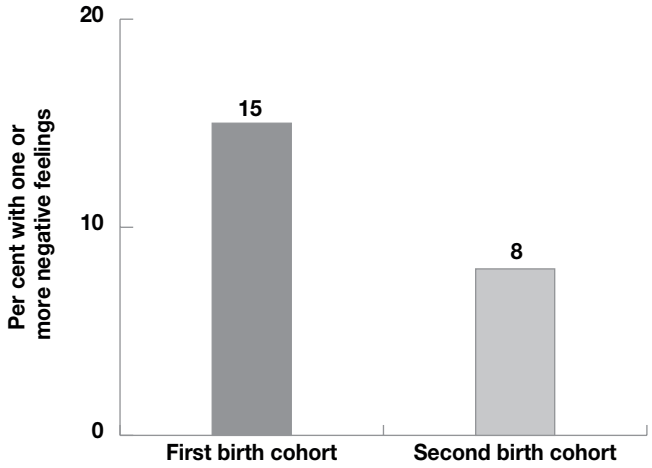
### *6.9.1 Parents' negative feelings*

Parents in BC2 were less likely to report any negative feelings (incompetence or lack of confidence, resentment, annoyance or irritation) than parents in the first birth cohort (see Figure 6.11). These differences remained after allowing for family circumstances (mother's education and health, household income) and the child's exact age in months. When these

influences were taken into account, the odds of parents in BC1 expressing negative feelings about being a parent were 1.8 times higher than those of parents in BC2.

The reasons for this difference are not clear, and could be due to other differences between the two sample populations that have not been taken into account. Parents in BC2 were more likely to report formal parenting support compared with those in the BC1 (71% compared with 39% respectively). However, taking presence/absence of formal support into account resulted in only a small reduction in the difference in negative feelings between the two cohorts. (Note that it was not possible to compare levels of informal support measured at BC2 with informal support in BC1, due to differences in measures collected.)

**Figure 6.11 Parents' negative feelings according to birth cohort**




*Base – respondent was child's natural mother and child was a singleton birth: First birth cohort = 5051, second birth cohort = 5870*

### *6.9.2 Children's activities*

Similar measures of looking at books/reading stories and saying nursery rhymes/singing were collected for the first sweep of both cohorts (measures were not collected for visiting friends and hours of TV watching for this age group).

Parents in BC2 were slightly more likely to report looking at books or reading stories every day/most days with their child than parents in BC1. However, they were slightly less likely to say nursery rhymes or sing every day/most days (see Figure 6.12 below).

The Play, Talk, Read campaign was targeted at parents in deprived areas. Figure 6.13 suggests, however, that the increase in reading between cohorts was similar in all areas, regardless of the level of deprivation.

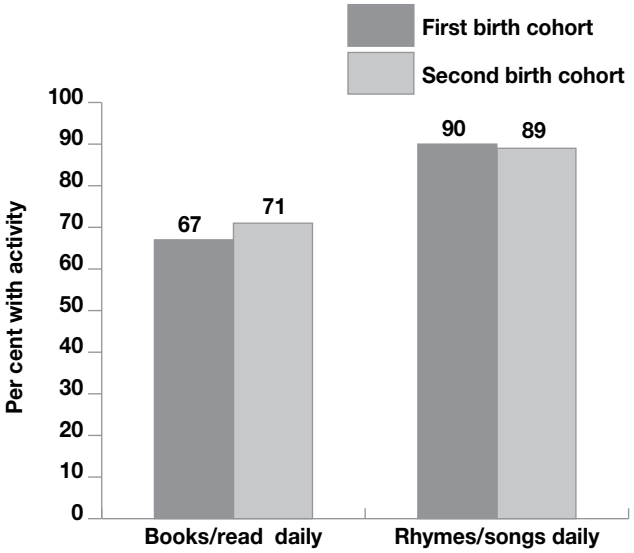
The difference between the two cohorts for reading remained statistically significant after taking account of cohort differences in mother's education, household income and child's age in months. The difference between cohorts in nursery/rhymes singing was no longer statistically significant. However, differences between birth cohorts were small compared with variation according to family circumstances. For example, across both cohorts the odds of mothers with degree level education reading daily were 2.5 times greater than the odds of

mothers with no qualifications; and the odds of mothers in the highest household income quintile reading daily were 1.6 times greater than those in the lowest income quintile. The odds of reading daily in BC2 were only 1.16 times higher than those in the first birth cohort.

As already noted, parents were more likely to report formal parenting support in BC2. Allowing for formal parenting support in the modelling of reading reduced the difference between birth cohorts to non-significance. In this modelling, the odds of reading among parents with formal support were 1.54 times the odds of reading among parents without such support. (Note that this model did not take into account informal support, as comparable measures were not collected for the first birth cohort.)

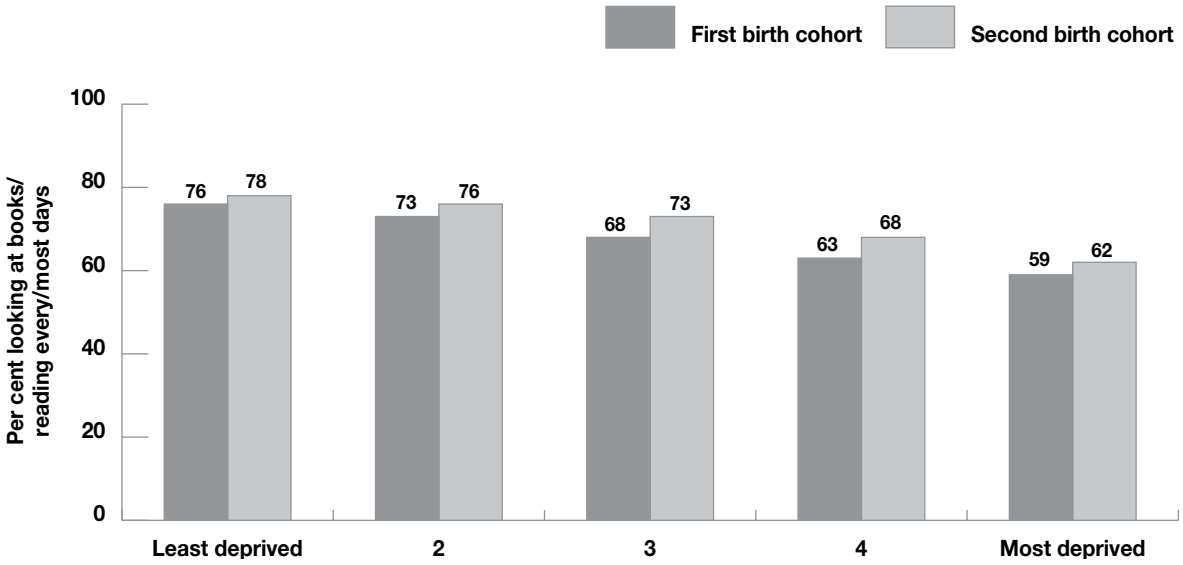
It therefore appears that more formal parenting support could offer one explanation of the increase in reading between cohorts. Since the improvement in reading was similar across affluent and more deprived areas, it seems that other factors besides the targeted element of the Play, Talk, Read campaign were responsible for the overall increase.

**Figure 6.12 Children's activities according to birth cohort**




*Base – respondent was child's natural mother and child was a singleton birth: First birth cohort = 5051, second birth cohort = 5870*

**Figure 6.13 Looking at books/reading by deprivation and birth cohort**




*Base – respondent was child's natural mother and child was a singleton birth:* n *= 5870. Differences for watching TV were not significant*

## 6.10 Summary and conclusions

Within the second GUS birth cohort, in 2011, the attitudes of parents of 10-month olds to bringing up children, their feelings about being a parent and their organisational skills were patterned by family disadvantage and parenting support. Family disadvantage and support also patterned the activities parents carried out with their child, and the warmth of the parent-child relationship.

Low maternal education provides a relatively stable indicator of family disadvantage. Compared to mothers with degree level education, mothers with few or no educational qualifications were:

- more likely to have highly authoritarian attitudes and negative feelings about their parenting role (resentment, incompetence, annoyance or impatience)
- more likely to report high levels of home chaos
- more likely to have the TV switched on for long periods, and to have a child watching TV for 2 or more hours daily
- less likely to look at books or say nursery rhymes/sing with their child
- less likely to enjoy a warm relationship with their child.

Parenting stress was higher for both mothers with no qualifications and mothers with degree-level qualifications, compared to mothers with intermediate qualifications. Further work is needed to identify possible differing sources of stress in well-educated and poorly educated groups, which were not clearly related to differences in parenting support.

Informal and formal sources of parenting support were each associated with different, but overlapping, aspects of parenting. Parents lacking informal support were:

- more likely to experience high parenting stress and report high levels of home chaos
- less likely to say nursery rhymes/sing with their child, and less likely to visit friends with young children.

Parents lacking formal support were:

- more likely to report highly authoritarian attitudes and unrestricted TV
- less likely to look at books with their child or to visit friends with young children.

Parents' authoritarian attitudes, stress, other negative feelings, and domestic organisation were associated with children's activities and the warmth of the parent-child relationship. These associations held after taking account of family circumstances (mother's education, health, the number of children in the family and parenting support). In particular:

- Parents with more authoritarian attitudes were slightly less likely to read or sing with their child, and had a less warm relationship with them.
- Parents experiencing high levels of stress parenting their child, as well as parents reporting negative feelings such as incompetence or annoyance, were less likely to read or sing with the child, and more likely to let the child watch TV for 2 hours or more daily. High parenting stress was also associated with less contact with friends with young children.
- Parents who reported high levels of home chaos, as well as parents who left the TV switched on for long periods, were less likely to look at books/read stories, say nursery rhymes/sing with their child or visit friends with children.

In summary, the findings suggest that family disadvantage, parent support, parental attitudes and feelings, and parental organisational levels, may all have independent associations with aspects of parenting thought to be important for children's cognitive and socio-emotional development, and for the development of a secure attachment between the parent and child.

The limited comparison possible between the first and second GUS birth cohorts suggested a decrease in the proportion of parents with negative feelings about parenting, such as incompetence, resentment, impatience and irritation. There was a small increase in the proportion of parents who looked at books or read stories with their child daily. The difference in reading, but not the difference in negative feelings, is possibly attributable to increased provision of formal parenting support since the first birth cohort was surveyed.

Care should be taken when interpreting the findings from BC2 as the survey is cross-sectional at this stage. Associations found between measures might reflect other confounding influences or reverse causation (for example, mothers with certain attitudes may be more or less likely to seek formal parenting support, rather than such support changing attitudes and feelings). The analysis is limited to mothers' self-reported views. These may reflect biases such as social desirability, and differ from the views of fathers and other carers.

However, the findings do allow for the possibility that both informal and formal parenting support may boost both a parent's own psychological resources and important parenting behaviours. Few measures of the child's socio-emotional development were available at this stage; but subsequent sweeps will allow longitudinal associations between parental attitudes or feelings, parenting behaviours and child development to be examined.

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chapter 7

# NON-RESIDENT PARENTS

TESSA HILL, SCOTCEN SOCIAL RESEARCH

## 7.1 Introduction

Levels of non-resident parenthood in Scotland are considerable. Estimates from the 2009/10 Scottish Household Survey (SHS) indicated that around 21% of households with children (aged 0 – 15) in Scotland were single parent households (National Statistics, 2011). This figure has remained largely static over the last ten years – in the SHS results for 2001/02, the corresponding figure was 22% – although some change did occur prior to that.

Whilst non-resident parenthood is not synonymous with non-resident fatherhood, non-resident parents are overwhelmingly fathers. Amongst the single parent households in the 2009/10 SHS data, 88% were headed by a female.

Whilst initial increases in levels of non-resident parenthood were largely attributable to rising divorce rates, shifting demographic trends – most notably the considerable rise in non-marital births – have also altered the face of non-resident parenthood. Such births have been steadily increasing in recent years reaching 51% in 2011. Of course unmarried parenthood is not tantamount to non-resident parenthood with many non-marital births jointly registered within a cohabiting relationship – 34% in 2011 (GRO, 2012). A significant minority however are not, instead being jointly registered to non-cohabiting couples or registered solely by the child's mother, 12% and 5% in 2011 respectively. This is reflective of recent findings that an increasing number of children have a non-resident parent from birth (Wilson, 2010). GUS data suggests that 78% of children with a non-resident parent had a birth certificate with both parents' names on it.

Parental relationship status can have significant consequences for non-resident parent involvement. Studies in both the UK and US have found that fathers have lower levels of involvement where children are born outwith marriage (Marryat et al. 2009; Cheadle et al. 2010) and that cohabiting relationships are at greater risk of breakdown in the early years of a child's life (Carlson et al. 2003; Kiernan et al. 2011).

This literature suggests that those parents who have spent a longer period living with the child tend to have higher levels of involvement when they are no longer co-resident. An issue of key concern therefore, is where non-resident parenthood commences with the birth of the child. Recent findings from the Millennium Cohort Study indicated that some 31% of never resident fathers had no contact with the child at age nine months (Kiernan, 2006:664). In addition, the quality of the inter-parental relationship is again important with a co-operative, low conflict relationship having been found to be conducive to positive non-resident parent involvement (Dunn et al. 2004) although not necessarily to levels of involvement (Marryat et al. 2009).

Scottish law and policy seek to promote the involvement of non-resident parents in their children's lives. The Children (Scotland) Act 1995 provides that all fathers married to the child's mother at the child's birth have automatic parental responsibilities and rights (PRRs). The Family Law (Scotland) Act 2006 extended automatic PRRs to unmarried fathers who jointly register a child's birth on or after 4 May 2006. For non-resident parents with PRRs, the 1995 Act provides that the maintenance of regular contact with their child is both a right and a responsibility.

As the 2006 legislative changes will apply to the second birth cohort (BC2) but not the first, it is likely that a greater number of fathers in the second birth cohort have PRRs than fathers in the first – though it is not possible to examine this in the data. Since research on attitudes to family law (Morrison et al. 2004) has shown that many people thought that cohabiting fathers had parental rights even when they did not, it is not clear whether this legal change will result in greater levels of non-resident father involvement in BC2.

At the same time as the 2006 legislative measures, the Parenting Agreement for Scotland was introduced aimed at separating parents. Developed by the Scottish Government in conjunction with family support organisations, the Parenting Agreement is an information pack for parents aimed at facilitating an amicable separation and promoting the child's welfare as parents' primary concern.

Non-resident parenthood brings with it a host of practical issues and concerns. For the non-resident parent, their physical absence from the household may act as a barrier to involvement in their child's upbringing. However, the Children (Scotland) Act 1995 requires that those with PRRs are involved in decisions relating to their child's upbringing, including matters of health, development and welfare, regardless of whether they reside with the child.

A further important practical concern is the geographical distance between the non-resident parent and child. Due to a range of issues, including constraints of time and finance, increased geographical distance can perhaps unsurprisingly serve to hinder non-resident parent involvement (Trinder et al. 2002; Marryat et al. 2009).

The negotiation and management of practical issues such as these, in addition to wider arrangements as regards contact and financial support, are important aspects of non-resident parenthood. A range of family support agencies as well as the courts are available to assist parents with making such arrangements. However, most parents make arrangements informally by mutual agreement with no outside intervention. Whilst some enlist the assistance of family support agencies, very few arrangements are made through recourse to the courts (Wasoff, 2007; Scottish Government, 2008). Promoting positive parental relationships and better supporting parents through separation are key commitments in the Scottish Government's recently published *National Parenting Strategy* (Scottish Government, 2012).

The prevalence of non-resident parenthood (21% of all children) and the characteristics of lone parent families have already been discussed in chapter 2 (section 2.3). But the main carers of children with a non-resident parent were asked a series of questions about that parent. These covered the the resident parent's relationship with the non-resident parent, the frequency and nature of the contact the child has with them, how the contact arrangements were arranged and the influence they have in some areas of the child's life. The findings reported below, therefore only relate to families where the child has a non-resident parent.

## 7.2 Key findings

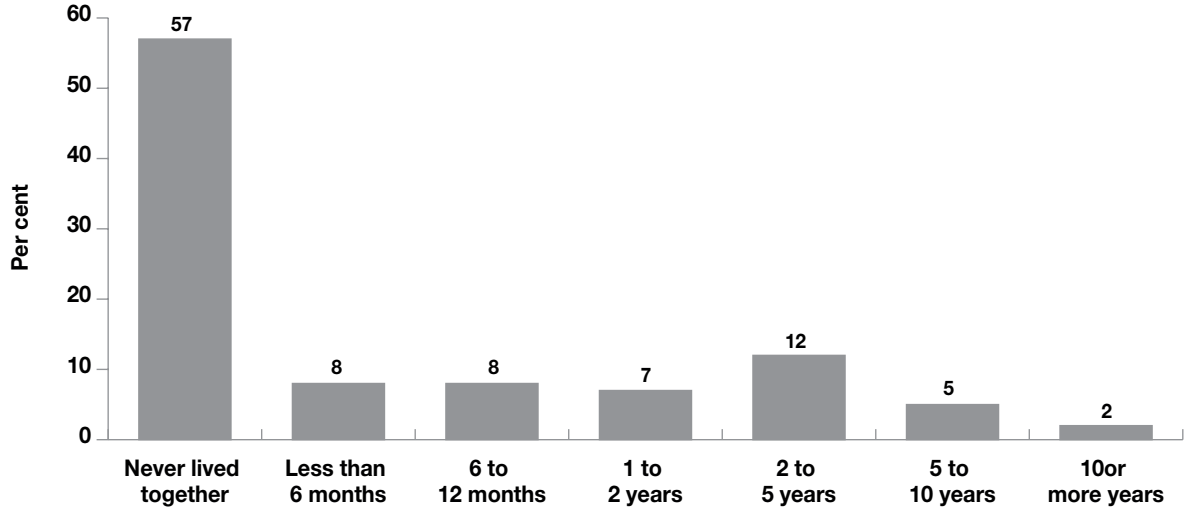
- At 10 months of age, 21% of Scottish children had a non-resident biological parent.
- In families where there was a non-resident parent, 57% of parents had never co-habited and 91% had never been married.
- 24% of children did not have contact with their non-resident parent.
- Non-resident parents who lived further away from the child, who had poorer relationships with the resident parent and who were reported as being less interested in the child (by the resident parent) were all less likely to have frequent contact with the child.
- In 40% of families with a non-resident parent, 40% of resident parents said they would almost always ask the non-resident parent when making major decisions concerning the child.

## 7.3 Co-habitation and relationship history

In 91% of families where there was a non-resident parent, the parents had never been married. 6% of parents had been married or in a civil partnership, but were now separated and 3% were either divorced or had been in a civil partnership that was now dissolved. In the remaining cases, (1% of all families with a non-resident parent, 0.2% of the whole sample) a parent was deceased. These latter cases were not asked any further questions.

In most families where there was a non-resident biological parent, the parents had not previously lived together (57%). However, 43% had lived together for some time including 16% who had lived together for less than a year, 19% for between one and five years and 7% for more than five years (Figure 7.1).

**Figure 7.1 Duration of parental cohabitation**




*Base – all children with a non-resident biological parent:* n = *1139*

## 7.4 Current relationship

10% of non-resident parents were currently living with someone else (as reported by the resident part). Around one-quarter (26%) were reported to have children with someone else.

Resident parents were asked to describe their relationship with the non-resident parent. Responses are shown in Table 7.1. Relationships tended to be very positive with 73% of resident parents saying their relationship with the non-resident parent was fairly or very good. Only 10% said it was fairly or very bad.

**Table 7.1 Resident parent's description of relationship with non-resident parent**

| | % |
|---|---|
| Very good | 39 |
| Fairly good | 34 |
| Neither good nor bad | 17 |
| Fairly bad | 5 |
| Very bad | 5 |
| *Base: all in current contact with non-resident parent* | *889* |

## 7.5 Contact with the child

24% of children with a non-resident parent had no contact with that parent. Almost half of these children (45%) had not had contact since birth. Amongst those who did have contact, the majority (68%) saw or spoke to their non-resident parent weekly or more more often. Only 8% of children had only monthly or less frequent contact (Table 7.2).

**Table 7.2 Non-resident parent's frequency of contact with child**

| | % |
|---|---|
| Every day | 28 |
| 5-6 times a week | 9 |
| 3-4 times a week | 14 |
| Once or twice a week | 18 |
| Less often but at least once a month | 6 |
| Less often than once a month | 3 |
| No current contact | 24 |
| *Base: all with non-resident parent* | *1159* |

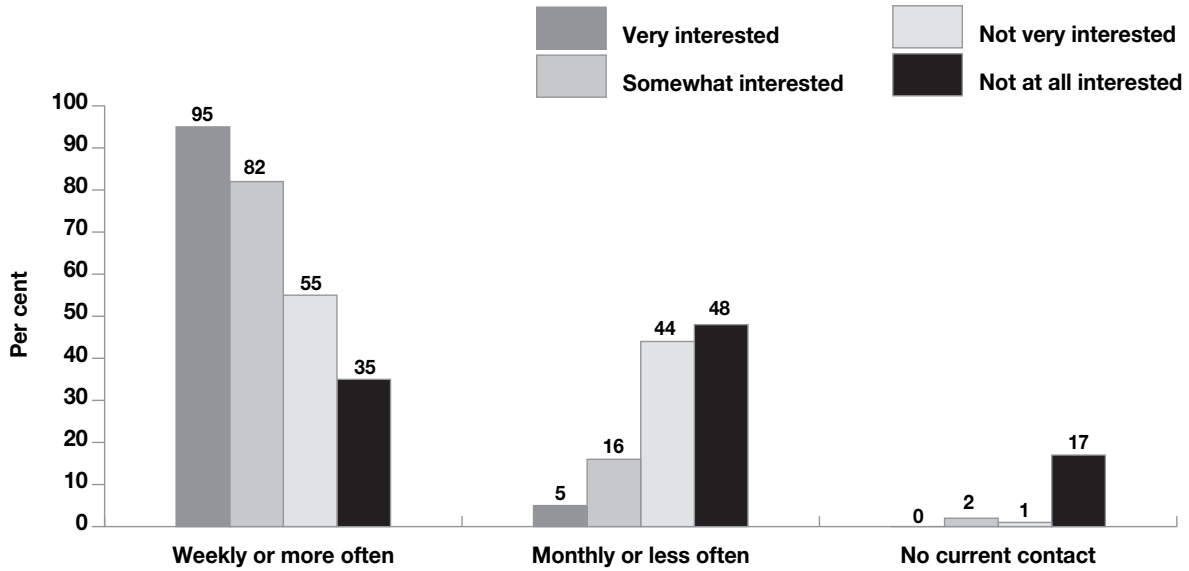
### *7.5.1 Contact arrangements*

The vast majority of parents (88%) had made contact arrangements informally with the non-resident parent. 4% had made arrangements formally using lawyers but not in court, and 1% had been through a court. A further 1% had made arrangements informally but using a mediator. The remaining 6% had made arrangements in some other way.

### *7.5.2 Factors influencing contact*

Figure 7.2 demonstrates the clear relationship between frequency of contact between the non-resident parent and the child, and the respondent's perception of the non-resident parent's interest in the child. Frequency of contact is considerably higher in those cases where the resident parent perceives a higher level of interest in the child in the non-resident parent. For example, 95% of those cases where the non-resident parent was reported to be 'very interested' in the child had contact at least weekly compared with 55% of those where the non-resident parent was 'not very interested'.

**Figure 7.2 Interest levels and contact levels**




*Base: All children with a non-resident biological parent: very interested = 645, somewhat interested = 171 , not very interested = 56, not at all interested = 15*

The nature of the parental relationship has a similar relationship with frequency of contact. As shown in Table 7.3, children whose natural parents have a better relationship are more likely to be in more frequent contact with their non-resident parent than those whose parents have a poorer relationship.

**Table 7.3 Relationship with non-resident parent and contact**

| | Respondent relationship with non-resident parent | | | |
|---|---|---|---|---|
| **How often child sees non-resident parent** | **Fairly or very good %** | **Neither good nor bad %** | **Fairly or very bad %** | **All %** |
| Weekly or more often | 94 | 82 | 62 | 89 |
| Monthly or less often | 6 | 18 | 38 | 11 |
| *Base: all with current contact* | *646* | *144* | *87* | *882* |

The distance the child's non-resident parent lived from them also affected how often the child saw that parent. Over 9 out of 10 children who lived within half an hour of their non-resident parent saw them weekly or more often. More precisely, 97% of children living within 10 minutes and 93% living 11-30 minutes away had contact at least weekly compared with 71% of children living 31-59 minutes away and 69% of children living 1-2 hours away The two-hour threshold appeared to have the largest impact on weekly contact; only 30% of children whose non-resident parent lived 2 or more hours away had contact weekly or more often.

**Table 7.4 Weekly contact with non-resident parent by distance non-resident parent lives from child**

| How far child lives from non-resident parent | Percentage in weekly or more frequent contact | *Base: all with current contact* |
|---|---|---|
| 10 minutes or less | 97 | *462* |
| 11 to 30 minutes | 93 | *263* |
| 31 to 59 minutes | 71 | *67* |
| 1 to 2 hours | 69 | *26* |
| More than 2 hours | 30 | *60* |

Children whose non-resident parent was not currently married or not living with a partner were three times more likely than those who were married or living with someone else to see their non-resident parent on a weekly basis (77% compared with 26%).

### *7.5.3 Other contributions*

Table 7.5 lists the proportion of non-resident parents that contribute in other ways to their child's upbringing.

The vast majority of non-resident parents had supported the child's upbringing or household in some way. Only 13% had given no such support. The most common contribution was through the purchase of clothes or equipment for the child, reported in 75% of cases. 64% of non-resident parents had taken their child on outings or daytrips and 47% had paid maintenance for the child.

**Table 7.5 Other contributions from the non-resident parent**

| | % |
|---|---|
| Bought clothes or equipment for child | 75 |
| Taken on outings or day trips | 64 |
| Paid maintenance for child | 47 |
| Helped out in some other way | 42 |
| Paid rent or mortgage | 11 |
| Not helped out in any of these ways | 13 |
| *Base: all where non-resident parent made some contribution* | *1040* |

## 7.6 Non-resident parent's influence in decisions

Parents were asked how often they consulted the non-resident parent about major decisions concerning their child. Table 7.6 shows the responses given.

Non-resident parents were less likely to be consulted on major decisions if there was a difficult parental relationship. In 68% of cases where the relationship between the parents was reported as fairly or very bad, the resident parent said they never consulted the non-resident parent on major decisions. In contrast, the same was true for just 7% of those with a fairly or very good relationship. Conversely, 50% of those who had a fairly or very good relationship said that they always consulted the non-resident parent on major decisions compared with 8% who had a fairly or very bad relationship.

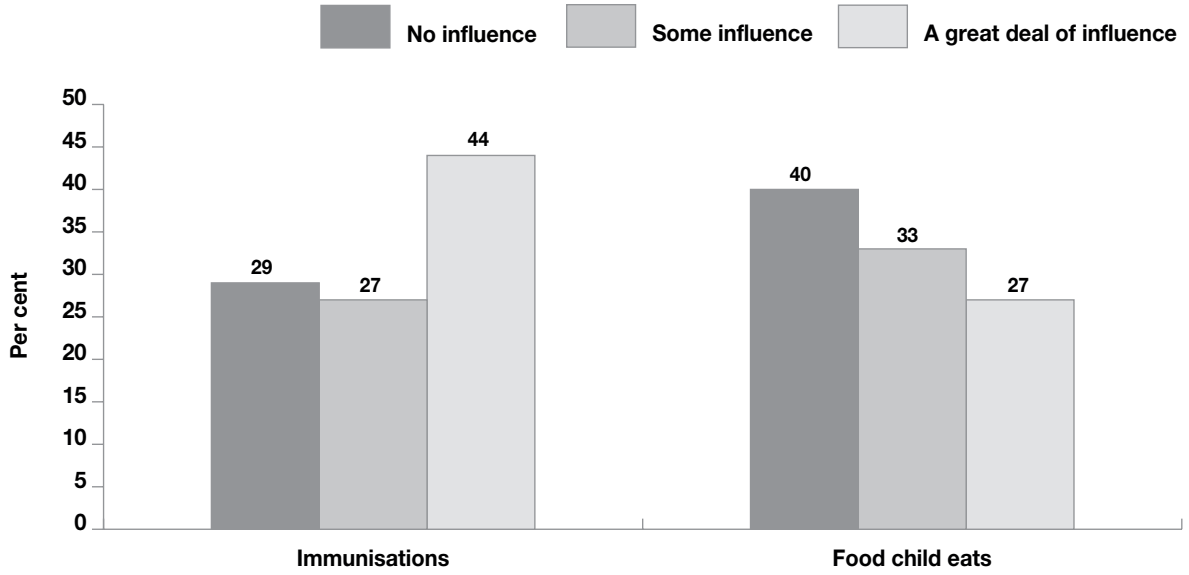
**Table 7.6 Asked about major decisions and parent on birth certificate**

| | Is non-resident parent's name on child's birth certificate | | Frequency of contact | | | All |
|---|---|---|---|---|---|---|
| | Yes | No | At least weekly | Monthly or less | No contact | |
| | % | % | % | % | % | % |
| Never or almost never | 15 | 42 | 13 | 51 | 47 | 18 |
| Rarely | 10 | 17 | 10 | 12 | 22 | 10 |
| Sometimes | 16 | 19 | 15 | 15 | 31 | 15 |
| Often | 19 | 7 | 18 | 8 | 0 | 17 |
| Always or almost always | 41 | 16 | 43 | 15 | 0 | 40 |
| *Base: all in current contact with non-resident parent* | *708* | *88* | *781* | *97* | *6* | *890* |

Parents were also asked how much influence the non-resident parent has over two specific aspects the of the child's life: immunisations and the food they eat. Figure 7.3 shows the responses to these questions. Non-resident parents were significantly more likely to have some influence on immunisations than diet. 44% of non-resident parents were reported to have 'a great deal' of influence on the child's immunisations whereas only 27% had the same level of influence on the food the child eats.

The nature of the relationship between the natural parents affected how much influence the non-resident parent had. Those non-resident parents whose relationship was described as fairly or very bad had less of an influence on immunisations and the child's diet – 58% had no influence on immunisations and 80% had no influence on food choices – than non-resident parents where the relationship was fairly or very good – 24% and 24% respectively.

**Figure 7.3 Level of non-resident parent's influence on child's immunisations and diet**




*Base: all in current contact with non-resident parent,* n = *827*

## 7.7 Summary

At 10 months of age, one-fifth of children born in Scotland between March 2010 and February 2011 had a non-resident biological parent. The levels of contact between these children and their non-resident parent, the involvement of the non-resident parent in the child's life, the relationship between the parents and ways in which the non-resident parent supports the child's upbringing, all vary – yet all are also interlinked.

The quality of the parental relationship, in particular, seems to be key to ensuring a broader positive involvement of the non-resident parent in the child's life. Where the relationship is better, as reported by the resident parent, the non-resident parent has more frequent contact, offers more support, and is more involved in decisions about the child's life.

It appears, therefore, that the National Parenting Strategy's focus on promoting positive couple relationships is warranted. Improving relationships may not only reduce the incidence of parental separation in the first place but also, when it does occur, through the right support, allow separated parents to maintain, or develop a good relationship. This, in turn – the data in this chapter suggests – will benefit the child/non-resident parent relationship.

Most non-resident parents are either often or always consulted about major decisions surrounding the child. GUS data do not tell us where there is a PRR in place. However, we do know if the birth was jointly registered. Given that the Family Law (Scotland) Act 2006 extended automatic PRRs to unmarried fathers who jointly registered a child's birth on or after 4 May 2006, a PRR will be present in all cases where there has been joint registration. Yet in one quarter of cases where the non-resident parents name was on the birth certificate, that parent was never or rarely consulted on major decisions. We saw that level of interest in the child also varied amongst non-resident parents. This may be driving some of the lower

consultation levels, with less interested non-resident parents less likely to be consulted. However, it is important that parental responsibilities are acknowledged by all parents especially when greater interest will likely result in greater contact and involvement overall.

Teasing out the intricacies of these data is beyond the scope of this report. Nevertheless, some key themes are clear. It must be borne in mind, however, that all data in these cases is provided by the resident parent and is therefore subject to some bias which may affect responses. To generate a full understanding of parental relationships after separation and the factors which affect contact and involvement it would be necessary to also obtain the perspectives of non-resident parents themselves.

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chapter 8

# CHILDCARE

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## 8.1 Introduction

Currently in Scotland children are entitled, from the term following their third birthday, to attend a nursery or preschool setting (a council nursery or private sector partner provider) without charge for the statutory requirement of at least 12.5 hours a week or 475 hours a year over 38 weeks. Any other care (for children under 3½ years, or outside school time) is outwith statutory requirements.

The 2008 Concordat agreement between the Scottish Government and COSLA (Convention of Scottish Local Authorities) emphasised the autonomy of local authorities, so that some local authorities aggregate the weekly hours available, allowing parents to use the free entitlement as they wish. Others limit availability to 2.5 or 5 hours a day, leaving families to pay for additional care. In some areas children can start nursery, free, before their official date of entitlement; in others they can start but must pay a small fee (Children in Scotland 2011).

The investment in early years – including childcare provision – stems from the National Outcomes published by Scottish Government in 2007, which articulate the Government's purpose; specifically, National Outcome 5 states: "Our children have the best start in life and are ready to succeed" (Scottish Government 2011). Contributing to the delivery of this Outcome is the *Early Years Framework* (EYF). The EYF shapes the content and delivery of multiple forms of childcare; one practical result is the Scottish Family Information Service. Established in 2011, the service offers a centralised gateway for family services with relevant childcare information for each local authority, meaning that families of children in BC2 may find it much simpler to find and choose their preferred childcare (Scottish Government 2011).

The *Early Years Framework* committed the Scottish Government to promoting childcare vouchers among employers in Scotland; childcare vouchers allow employers to support their staff with the costs of childcare. Since 2005 the UK Government has allowed income tax and National Insurance (NI) exemptions for participating employees and NI exemptions for employers, provided certain conditions are met. Overall, the average childcare costs for 25 hours a week are £84 in Scotland, which is more than half the gross average part-time weekly earnings of £160 (Children in Scotland, 2011).

When the child is older, it is possible that children and families in BC2 will experience improved childcare service provision and outcomes compared with BC1 because of the forthcoming Children's and Young Person's Bill. The Bill will be introduced to Parliament in 2013 and aims to improve the availability of high quality, flexible, integrated early learning and childcare by:

- increasing the funded annual provision from 475 hours pre-school education for 3 and 4 year olds to a minimum annual provision of 600 hours early learning and childcare for 3 and 4 year olds and looked-after 2 year olds

- making early learning and childcare more flexible and seamless for the child and better suited to the needs of families (Scottish Government 2012)

Finally, since 2004/05, the Work and Families Act 2006 introduced changes in maternity leave including an increase in statutory maternity pay and allowance from 26 weeks to 39 weeks and abolished the one year qualifying period so that all women are entitled to 26 weeks of Additional Maternity Leave (Scottish Government 2007).

This chapter provides a detailed insight into patterns of childcare use amongst families of 10-month children in Scotland. Regular use of both formal and informal provision is included covering the type of provision and the number of hours and days used. Cost information, and perceptions of affordability and availability are also described. In addition, the chapter also includes data on patterns of parental leave following the child's birth and on the availability and use of family-friendly employer policies.

## 8.2 Key findings

- Around half of parents (52%) were regularly using childcare for the cohort child. This has decreased from BC1, where the equivalent figure was 60%. Much of the decrease is explained by a greater proportion of mothers in BC2 still being on maternity leave at the time of the interview (child aged 10 months).
- Compared with BC1, use of a single arrangement had decreased (from 69% to 64%) with a corresponding increase in two arrangements (from 27% to 30%) and three or more arrangements (from 4% to 5%).
- Grandparents were the most common form of childcare used – used by 69% of BC2 families using childcare. Nurseries were the next most common provider (28%) followed by 'other informal' provision (18%) and then childminders (10%). These patterns are similar to BC1.
- 79% of families using childcare were using at least one informal arrangement and 39% were using at least one formal arrangement. Compared with BC1, use of any informal provision increased from 75%, whereas use of any formal provision has remained static. Those who were using formal childcare arrangements in BC2 were more likely to be using them in combination with an informal provider.
- On average, families using childcare did so for 22 hours per week. This is almost identical to the corresponding figure of 21 hours for BC1.
- The average weekly cost of childcare was £88. Comparing with BC1 figures indicates that in real terms, there has been an average increase in childcare costs for a 10-month-old child of £12 per week, or approximately £624 per year.
- The proportion of parents reporting that childcare costs were 'very easy' to pay has reduced slightly from 14% to 10% whereas the proportion saying costs were difficult to pay increased a little from 21% to 24%.

- Only 8% of parents using childcare said that arranging it had been difficult. The most common reason given for finding it difficult (given by 45%) was a lack of availability. Cost was cited by 15% whilst difficulty caused by irregular or unusual working hours was mentioned by 8%.
- The proportion of mothers who took maternity leave for between six and 10 months, and for 10 months or more, doubled between BC1 and BC2 (from 22% to 46%, and 18% to 38% respectively). The proportion taking up to six months decreased from 60% to 16%.
- In BC2, 85% of parents currently employed said their employer offered at least one family-friendly policy. This represents a significant increase from 60% in BC1. Indeed, parents in BC2 were more likely than those in BC1 to rate their employer as very or fairly good in terms of allowing family-friendly working (71% compared with 64%).

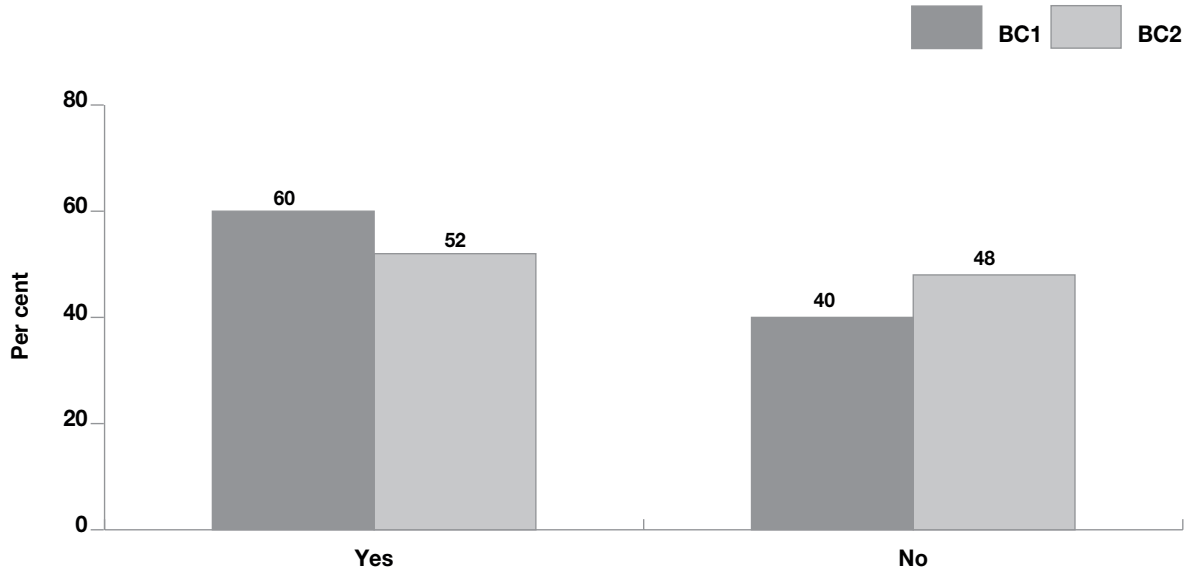
## 8.3 Use of childcare

### *8.3.1 Any use of childcare*

To determine use of childcare, respondents were asked whether the child was regularly looked after by anyone other than the respondent and his or her partner. Both formal providers – such as childminders and private nurseries – and informal providers – such as grandparents or friends – were included.

A little over half of parents (52%) said they were regularly using childcare for the cohort child. This represents a decrease in childcare use for children aged 10 months since 2005/06. In BC1, the equivalent figure was 60% (see Figure 8.1). The decrease is most likely related to the corresponding increase in duration of maternity leave between the two cohorts which will be discussed in 8.7.1. In short, a greater proportion of mothers in BC2 were still on maternity leave at the time of the interview (when the child was aged around 10 months old) meaning there was less need for childcare at this age for children in this cohort.

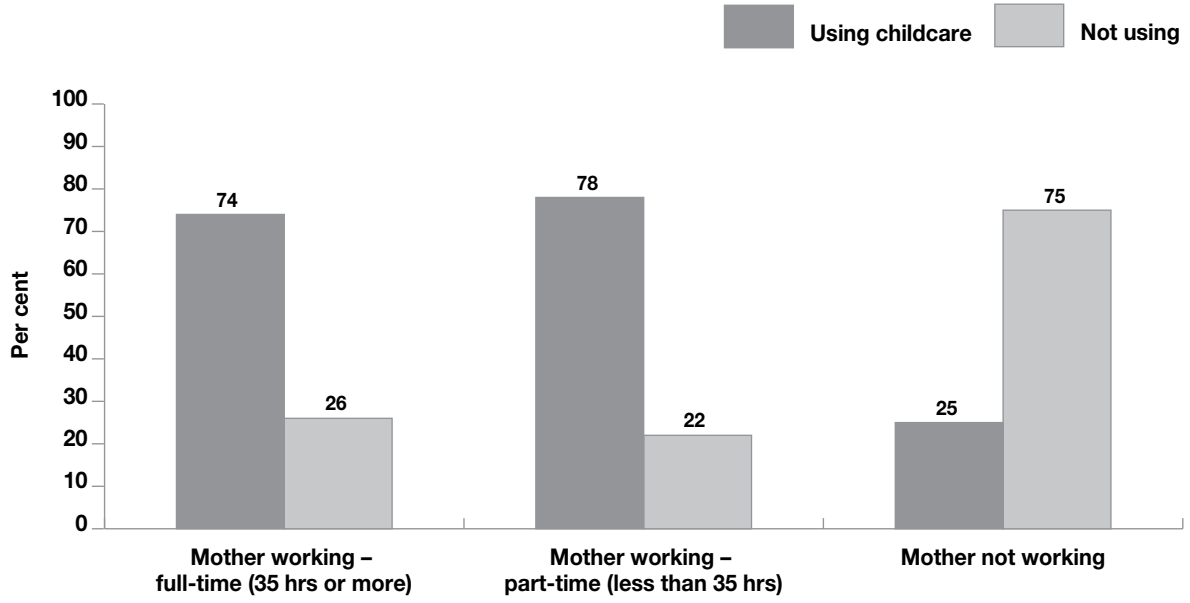
**Figure 8.1 Proportion of families using childcare for cohort child by cohort**




*Base – all families: BC1 = 5216, BC2 = 6126*

Use of childcare varied considerably according to key socio-economic characteristics. As may be expected, employment – particularly maternal employment – was a key factor influencing use of childcare (Figure 8.2). Households where the child's mother was working part-time (and was not still on maternity leave) were most likely to be using childcare. 78% of these households used childcare compared with 74% of households where the mother was working full-time and 25% where the mother was not working.

**Figure 8.2 Proportion of families using childcare by maternal employment status (excluding mothers still on maternity leave)**

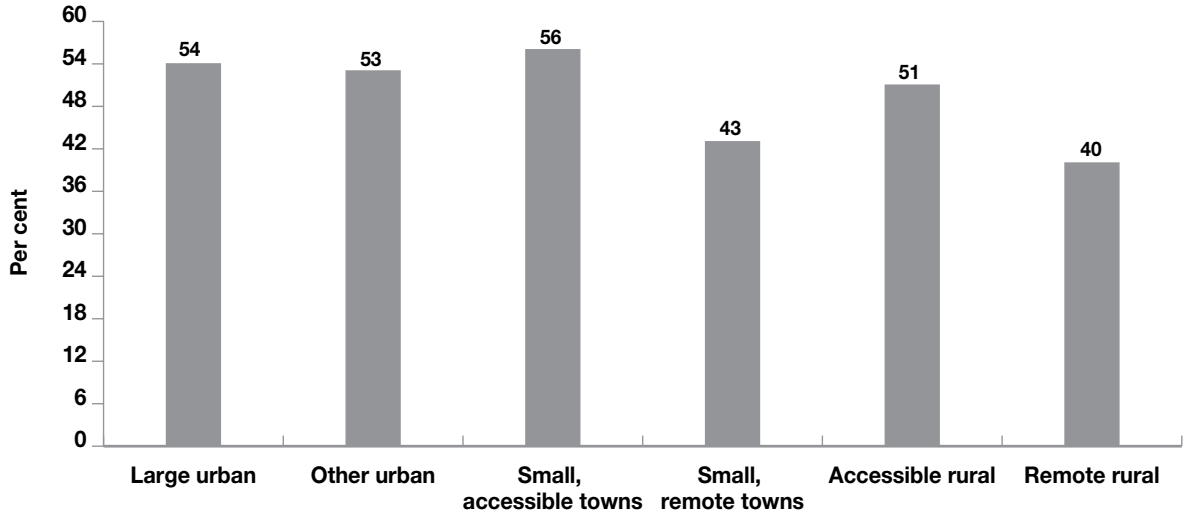



*Bases – all families with mother in household where mother was not on maternity leave at the time of interview: Working full-time = 951, Working part-time = 2354, Not working = 2120*

The relationship between parental employment and other socio-economic measures such as household income and level of education means that childcare use was also found to be higher in higher income households and in households where parents had higher educational qualifications. For example, 75% of families in the highest income group reported using childcare compared with 65% in the middle income group and 45% in the lowest income group. Similar patterns were also seen in relation to area deprivation although the differences between those in the least and most deprived groups were not as large as in relation to household income (68% compared with 54% respectively).

Variations were also seen by area urban-rural characteristics (Figure 8.3) with the main distinction being between 'accessible' and 'remote' groups. The proportion of families living in urban areas and in other accessible areas (both small towns and rural areas) was broadly similar at between 51% and 56%. Childcare use was considerably lower in remote areas however, at 43% in small, remote towns and 40% in remote rural areas.

**Figure 8.3 Proportion of families using childcare by area urban rural characteristics**




*Base – all families. Large urban = 2273, Other urban = 1780, Small, accessible towns = 493, Small, remote towns = 248, Accessible rural = 977, Remote rural = 354*

Families in which the respondent was white were more likely to be using childcare than those where the respondent was from another ethnic background. 53% of white respondents reported using childcare compared with 33% of respondents from other ethnic backgrounds.

### *8.3.2 Number of childcare arrangements*

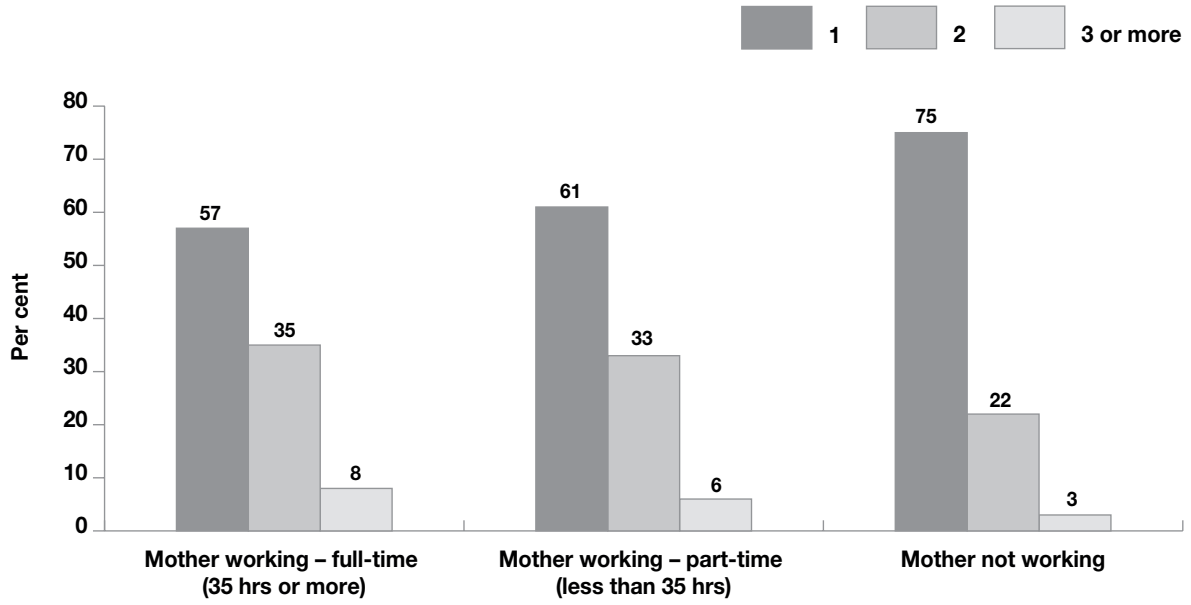
Information was collected on each of the individual childcare arrangements that were in place for the child. The majority of families using childcare (64%) had only one arrangement in place, with most of the rest (a further 30%) having two arrangements. Just 5% were using three or more separate arrangements. There were small, but statistically significant changes in the number of arrangements being used between the cohorts.

Compared with families in BC1, use of a single arrangement had decreased (from 69% to 64%) with a corresponding increase in two arrangements (from 27% to 30%) and three or more arrangements (from 4% to 5%). Thus, whilst overall childcare use had decreased over time, those families using childcare in BC2 were spreading the care required across a greater number of arrangements compared with those in BC1.

The number of childcare arrangements being used varied by family type. Couple families were slightly more likely to be using multiple providers than were lone parent families. 37% of parents in couple families were using two or more childcare arrangements for the cohort child compared with 33% of lone parents.

Families where the child's mother worked part-time were almost just as likely to rely on multiple childcare providers as those where the mother worked full-time (Figure 8.4). Amongst those using childcare, 37% of families where the child's mother was employed part-time used two or more providers compared with 41% of families where the mother was employed full-time.

**Figure 8.4 Number of childcare providers used by maternal employment status (excluding mothers still on maternity leave)**




*Base – all families using childcare with mother in household where mother was not on maternity leave at the time of interview. Working full-time = 701, Working part-time = 1816, Not working = 513*

Higher income families were more likely to be using multiple providers than were lower income families. The key difference was between those families in the top two and bottom three income groups. Amongst those using childcare, around 58% of families in the top two income groups used only a single arrangement with 42% using two or more providers. This is compared with 69% of families in the bottom three income groups using a single childcare arrangement and 31% using two or more.

Ethnicity was associated with the number of childcare arrangements being used. In families using childcare, 80% of those where the respondent was from another ethnic background used only one provider compared with 68% of families where the respondent was white.

The number of arrangements being used did not vary considerably according to area deprivation. For families using childcare, between 61% and 64% of those in the least deprived quintile and in the following three quintiles were using a single arrangement. This figure was a little higher (69%) for families living in areas in the most deprived quintile. There were no statistically significant differences according to area urban rural characteristics.

### *8.3.3 Types of childcare*

To allow a more detailed consideration of patterns of childcare use, parents were asked to indicate, for each childcare arrangement in place for the child at the time of the interview, the type of provision being used. Providers could be selected from a list of 18 different types (and an 'other' category) covering both formal and informal provision. The types of provider listed and their informal/formal allocation are shown in Table 8.1.

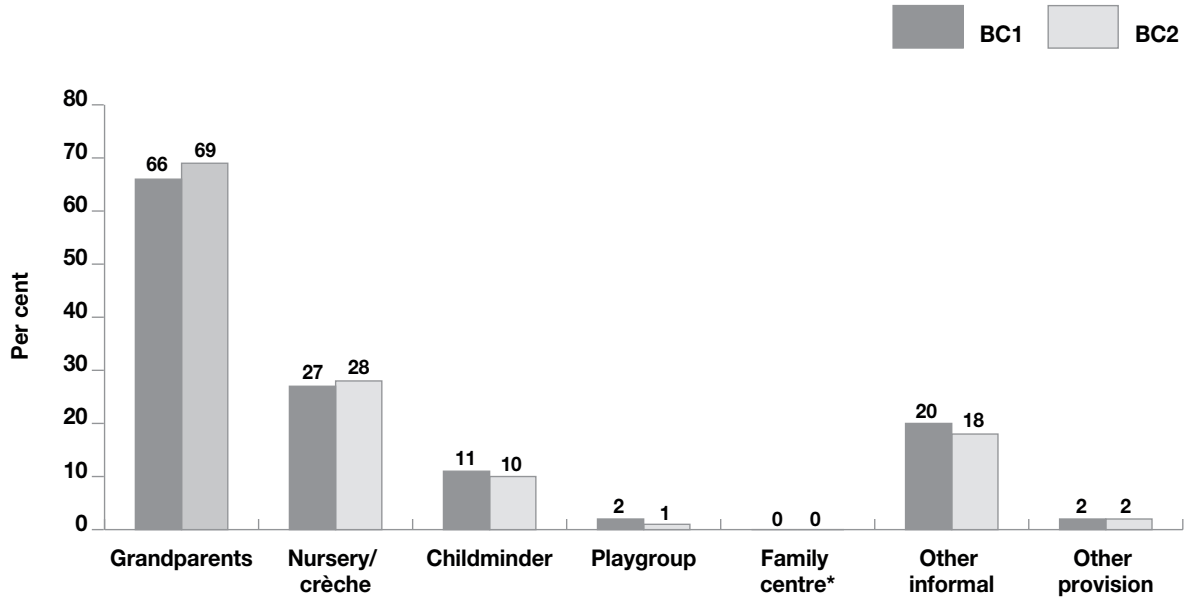
**Table 8.1 Childcare providers and informal/formal status**

| Informal provider type | Formal provider types |
|---|---|
| The child's grandparent(s) | Private crèche or nursery |
| Another relative | Registered childminder |
| Ex-spouse or partner | Local authority playgroup or pre-school |
| The child's older brother or sister | Local authority crèche or nursery |
| A friend or neighbour | Community/voluntary playgroup or pre-school |
| Babysitter who came to house | Private playgroup or pre-school |
| | Workplace crèche or nursery |
| | Family centre |
| | Nursery class attached to primary school |
| | Daily nanny who came to our house |
| | Live-in nanny |
| | Child-carer (provided via an agency) |

**Detailed provider type**

For the purpose of analysis, these more detailed childcare types were grouped into seven summary categories: grandparents, nursery/crèche, childminder, playgroup, family centre, other informal and other formal providers. Figure 8.5 shows what proportion of parents who used childcare were using each of the different summary provider types. Data are also provided for comparison with BC1.

**Figure 8.5 Proportion using different types childcare by cohort**




*Note: The actual proportion of families using family centres for childcare was not zero but was less than 1%.*

*Base – all families using childcare: BC1 = 3122, BC2 = 3197*

The types of provision being used by families in BC2 were very similar to those used by families in BC1. The most common form of childcare being used was the child's grandparents – 69% of BC2 families using childcare reported using this type of provision. Grandparents were also the dominant form of childcare for families in BC1, though their use has increased slightly – from 66% – since 2005/06. Nurseries were the next most common provider, used by 28% of families using childcare, followed by 'other informal' provision (18%) and then childminders (10%). Only the differences in use of grandparents and playgroups were statistically significantly different between cohorts.

**Table 8.2 Proportion of families using particular childcare providers by selected family characteristics**

| | | Grand-parents | Nursery/ crèche | Child-minder | Other informal | *Base: families using childcare* |
|---|---|---|---|---|---|---|
| **Maternal age at child's birth** | | | | | | |
| Under 20 | % | 79 | 9 | 4 | 29 | *160* |
| 30 to 39 | % | 66 | 35 | 11 | 15 | *1572* |
| **Family type** | | | | | | |
| Lone parent | % | 67 | 18 | 7 | 32 | *573* |
| Couple family | % | 69 | 30 | 10 | 15 | *2624* |
| **Area deprivation quintile** | | | | | | |
| Least deprived quintile | % | 67 | 39 | 11 | 11 | *647* |
| Most deprived quintile | % | 68 | 20 | 6 | 25 | *625* |
| **Area urban-rural characteristics** | | | | | | |
| Large urban | % | 65 | 35 | 6 | 18 | *1227* |
| Accessible rural | % | 72 | 27 | 13 | 17 | *503* |

Table 8.2 compares the proportion of families using childcare in different sub-groups who were using specific types of childcare provision. As the data show, grandparents were the dominant provider amongst all families. However, younger mothers were particularly likely to be using grandparents for childcare. 79% of teenage mothers reported using grandparents compared with 66% of mothers in their thirties.

Use of nurseries (including private and local authority) was more common amongst older mothers, couple families and those living in areas in the least deprived quintile. In contrast, use of other informal providers was higher for younger mothers, lone parents and those living in the most deprived areas.

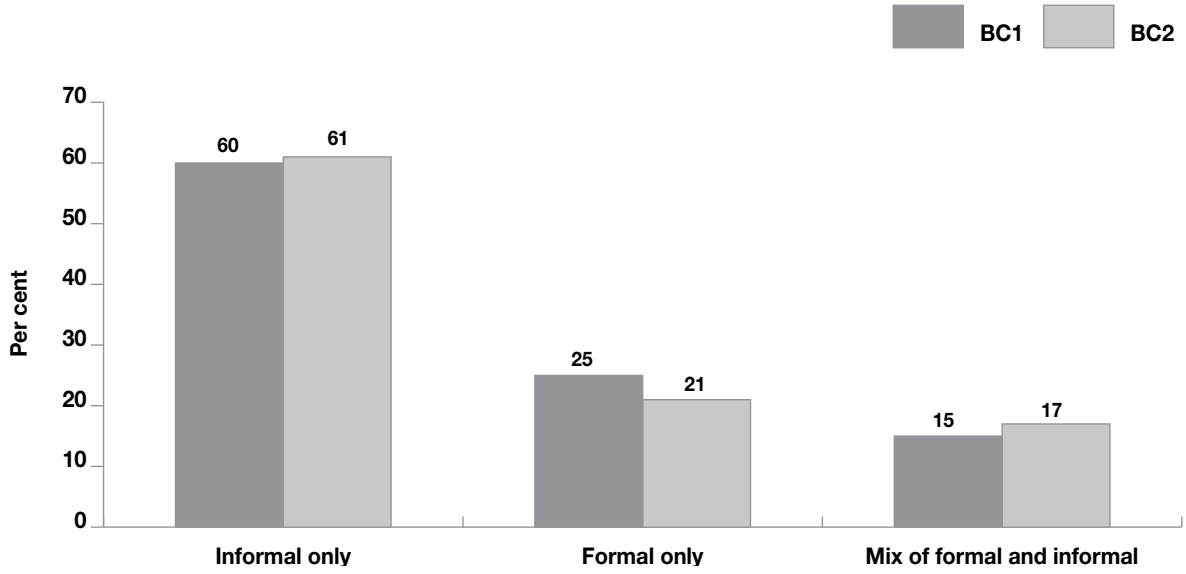
The types of childcare being used also varied by area urban rural characteristics. For example, families living in accessible rural areas were more likely to be using grandparents and childminders and less likely to be using nurseries than were parents living in large urban areas. Families in both areas were just as likely to be drawing on other informal provision.

### Formal versus informal provision

The seven summary provider types (shown in Figure 8.5) were further condensed to allow a simple analysis of use of any formal provision, use of any informal provision and the extent to which only formal or informal, or a mixture of both types of provision was being used.

As suggested by the information in the previous section, use of informal providers was considerably more common than use of formal providers. 79% of families using childcare were using at least one informal arrangement and 39% were using at least one formal arrangement. Compared with BC1, use of any informal provision has increased from 75%, whereas use of any formal provision has remained static (the figure for BC1 was 40% but the change down to 39% is not statistically significant). As shown in Figure 8.6, 61% of families using childcare were only using informal arrangements, 21% were only using formal arrangements and 17% were using a mix of formal and informal provision.

**Figure 8.6 Mix of formal and informal childcare provision by cohort**




*Base – all families using childcare: BC1 = 3122, BC2 = 3197*

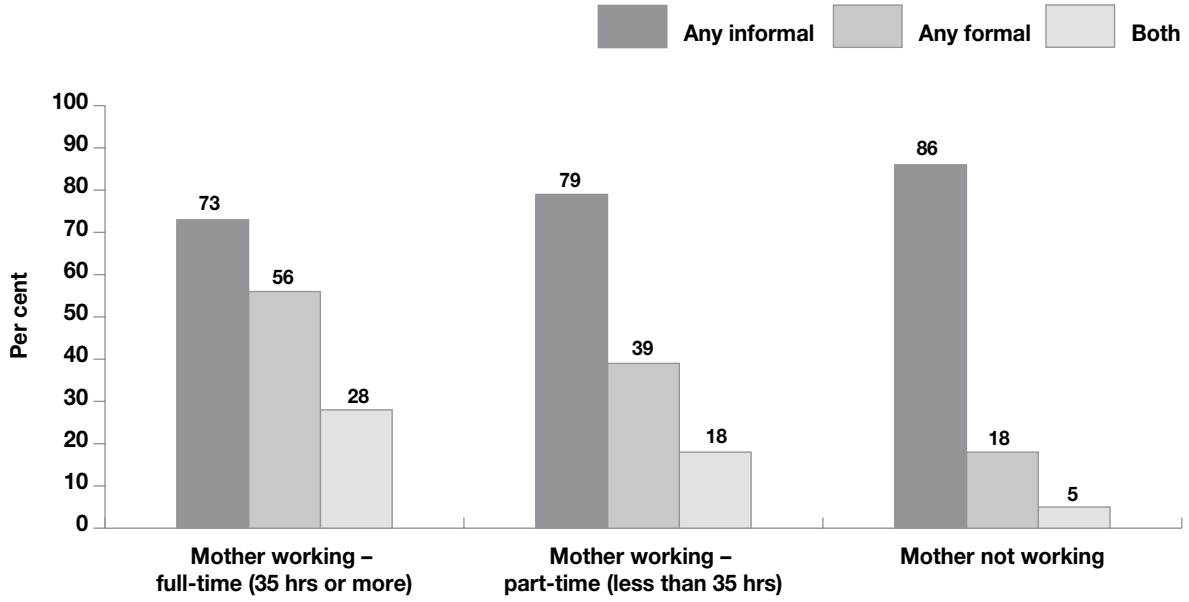
The graph also provides the equivalent data for BC1. As can be seen, use of only informal providers has remained fairly fixed at around 60%. In contrast, use of only formal provision has decreased slightly from 25% whereas use of a mix of formal and informal provision has increased slightly from 15% to 17%[22]. Thus, compared with families in BC1, although use of any formal provision has not changed (as opposed to formal only, and as indicated above), those who were using formal childcare arrangements in BC2 were more likely to be using them in combination. This links to the increase in the number of arrangements being used also shown above. These changes may reflect the decrease in overall childcare use with those families using childcare in BC2 representing different socio-economic characteristics to those using childcare at BC1, thus impacting on the different patterns of provision being used. It may also reflect changes in the childcare market – such as increased costs, or less choice – meaning that families are having to utilise a greater mix of provision, and a greater reliance on informal care, to meet their childcare needs. These issues will be explored below.

22 Note that numbers may not add up to 100% due to rounding

The types of provision being used varied considerably by family socio-economic characteristics. For example, amongst lone parent families, use of informal provision was higher, and use of formal provision was lower, than for couple families. Of those who used childcare, 84% of lone parent families used some informal provision and 27% used some formal provision compared with 77% and 41% of couple families who used childcare respectively. As may be expected therefore, compared with lone parents, couple families were significantly less likely to be using only informal provision (59% compared with 73%) and more likely to be using only formal (23% compared with 16%) or a mix of both (19% compared with 11%).

Families where the child's mother worked part-time were slightly more likely to use some informal childcare than families where the mother worked full-time (79% compared with 73%). However, those where the mother was not employed were most likely to be using informal care (86%). In contrast, families where the mother worked full-time were most likely to be using some formal care. 56% did so compared with 39% of families where the mother worked part-time and 18% where the mother was not employed. Those families where the mother worked full-time were also more likely to be using a mix of formal and informal care (28% compared with 18% amongst families where mothers worked part-time).

**Figure 8.7 Mix of formal and informal childcare provision by maternal employment status (excluding mothers still on maternity leave)**

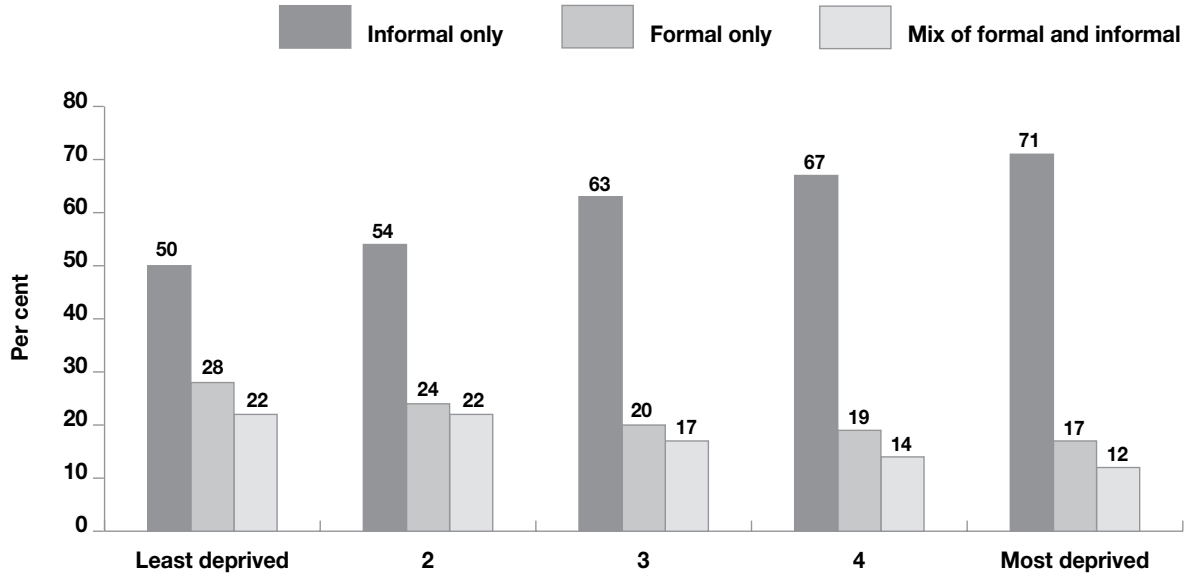



*Base – all families using childcare with mother in household where mother was not on maternity leave at the time of interview. Working full-time = 701, Working part-time = 1816, Not working = 513*

Compared with those from other ethnic backgrounds, respondents from white backgrounds were more likely to be using any type of informal provision (79% compared with 69%) though the proportions using any formal care did not vary according to ethnicity (around 40% for all respondents). The mix of provision varied however, reflecting ethnic differences in the number of providers used, shown above. Respondents from White backgrounds, compared with those with other ethnic backgrounds, were more likely to be using a mix of informal and formal care (17% compared with 9%) and less likely to be using only formal arrangements (21% compared with 31%).

Use of informal childcare was greater amongst families in more disadvantaged circumstances, measured either by household income or area deprivation. For example, 83% of families in the most deprived quintile who used childcare used at least one informal arrangement compared with 72% of families in the least deprived quintile. Indeed, as shown in Figure 8.8, as level of area deprivation increased, so did use of only informal provision, whilst use of only formal carers, and use of a mix of formal and informal care decreased.

**Figure 8.8 Mix of formal and informal provision by area deprivation (quintiles)**




*Base – all families using childcare. Least deprived =643, 2nd quintile = 616, 3rd quintile = 659, 4th quintile = 63, Most deprived = 614*

The likelihood of using any informal provision did not vary significantly according to area urban rural characteristics. However, there were some differences in use of any formal provision which was highest in large urban areas (43% of families using childcare used at least one formal provider) and lowest in remote rural areas (31%) though there was no clear pattern in between – for example, use of formal provision was just about as likely in 'other urban' areas as it was in small, remote towns (34% and 36% respectively).

### *8.3.4 Weekly hours of childcare used*

As well as providing details on the person or organisation providing childcare for the cohort child, parents were also asked – for each arrangement – how many hours were used and over how many days those hours were spread[23].

On average, families using childcare did so for 22 hours per week. This is almost identical to the corresponding figure of 21 hours for BC1. 21% of childcare users had arrangements totalling less than 8 hours per week, 20% used childcare for between 9 and 16 hours, 52% for between 17 and 40 hours, and 7% for more than 40 hours.

23 Note that the format in which the questions asked collects the number of days for each individual arrangement and not which days of the week the child is looked after by someone else. As two arrangements may be used on a single day, the number of days the child is looked after by someone else cannot be totalled in the same way as the number of hours.

Employment and, relatedly, household income, were key drivers of the duration of childcare being used for the child. 20% of families using childcare where the child's mother worked full-time (35 hours or more per week) used childcare for more than 40 hours compared with 4% of those where the mother worked part-time. In 60% of the highest income households using childcare, the arrangements spanned between 17 and 40 hours compared with 39% in the lowest income households.

## 8.4 Reasons for use

### *8.4.1 General reasons for childcare use*

All parents who were using regular childcare for the child were asked what the main general reasons were why they did so (Table 8.3). By far the most common reason given (74%) was to allow the respondent to work. In a third of cases (33%), it was to allow the respondent's partner to work.

Allowing parent's time to get on with other things was less common but appeared in a range of ways. 26% said they used childcare to allow them to attend appointments or go shopping, 17% to allow themselves or their partner a break and 7% so they could look after the home or other children.

The child's interests also featured amongst the reasons. 16% gave the child's social development as a reason, and 8% his or her educational development. 15% said they used childcare because the child liked spending time with, or at, the provider.

**Table 8.3 Reasons for using childcare**

| | All families using childcare % | All using childcare where mother not currently employed % |
|---|---|---|
| So that I can work | 76 | 7 |
| So that my husband/wife/partner can work | 33 | 4 |
| So that I can go shopping/attend an appointment/socialise | 26 | 53 |
| To give me/my partner a break | 17 | 43 |
| For child's social development | 16 | 14 |
| Because my child likes spending time with/at the provider | 15 | 31 |
| To allow other relative/carer to spend time with the child | 13 | 27 |
| For my child's educational development | 8 | 7 |
| So that I can look after the home/other children | 7 | 17 |
| So that my husband/wife/partner can study | 5 | 12 |
| So that I can look for work | 2 | 7 |
| So that my child can take part in a leisure activity | 2 | 2 |
| Other reason | 2 | 6 |
| So that my husband/wife/partner can look for work | 1 | <1 |
| So that my husband/wife/partner can study | 1 | 1 |
| Respondent/partner has had illness | 1 | 1 |
| *Base (all families using childcare)* | *3196* | *512* |

Given the dominance of employment as a key reason for use of childcare, reasons for use were examined for those families where the mother was not currently in employment (Table 8.3). The main reasons given amongst parents in this group were to allow them to socialise or attend appointments, to give the parent(s) a break, because the child liked spending time at the provider or to allow another relative or carer to spend time with the child. These parents were also more likely to cite their own studying or education as a reason for using childcare (12% compared with 5% of all parents using childcare).

### *8.4.2 Reasons for using specific providers*

As well as collecting general reasons for using any type of childcare, parents were also asked to give up to three reasons why they were using a particular childcare arrangement or provider. Table 8.4 compares the 10 most common reasons given for three different childcare types – grandparents, *private* nursery and childminder[24].

Being able to trust the provider was a dominant driver of using grandparents. Families using grandparents also cited the importance of the provider-child relationship ("I wanted someone who would show my child affection") and the particular approach to care ("I knew they would bring up my child the same way I would").

Trust was less important for families using private nurseries, though still featured as a key reason given for using this type of provision. Affection and approach to care were significantly less important in relation to nurseries. Instead, giving the child the opportunity to mix with other children, the nursery's location, reputation, and staff accreditation were important. Already having had children attend was also a key reason given.

Reasons for using childminders reflect both its similarity to grandparent care – in that it is provided by an individual offering a more personal approach – and nursery care – in that it is a formal, registered service delivered by qualified personnel. Thus trust was of key importance for users of childminders, with affection and approach also some of the top reasons given, unlike for nurseries. Similar to nurseries was the importance of social opportunities for the child and the qualifications of staff.

24 In cases where more than one childcare arrangement was being used, only reasons for using the first of these has been included

**Table 8.4 Ten most common reasons given for using particular childcare providers and proportion of parents who gave them**

| | Grandparents | *Private* nursery/ crèche | Childminder |
|---|---|---|---|
| **Reason given** | **%** | **%** | **%** |
| I could trust this person/these people | 85 | 35 | 62 |
| I wanted someone who would show my child affection | 49 | 5 | 21 |
| I knew they would bring up my child the same way I would | 44 | 5 | 21 |
| I could not afford to pay for formal childcare | 27 | 0 | 3 |
| I wanted my child to be looked after at home | 15 | 0 | 5 |
| I wanted my child to mix with other children | 1 | 38 | 28 |
| It had a good reputation | 0 | 32 | 13 |
| It is easy to get to | 6 | 29 | 15 |
| His/her brother(s)/sister(s) went there | 5 | 27 | 15 |
| I wanted someone properly trained to look after my child | 0 | 24 | 25 |
| *All families using particular childcare provider* | *1840* | *674* | *270* |

## 8.5 Cost

Of those who use childcare, 41% are required to pay whereas for 58% the childcare is free and for 1% someone else pays for it. There are no significant differences in these figures when compared with BC1.

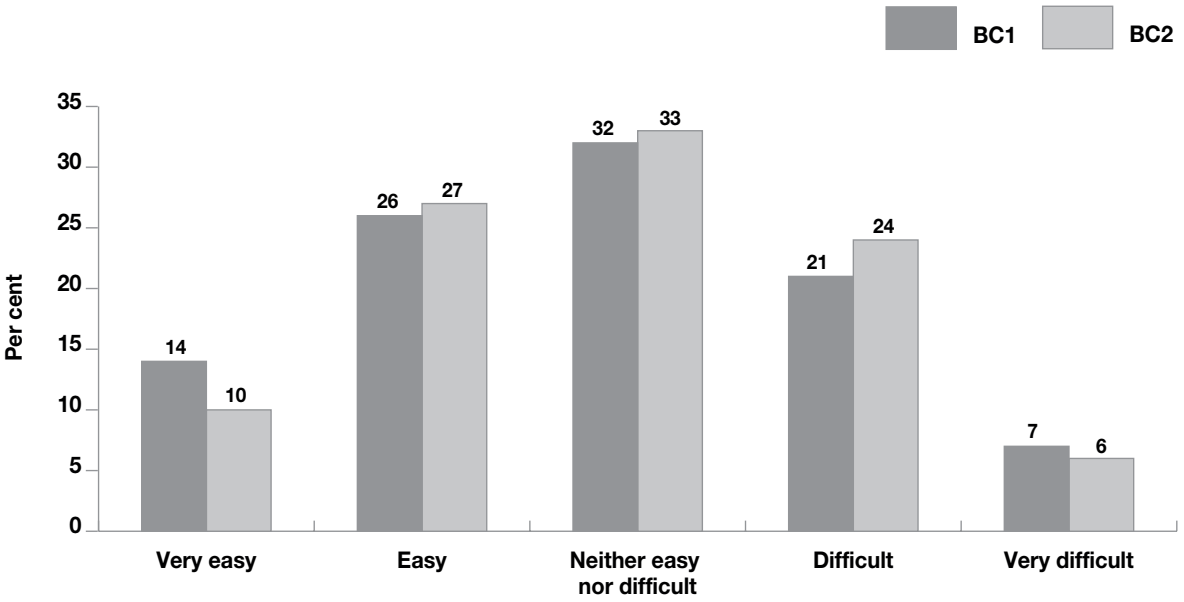
Amongst those who pay for the cohort child's childcare (unweighted *n* = 1343), the average weekly cost was £88. For parents in BC1 who paid for childcare, the reported average weekly cost was lower, at £66. Adjusting the BC1 costs for inflation[25] shows £66 in 2005/06 to be equivalent to £76 in 2011/12 prices (the closest equivalent for BC2 cost data). Thus, in real terms, there has been an average increase in childcare costs for a 10-month-old child of £12 per week, or approximately £624 per year.

25 Using the HM Treasury GDP Deflator Index

7% of parents in BC2 paid up to £20 per week, 23% paid between £21 and £50, 36% paid between £51 and £100, and 33% paid over £100.

Those parents who paid for any childcare, for either the cohort child or other children in the family, were asked how easy or difficult they found it to pay. The results are shown in Figure 8.9, alongside those for BC1. As the graph shows, the rise in childcare costs appears to have made it more difficult for parents to meet those costs. The proportion of parents reporting that childcare costs were 'very easy' to pay has reduced slightly from 14% to 10% whereas the proportion saying costs were difficult to pay increased a little from 21% to 24%.

**Figure 8.9 Ease of meeting childcare costs by cohort**




*Base – all families using childcare who pay for that care: BC1 = 1584, BC2 = 1690*

As may be expected, families in more disadvantaged circumstance were more likely to report some difficulty in meeting their childcare costs. For example, 36% of families using childcare living in the most deprived quintile said meeting their childcare costs was difficult or very difficult compared with 24% of those living in the least deprived quintile. It is notable, however, that a significant minority of families in more advantaged socio-economic circumstances still report difficulty in meeting childcare costs.

## 8.6 Practicalities

### *8.6.1 Ease of making childcare arrangements*

Parents were asked how easy or difficult they had found it to arrange suitable childcare for the cohort child. The vast majority of parents said they found it very (46%) or fairly (39%) easy. Only 11% said it had been difficult, including just 3% who said it was very difficult.

Families in the highest income group were more likely to say they found arranging childcare 'very easy' than those in the bottom income group (54% compared with 39%). However, ease of arranging did not consistently decrease with household income. Parents in the middle income group reported greater ease than those in the second and fourth quintiles.

There were no statistically significant differences in the ease of arranging childcare by area urban rural characteristics.

**Reasons for difficulty in arranging childcare**

Those parents who said they had found it fairly or very difficult to arrange childcare (unweighted *n* = 325) were asked why. The most common reason, given by 45% of the parents asked, was a lack of availability. Cost was cited by 15% whilst difficulty caused by irregular or unusual working hours was mentioned by 8%. 6% did not like some childcare providers and 2% thought their child was too young to be separated from his/her carer. A range of specific other reasons were given by 38% of the parents indicating the many different and complex factors affecting the choice of childcare for families.

### *8.6.2 Perceived degree of choice*

Parents were asked to think about the affordable and available options open to them at the time they were arranging childcare for the cohort child and to indicate how much choice they felt they had when making those arrangements.

11% of those using childcare felt they had a great deal of choice with a further 34% reporting 'quite a lot' of choice. 42% said they hadn't very much choice and 13% felt they had none at all. There has been a favourable change in these perceptions since 2005 with parents in BC2 generally perceiving greater choice in their childcare than parents in BC1. Compared with BC1, parents in BC2 were significantly more likely to report having 'quite a lot' of choice (increase from 26% to 34%) and less likely to report no choice at all (decrease from 22% to 13%).

Whilst experiences of arranging suitable childcare clearly varied, there were no obvious trends according to family socio-economic characteristics. For example, parents using childcare in the lowest income quintile were slightly more likely than those in the third and fourth income quintiles to say they had either 'quite a lot' or 'a great deal' of choice (46% compared with 42% and 44% respectively). However, those in the highest income groups were most likely to perceive greater choice (53% said either 'quite a lot' or a 'great deal of choice').

Patterns by area deprivation were similar. 53% of parents living in the least deprived areas said they had either 'quite a lot' or a 'great deal of choice' but those in all other areas had similar views – between 41% and 45% gave the same response.

These patterns most likely reflect the different mix of formal and informal provision available to and being drawn upon by families in different circumstances.

## 8.7 Parental leave and family-friendly working

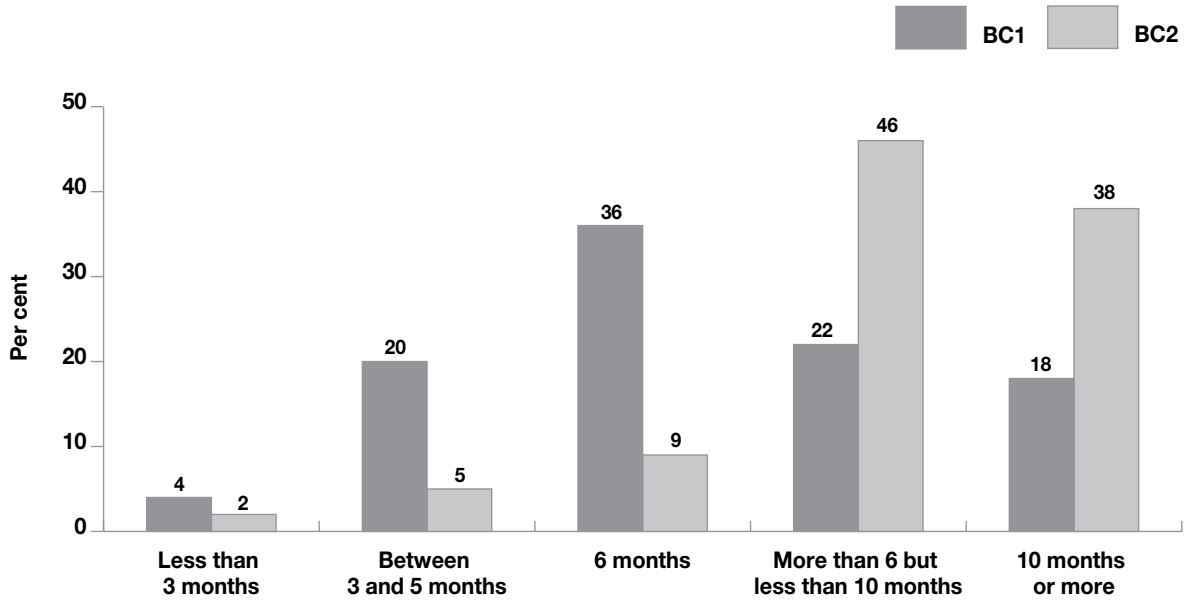
### *8.7.1 Maternity leave and pay*

A little over three-quarters (78%) of mothers were employed during their pregnancy with the cohort child. Of these, 88% took maternity leave with the remainder leaving that particular job. These figures are broadly in line with those from BC1.

Almost all mothers (93%) who went on maternity leave took at least six months. However, many took longer: 46% took between six and 10 months, and 38% took 10 months or more.

As shown in Figure 8.10, duration of maternity leave was much longer for mothers in BC2 than BC1 reflecting the changes to relevant legislation in the period between the birth of children in the two cohorts. The proportion of those who took leave doing so for between six and 10 months, and for 10 months or more, doubled (from 22% to 46%, and 18% to 38% respectively). As a consequence, the proportion taking up to six months decreased from 60% in BC1 to 16%.

**Figure 8.10 Duration of maternity leave by cohort**




*Base – all families where mother took maternity leave: BC1 = 3175, BC2 = 3917*

Only 4% of those mothers who took maternity leave did not receive any pay. Amongst those who were paid, 95% received statutory maternity pay, 49% received additional maternity pay and 6% received some other type of pay during their leave.

### *8.7.2 Paternity leave and pay*

In couple families, 78% of respondent's partners who had ever been employed had taken some leave since the child was born. Of these, most (65%) had taken paternity leave, but reasonable proportions had also taken annual leave (35%) or parental leave (18%).

18% of partners who took leave following the child's birth took less than two weeks, 57% took two weeks, 23% took between two and eight weeks and 2% took more than eight weeks.

### 8.7.3 Employer's family-friendly policies

72% of parents who were currently or had been employed said their employer offered at least some policies aimed at family-friendly working. The proportion amongst those who were working at the time of the interview was slightly higher at 85%. This represents a significant increase from 60% in BC1[26]. The range of policies offered, and the proportion of working parents who reported each being offered by their employer, is shown in Table 8.5.

**Table 8.5 Family-friendly policies offered by parents' employers**

| Family-friendly policies | % |
|---|---|
| Childcare vouchers | 36 |
| Flexible working hours always possible | 34 |
| Allows parents unpaid time off when a child is sick | 33 |
| Allows parents paid time off when a child is sick (in addition to normal holiday allowance) | 31 |
| Flexible working hours sometimes possible by arrangement | 30 |
| Allows employees option to job-share | 19 |
| Allows employees to work from home some or all of the time | 13 |
| Allows parents unpaid time off during school holidays | 8 |
| A work place créche or nursery | 5 |
| Subsidised childcare | 2 |
| Something else | 1 |
| None | 28 |
| *Base: All respondents currently working or having previously worked* | *5168* |

The most common policy available was childcare vouchers. This was reported by 36% of parents who were currently or had been employed. Flexible working and paid or unpaid leave when a child is unwell were both similarly common. Less common were opportunities for job sharing or home working, reported by 19% and 13% respectively. Even fewer reported unpaid leave during school holidays, subsidised childcare or a workplace nursery.

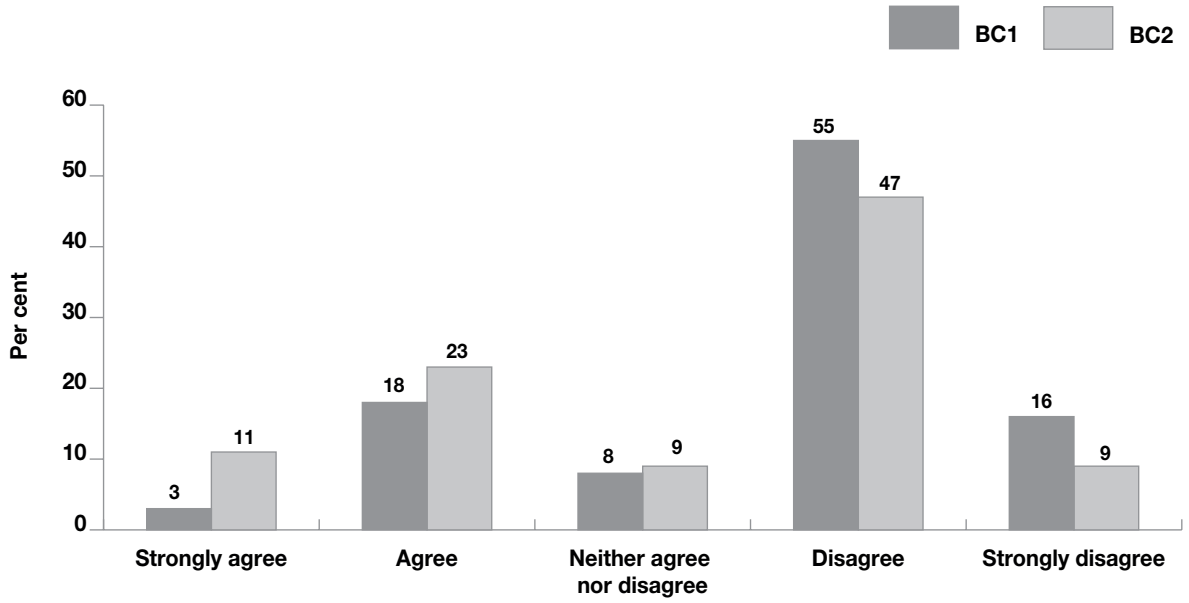
Parents in BC2 were more likely than those in BC1 to rate their employer as very or fairly good in terms of allowing family-friendly working (71% compared with 64%). This is perhaps unsurprising given the corresponding increase in availability of family-friendly policies for parents noted above.

26 Note, however, that BC1 parents were presented with a more limited range of policies – subsidised childcare, work place nursery, flexible working arrangements, 'some other' family-friendly facilities. Whilst those included for BC2 which were not listed for BC1 fall into the 'some other' category, the smaller range demonstrated may have limited parents' responses to some extent.

### *8.7.4 Attitudes to employment and childcare*

Parents who worked less than 20 hours per week were asked how much they agreed or disagreed with the following statement: "If I could afford good quality childcare which was reliable and convenient, I would work more hours." Responses for both cohorts are shown in Figure 8.11.

**Figure 8.11 Agreement with statement "If could afford good quality childcare which was reliable and convenient, I would work more hours" by cohort**




*Base – parents who worked less than 20 hours per week: BC1 = 939, BC2 = 925*

The graph shows that parents in BC2 were more open to the prospect of increasing their working hours if they were able to access good quality childcare which was reliable and convenient. 11% strongly agreed and 23% agreed with the statement in BC2 compared with 3% and 18% in BC1. An alternative interpretation is that accessing childcare appears to have been more of a barrier for parents increasing their working hours in 2011 than it was in 2005/06.

## 8.8 Summary

The changes to maternity leave and pay introduced by the Work and Families Act 2006, and which affected mothers whose babies were born after 1st April 2007, have had a clear impact on use of childcare for children aged 10 months in Scotland. Overall, use at this age has declined, from 60% in 2005 to 52% in 2011. This decline is largely explained by an increase in the proportion of mothers who were still on maternity leave at 10 months and who therefore did not yet require childcare.

A number of other notable differences in patterns of childcare use are evident between the two cohorts. Parents in BC2, whilst using childcare for a similar average number of hours each week, spread those hours over a greater number of providers. This change is also reflected in the *types* of provision used; parents in BC2 were more likely to be drawing on

some informal provision – though their use of formal providers remained similar to parents in BC1. The suggestion is, therefore, that formal provision is being used for shorter durations by BC2 parents who nevertheless still need it in some respect.

The potential reduction of hours of formal provision used may be explained by the significant rise in childcare costs between the two cohorts. Had cost of childcare risen purely in line with inflation from 2005, the average weekly cost for parents in 2011 would have been £76, based on GUS data. Instead, the average weekly cost reported by BC2 parents was £88. The rise in costs was accompanied by a small rise in the proportion of parents who reported finding it difficult to meet those costs.

Aside from saving money by reducing the hours of formal provision, requiring a greater number of childcare providers than those in BC1 could potentially be explained by BC2 parents finding it harder to source the childcare they needed from a single provider and, overall finding it more difficult to make the arrangements necessary. Yet this is not reflected in the data. The vast majority of parents said they found it easy to arrange their childcare and they also felt they had more choice. This suggests that childcare information resources, such as the Scottish Family Information Service, are improving parents' knowledge and awareness of the services available to them.

Despite small shifts in the broad mix of informal and formal childcare provision used, the dominant *specific* types of childcare provision were similar between the two cohorts. Grandparents emerge, by far, as the most popular provider, followed by nurseries. There was a notable difference in the reasons given by parents for using specific types of provision. In particular, whilst aspects of 'nurturing' – for example, through showing the child affection – was a common reason cited for using grandparents, it was very rarely cited in relation to nurseries. This may therefore be an area worth developing, or marketing, in relation to nursery provision to increase the appeal of nursery care for parents with young children who may otherwise rely wholly on grandparents for care.

It's not possible to directly assess whether or not commitments contained in the EYF to promoting childcare vouchers have been successful as BC1 parents were not explicitly asked about this facility. However, on the whole, family-friendly working does appear to have improved. Compared with BC1, more working parents in BC2 reported the availability of family-friendly policies and rated their employer as fairly or very good in terms of allowing family-friendly working.

## 8.9 References

Children in Scotland (2011) *The Cost of Childcare in Scotland: A special report* Edinburgh: Children in Scotland.

National Statistics Publications for Scotland (2010) *PRE-SCHOOL AND CHILDCARE STATISTICS 2010*, Edinburgh: Scottish Government.

Scottish Government (2012) *A Scotland for Children: A Consultation on the Children and Young People Bill*, Edinburgh: Scottish Government.

Scottish Government (2011) *Early Years Framework: Progress So Far,* Edinburgh: Scottish Government.

Scottish Government (2007) *Maternity Leave*. Edinburgh: Scottish Government, http://www.scotland.gov.uk/Resource/Doc/76007/0060971.pdf

chapter 9

# CHILD HEALTH AND DEVELOPMENT

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## 9.1 Introduction

As noted in the report introduction, Scotland has a large number of policies and targets, covering a wide range of areas, designed to promote children's health, development and wellbeing. Despite their broad range (see examples below), these various initiatives and policies all share the common aim of maximising children's early potential by providing them with the best start in life. One of the core principles of the *Getting it Right for Every Child* (GIRFEC) approach[27] – is a commitment to child wellbeing. Two of the eight basic requirements for wellbeing set out in GIRFEC are particularly relevant to this chapter:[28]

*Healthy – having the highest attainable standards of physical and mental health, access to suitable healthcare, and support in learning to make healthy and safe choices;*

*Achieving – being supported and guided in their learning and in the development of their skills, confidence and self-esteem at home, at school and in the community.*

The GIRFEC principles and approach are further supported by the *Early Years Framework*,[29] and the Scottish Government's commitment to children's health and development is further underlined by the National Performance Framework[30] which includes outcomes focused both on children and health.

For Scottish Government, these all acknowledge the importance of, and need for, effective interventions in the early years. Scotland's Chief Medical Officer made his views on this matter clear with the statement: "…a healthy childhood is the foundation of a healthy life"[31].

The potential for intervention in the early years to have a positive impact on immediate outcomes, as well as to reduce health inequalities in later life, has global recognition, for example via the report for the WHO's 2008 Commission on the Social Determinants of Health (Irwin, Siddiqi and Hertzman, 2007), and the October 2011 *Rio Political Declaration on the Social Determinants of Health* (coordinated by the WHO)[32]. Tied to this, the evidence that very early brain development includes various 'sensitive periods' in which it is optimal to acquire key cognitive, social and emotional skills, has been a very powerful policy lever with the corresponding implication that delays in these periods are difficult (though not impossible) to modify (McCain and Mustard, 1999).

27 See: www.scotland.gov.uk/Topics/People/Young-People/childrensservices/girfec
28 p9 of A guide to Getting it Right for Every Child, Scottish Government, June 2012
29 http://www.scotland.gov.uk/Topics/People/Young-People/Early-Years-and-Family/Early-Years-Framework
30 http://www.scotland.gov.uk/About/Performance/scotPerforms/outcome
31 Press release accompanying the publication of the 2008 Chief Medical Officer's Annual Report. http://www.scotland.gov.uk/News/Releases/2009/12/16100941
32 See: http://www.who.int/sdhconference/declaration/en/index.html

There are many specific examples of the ways in which the above principles are being operationalised in Scotland. The following illustrations have been selected to highlight aspects of direct relevance to the results presented in this chapter. It is not, by any means, an exhaustive list.

For example, there is the high-level commitment to increasing the proportion of children born with a healthy weight;[33] pilot schemes across Scotland testing the Family Nurse Partnership approach which provides first-time mothers under 20 with a dedicated nurse to support them from pregnancy until their child reaches the age of 2;[34] comprehensive information resources for pregnant women and new parents via the Ready Steady Baby programme;[35] an awareness-raising initiative to promote the importance of interacting with babies and toddlers to help their cognitive and social development;[36] direct interventions to improve dental health in the pre-school years via NHS HEAT targets[37] and the Childsmile initiative;[38] and targeted campaigns to raise awareness about potential accident risks for young children[39].

Alongside these kinds of initiatives to promote health and improve outcomes for children, Scotland's pre-school child health surveillance programme monitors children's early health and development and provides an opportunity for problems to be identified and appropriate interventions implemented[40]. At present, this system combines a series of universal screening tests and reviews (predominantly in the neo-natal period), and an immunisation programme, complemented by more intensive monitoring of some children if a health visitor judges this to be necessary[41]. For example, around the age of 2 years, the carers of children who are receiving additional monitoring from health visitors participate in a review of their child's development, during which details of the child's progress with motor skills and communication are recorded. Following a review of this approach, in April 2010 the Scottish Government Health Directorate issued updated guidance to all Health Boards stating that a 24-30 month developmental review should be conducted with *all* children (Scottish Government, 2010). The contents of the review were prepared by a working group, subject to consultation and guidance, and published in December 2012 (Scottish Government, 2012). The new reviews will be offered to all children aged 27-30 months and are due to be implemented across Scotland from April 2013. They will focus on socio-emotional and language development, child healthy weight, parenting and family wellbeing.

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33 National Performance Framework: Changes to the National Indicator Set, Edinburgh: Scottish Government, 2012. [online] Available from: http://www.scotland.gov.uk/About/scotPerforms/NIchanges

34 See: http://www.scotland.gov.uk/Topics/People/Young-People/Early-Years-and-Family/family-nurse-partnership

35 See: http://www.readysteadybaby.org.uk/

36 See: http://www.playtalkread.org/

37 For example, the 2014 target relating to fluoride varnish applications for 3 and 4 year old children, see: http://www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance/Dentalregistrations

38 See: http://www.child-smile.org.uk/

39 For example, the ROSPA campaign about blind cords, supported by Scottish Government; and ROSPA's work with Greater Glasgow and Clyde NHS Board to raise awareness about trampoline safety, and the risk of burns from hair straighteners (details of which can be found at: http://www.rospa.com/homesafety/aroundtheuk/scotland/default.aspx)

40 The overall policy framework for the programme is set out in two documents: the 2005 Health for All Children 4: Guidance on Implementation in Scotland, available from: http://www.scotland.gov.uk/Publications/2005/04/15161325/13269; and the 2011 update: A New Look at Hall 4 – the Early Years – Good Health for Every Child, available from: http://www.scotland.gov.uk/Publications/2011/01/11133654/0

41 For full details see: http://www.isdscotland.org/Health-Topics/Child-Health/Child-Health-Programme/Child-Health-Systems-Programme-Pre-School.asp

This chapter covers a number of areas that relate directly to the points discussed above. Where available, comparisons are made with the results from the first GUS birth cohort, conducted in 2005/06. Variations in children's health and development are explored in relation to a number of factors, such as the child's sex and their family's socio-economic circumstances.

The following areas of child health and development will be addressed in turn:

- Children's general health (as assessed by their carers), long-term conditions and health problems experienced in the first year of life
- Accidents requiring treatment from health professionals, including those resulting in hospital visits and admissions
- The acquisition of motor skills and early communicative behaviour is therefore covered in some detail
- Parental knowledge of early child development and concerns about development. Sleep patterns, duration and parental reports of problems with sleep
- Tooth-brushing habits
- Child temperament

## 9.2 Key findings

- 95% of children in 2010/11, and 94% in 2005/06, were described by their main carers as having 'very good' or 'good' health. In 2010/11, 79% of children in one child households had 'very good' health, this declined to 70% in households with four or more children. 78% of children in the two least deprived quintiles had 'very good' health, compared with 72% in the most deprived quintile.
- 12% of children in 2010/11, and 13% in 2005/06, had a long-term condition or illness. In 2010/11, boys (13%) were more likely than girls (10%) to have a long-term condition or illness. Children born to mothers aged 30 and over (13%) were more likely to than those aged under 30 (10%). 19% of low birthweight children had a long-term condition compared with 11% of those whose birthweight was not low.
- Children in 2010/11 were reported to have experienced a mean number of 2.4 different health problems since birth (aside from long-term conditions or accidents). This was higher in boys (2.6) than girls (2.3). Boys with mothers aged under 20 when they were born were the most likely group to have experienced a higher number of different problems.
- Most parents had contacted someone about their child's health problems: 40% made contact about all of them, 45% about some of them, and just 14% said they had not contacted anyone. 49% of mothers under 20 had contacted a professional about all their child's health problems compared with 38-39% of those born to mothers aged 30-39 and 40 or older.
- In 2010/11, 8% of children (8% of boys and 9% of girls) had received treatment for an accident. This represents a small (but statistically significant) reduction from 2005/06 when 10% of children had done so (11% of boys, 9% of girls). In 2010/11, 13% of

children whose mothers were aged under 20 at their birth had received treatment for an accident compared with 6% of children with mothers aged 40 or more. Education level, income and area deprivation were unrelated to accident treatment rates.

- Seven milestones were asked about in the 2005/06 and 2010/11 interviews to assess motor skills development. 17% of children in 2010/11 had missed one of the milestones compared with 20% in 2005/06. Second and subsequent born children were more likely than firstborn children to have missed milestones than firstborn children as were children born to mothers aged 40 or over and those with low birthweight.
- Ten communication behaviours were asked about in the 2010/11 interview. All but one of the behaviours were displayed by the majority of children, with only around a quarter of children able to nod to indicate yes at 10 months. For half of the individual items, girls' communication skills were more advanced than boys, and children in the most deprived areas were more likely to display the behaviour than children in the least deprived areas.
- Compared with the average child, early communication skills were less well developed if a child was not a mother's firstborn, if they lived in the least deprived areas, and if they had a main carer from an ethnic group other than white. Children with delayed motor skills, and those with low birthweights, also had less well developed communication skills.
- Just 5% of carers in 2010/11 reported some or a lot of concerns about their child's development, learning or behaviour. This was a reduction from 8% in 2005/6. 9% of carers in the lowest household income quintile had concerns compared with 4% in the two highest quintiles.
- 4% of main carers whose children had met all of the six motor milestones (described above) reported some concerns, compared with 34% for children missing two or more milestones. The prevalence of concerns was also a little higher for children with the lowest level of communication skills compared with those with the highest level of skills (10% versus 4%). This possibly suggests that delays in motor skill development trigger concerns more readily than problems with communication skills.

## 9.3 General health, long-term conditions and acute illnesses

### *9.3.1 General health*

The vast majority of children in 2010/11 (95%) were described by their main carers as having 'very good' or 'good' health. The equivalent figure in 2005/06 was 94%. With ratings of health as high as this, the potential for variation across groups was limited. However, differences were evident in the proportions of children with very good health, and, in some cases, the worst health (fair, bad or very bad).

As Table 9.1 shows, girls (77%) were more likely than boys (72%) to have 'very good' health. The proportion with less than good health also increased with rising household size and area deprivation. 75% of children whose main carers described themselves as white had 'very good' health and a further 20% had 'good' health. In contrast, 65% of those from any other ethnic background were described as having 'very good' health and 31% had 'good' health. However, the prevalence of less than good health was similar in both groups. Children in

households containing an adult with higher education were the most likely to have very good health (77% did so compared with 72%-74% in other groups), though levels of less than good health did not vary by education level.

**Table 9.1 Child general health by sex, household size and ethnic group of main carer**

| | | Child general health | | | |
|---|---|---|---|---|---|
| | | Very good | Good | Fair/bad/ very bad | *Base: all families* |
| **Sex*** ** | | | | | |
| Boys | % | 72 | 22 | 6 | *3043* |
| Girls | % | 77 | 19 | 4 | *3084* |
| All children | % | 75 | 20 | 5 | *6127* |
| **Number of children in household*** ** | | | | | |
| 1 child | % | 79 | 18 | 4 | *2814* |
| 2 or 3 children | % | 72 | 23 | 6 | *3056* |
| 4 or more | % | 70 | 20 | 10 | *257* |
| **Ethnic group of main carer*** ** | | | | | |
| White | % | 75 | 20 | 5 | *5813* |
| Other ethnic group | % | 65 | 31 | 4 | *299* |

*** = p<*.001*

### *9.3.2 Long-term conditions or illnesses*

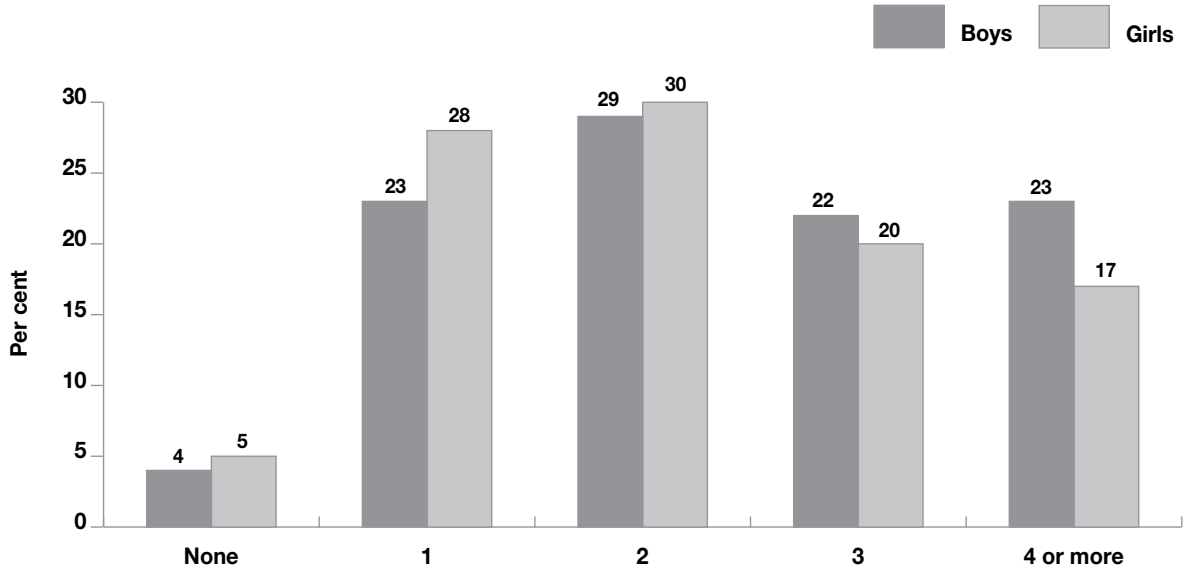
Main carers were also asked if their child had any physical or mental conditions, or illnesses, that had been present since birth or were expected to last for more than a year (no examples of conditions were provided, but if the carer answered 'yes', then further details were collected and conditions were coded in the office). In 2010/11, 12% of children had a long-term condition or illness, the figure in 2005/06 was 13%. The prevalence of long-term conditions was higher in boys (13%) than girls (10%), and was also higher among children born to mothers aged 30 and over (13%) than those aged under 30 (10%). Unlike general health, the prevalence of long-term conditions did not vary significantly by household size, main carers' ethnicity, educational attainment or area deprivation.

### *9.3.3 Health problems and treatment*

Main carers were shown a list of different health complaints and conditions[42] and were asked to say whether their child had experienced them since birth (long-term conditions already covered in the interview, and accidents/injuries were excluded from this list). Carers were not asked how many times any conditions had occurred so it is unknown whether these were single or recurrent episodes. Children in 2010/11 were reported to have experienced a mean number of 2.4 different health problems since birth (aside from long-term conditions or accidents)[43]. The mean number of different health problems was higher in boys (2.6) than girls (2.3). Despite the fact that children whose main carers were white were more likely to be described as having 'very good' health than children whose main carers were from other ethnic groups, the mean number of different health problems was higher for children of white carers than children of other ethnic groups (2.4 and 2.2 respectively).

Most children will experience health problems at some point in their first year of life. However, by grouping the children according to the number of different conditions experienced it is possible to identify a group whose illness burden is somewhat greater than that experienced by the average child. Figure 9.1 shows the distribution of the number of different conditions experienced, from none to four or more. The rest of the discussion here focuses on the latter group.

**Figure 9.1 Number of different health problems experienced since birth (excluding long-term conditions and accidents/injuries), by sex**



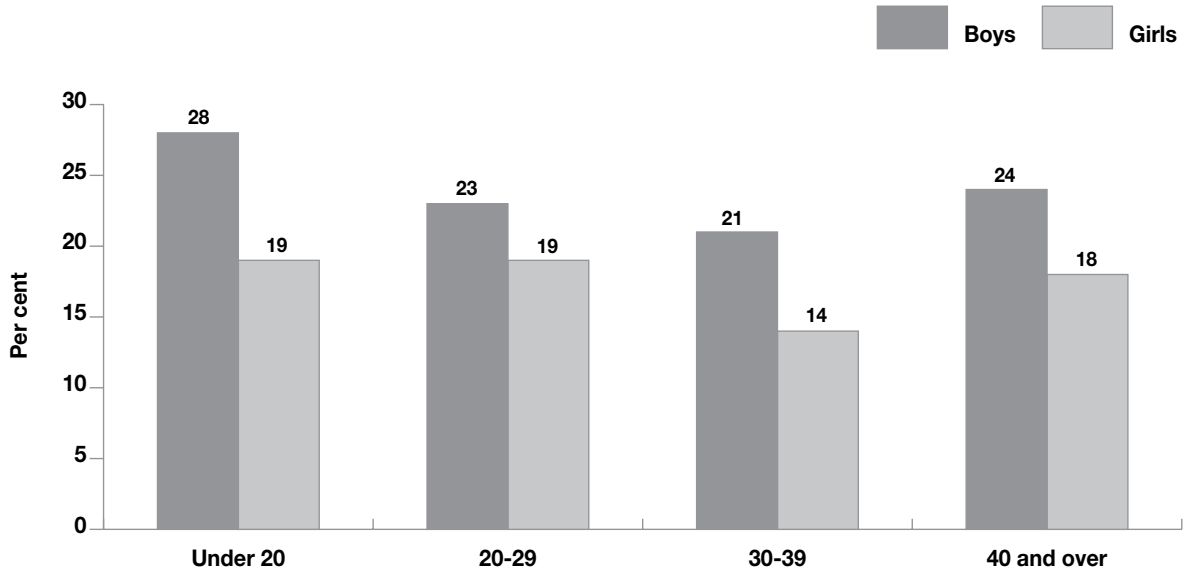

*Base – all children: boys = 3043, girls = 3084*

42 The full list can be reviewed in the questionnaire documentation available via the GUS website: www.growingupinscotland.org.uk

43 The questions about acute health problems and illnesses used different wording in 2005/06. Parents in 2005/06 were asked to only mention conditions for which treatment or advice was sought from a health professional. In 2010/11 details of all conditions were recorded and a follow-up question ascertained whether contact was made with a health professional. The two sets of data are not directly comparable

As Figure 9.2 shows, boys and girls born to mothers aged 30-39 were the least likely to have experienced four or more different health problems since birth, while boys with mothers aged under 20 when they were born were the most likely. This is unlikely to be an education effect though: 15% of children in households where no one has any qualifications had experienced four or more different health problems, compared with 21-22% of those in households with standard or higher grades, and 19% in households with higher education. Experiencing four or more different health problems was unrelated to area deprivation[44]. The impact of multiple health problems on other developmental outcomes will be explored further below.

**Figure 9.2 Proportion of children with four or more different health problems since birth, by maternal age at birth and sex of child**




*Base – children with four or more health problems: Boys – under 20 = 190, 20-29 = 1274, 30-39 = 1479, 40 and over = 132; Girls – under 20 = 153, 20-29 = 1279, 30-39 = 1471, 40 and over = 135*

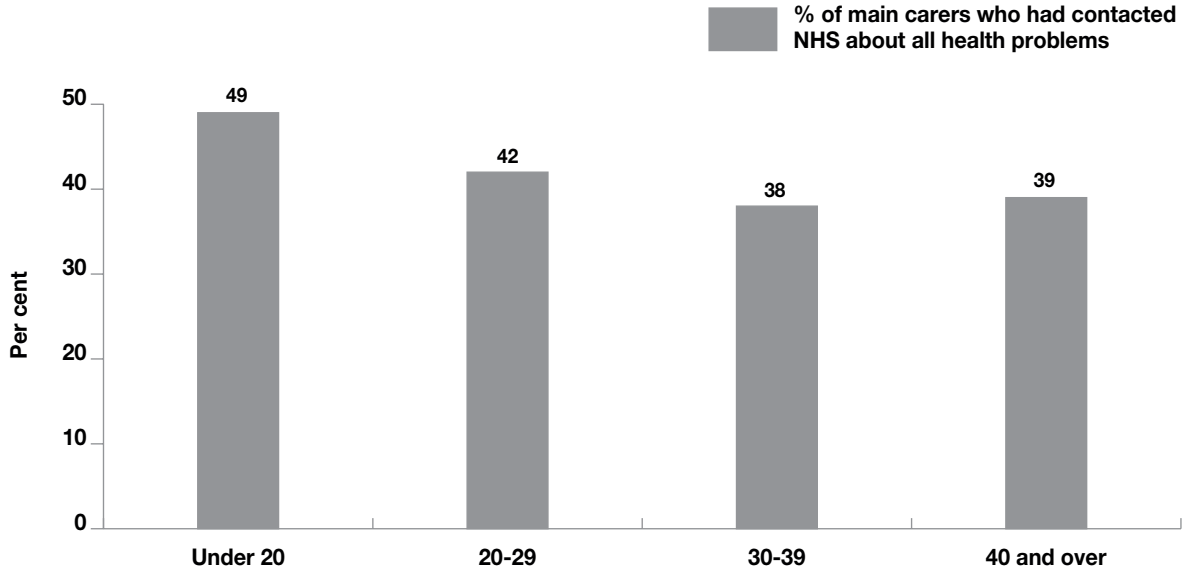
Following on from the question about different health problems, main carers were asked if they had contacted a health professional about any of the health problems experienced by their child (the options were all, some or none of them). Most parents had contacted someone about their child's health problems: 40% made contact about all of them, 45% about some of them, and just 14% said they had not contacted anyone. As the total number of episodes is unknown (just the number of different conditions/problems), it is easier to interpret the answers of carers who said they made contact about all conditions, or none of them.

As might be expected, the likelihood of making no contact with a professional decreased as the number of problems increased (39% of carers of children with just one health problem did not contact anyone about it compared with 10% of those with two problems, 3% with three problems and 1% with four or more problems). Parental experience is also linked to parents' propensity to seek help from health professionals. 43% of carers of firstborn children said they had contacted a professional about every health problem their child experienced decreasing to 35% of carers of fourth or subsequent children. Linked to this, as

44 A simple regression model with maternal age, education level and area deprivation confirmed the finding that children born to mothers aged 30-39 were significantly less likely to experience four or more health problems than those born to mothers under 20, after adjusting for education and deprivation

Figure 9.3 shows, carers of children born to mothers under 20 were more likely than carers of children born to older mothers to say they had contacted a professional about all their child's health problems. Contacting professionals for all of a child's health problems was not significantly associated with area deprivation, and while the association with education level was significant, the pattern was not consistent: mothers in households with higher education were the least likely to contact professionals about all issues, followed by those with no qualifications, while those with standard grades and other qualifications were the most likely.

**Figure 9.3 Percentage of main carers who said they had contacted a health professional about all their child's different health problems since birth, by maternal age at child's birth**



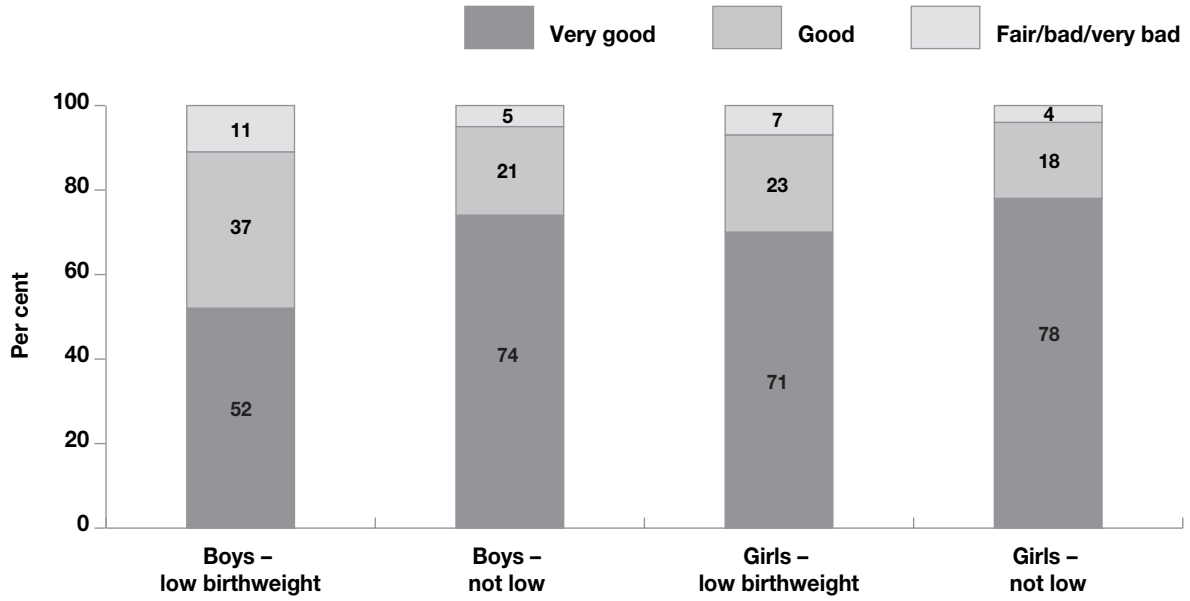

*Base: parents who had contacted a health professional about all their child's different health problems since birth – under 20 = 333, 20-29 = 2426, 30-39= 2799, 40 and over = 251*

### *9.3.4 Birthweight and health in the first year of life*

The preceding sections presented a range of indicators of early health outcomes. As discussed in chapter 3, one of the earliest markers of poor early health and development is low birthweight. This section briefly presents the associations between low birthweight and general health, long-term conditions and health problems at 10 months.

Figure 9.4 shows that children with a low birthweight were less likely than those with a normal weight to be described by their main carer as having 'very good' health. This was particularly so for boys, to the extent that the general health of normal weight boys and low birthweight girls was in fact very similar. Low birthweight children were almost twice as likely as those with a normal birth weight to have a long-term condition (19% versus 11%). While the absolute level of such conditions was higher in low birthweight boys than girls (24% and 16% respectively) the relative differences, when compared with normal weight children, were similar for both sexes. In contrast, there was only a small difference between low and normal weight boys in the proportion experiencing four or more different health problems in their first year (26% versus 22%), whereas the difference was greater among girls (26% versus 16%).

**Figure 9.4 Child general health (at 10 months) by birthweight and sex**




*Base – all children: Boys – low birth = 174, not low = 2880; Girls – low birth = 208, not low = 2809*

## 9.4 Accidents

### *9.4.1 Accident rates*

Main carers were asked if their child had received NHS treatment for an accident at any point since their birth, and if so, what kind of injury occurred and whether a hospital visit resulted. In 2010/11, 8% of children (8% of boys and 9% of girls) had received treatment for an accident. This represents a small (but statistically significant) reduction from 2005/06 when 10% of children had done so (11% of boys, 9% of girls). Of those children experiencing accidents requiring treatment, similar proportions in both years had visited casualty or were admitted to a hospital ward (75% in 2010/11, 73% in 2005/06).

Asking about accidents requiring treatment means that, in many cases, it is likely that only the more serious kinds of accidents were reported. However, it is also possible that parents' perceptions of when children require treatment for an accident vary. Some of the differences in accident rates discussed below could, therefore, be due to variations in parental treatment-seeking, rather than differences in accidents happening.

For example, in 2010/11, 13% of children whose mothers were aged under 20 at their birth had experienced an accident resulting in NHS treatment. This declined as maternal age increased, to 6% for children with mothers aged 40 or more. The same pattern was evident in 2005/06. As noted above, younger mothers were the most likely group to have contacted a health professional for all the episodes of illness their child had experienced, so it is possible that younger mothers are also more likely to seek treatment for their child's accident. However, 9% of first born children had received treatment for an accident, compared with 7% of children who were the third or more, which suggests that parental experience alone does not account for the large difference in accident rates by maternal age.

Education level was also unrelated to accident rates – children in households with no qualifications were as likely to have treatment for an accident as those in households with higher education – and other socio-economic status measures such as income and area deprivation were unrelated to accident treatment rates. The differences by family type and ethnic group reported in 2005/06 were not evident in 2010/11.

Analysis of the first GUS birth cohort showed that accidents peaked in the 22-month sweep (Bromley and Cunningham-Burley, 2010), which was attributed to the increasing physical independence children show in their second year of life and the subsequent higher risk of falls and knocks as they learn to walk. These early signs of higher risk coinciding with greater mobility were also evident in the new birth cohort: the minority of children who at 10 months had already started to walk were more likely to have had treatment for an accident than those not yet walking (11% versus 7%).

### *9.4.2 Hospital treatment for accidents*

In addition to knowing whether the children had received any NHS treatment for an accident, it is also possible to identify a further subset of more serious accidents that required a visit to casualty or resulted in a hospital in-patient admission. In-patient admissions were rare, just 5% of children who were treated for an accident were admitted to a ward (0.4% of children overall), so trips to casualty and in-patient admissions have been combined for the following analysis.

Table 9.2 shows that while there was a significant association between maternal age at birth and children ever having received treatment for an accident, the pattern in relation to hospital treatment – although following a similar downward trend – was not statistically significant. Hospital treatment for accidents was not associated with any of the socio-economic status measures, such as area deprivation, or with the child's sex.

**Table 9.2 Treatment for accidents by age of mother at birth of cohort child**

| | Age of mother at birth of cohort child | | | | |
|---|---|---|---|---|---|
| | Under 20 | 20 to 29 | 30 to 39 | 40 or over | All |
| **Accident treatment** | % | % | % | % | % |
| Ever received treatment for an accident** | 13 | 9 | 8 | 6 | 8 |
| Visited casualty or admitted to a ward after an accident$^{NS}$ | 9 | 7 | 6 | 5 | 6 |
| *Base: all children* | *343* | *2553* | *2950* | *267* | *6127* |

** = p<.01; NS = not significant [p=0.12]

### *9.4.3 Injuries resulting from accidents*

As Table 9.3 shows, the majority of accidents did not result in a serious injury. By far the most common injury was a knock or fall such as a bump on the head, experienced by 60% of children who had accidents requiring treatment. In contrast, just 1% experienced more severe outcomes such as a broken bone or a cut requiring stitches. The question wording about injuries was not comparable across the two birth cohorts so the results cannot be compared directly.

**Table 9.3 Types of injuries resulting from accidents**

| Type of injury | % of cases |
|---|---|
| Knock or fall with no serious injury (eg. bang on head) | 60 |
| Other type of accident | 9 |
| Knock or fall resulting in cut or graze | 8 |
| Burn or scald | 7 |
| Knock or fall resulting in bruise, sprain or twist | 4 |
| Dislocation/avulsion | 3 |
| Other knock/fall or non-penetrating accident | 2 |
| Other cut/graze | 2 |
| Injury to face or mouth eg. nosebleed | 2 |
| Something stuck in eye, nose, throat, ear or other body part | 2 |
| Swallowed an object | 2 |
| Swallowed household cleaner/other poison/pills | 1 |
| Knock or fall resulting in broken bone | 1 |
| Knock or fall resulting in cut needing stitches | 1 |
| Choking fit | 1 |
| Animal or insect bite/sting | 1 |
| *Base: all children who had an accident requiring NHS treatment* | *509* |

## 9.5 Development of motor skills

Motor skills were assessed in both birth cohorts by asking if children had accomplished the seven specific tasks (or milestones) listed in Table 9.4. They covered ‘gross’ skills, requiring the coordination of large muscles, such as walking, as well as ‘fine’ skills which require more precise movements, such as picking up small objects. These kinds of skills are not simply indicative of muscle development; their acquisition is inextricably linked to wider cognitive and emotional development (Adolph and Berger, 2011).

Five milestones were met by over 90% of children in both cohorts, while just under 90% could stand while holding onto something, and around a quarter (23-24%) had walked a few steps on their own. The proportions meeting each milestone were very similar for both boys and girls.

The six motor development milestones met by the majority of children (excluding walking) were analysed further by calculating the total number of these milestones children had achieved or missed. As Table 9.4 shows, slightly fewer children in 2010/11 had missed milestones than in 2005/06. The difference between the proportions missing one or more milestones in 2010/11 and 2005/06 (20% and 17%, respectively) was statistically significant, however, at three percentage points the overall difference was quite small[45].

**Table 9.4 Motor milestones by cohort**

| | Cohort 1 | Cohort 2 |
|---|---|---|
| **Child can…** | % | % |
| …pass a toy back and forth from one hand to the other | 99 | 99 |
| …sit without being supported | 99 | 99 |
| …pick up small object with just forefinger and thumb | 97 | 98 |
| …put hands together | 97 | 97 |
| …move about on the floor | 94 | 96 |
| …stand up while holding onto something | 88 | 89 |
| …walk a few steps on their own | 23 | 24 |
| **Number of 'majority' milestones missed*** ** | | |
| 0 | 80 | 83 |
| 1 | 15 | 13 |
| 2 or more | 5 | 4 |
| *Base: all children* | *5178* | *6094* |

**Bases vary – those shown are for the lowest of the range (the number of milestones missed)*

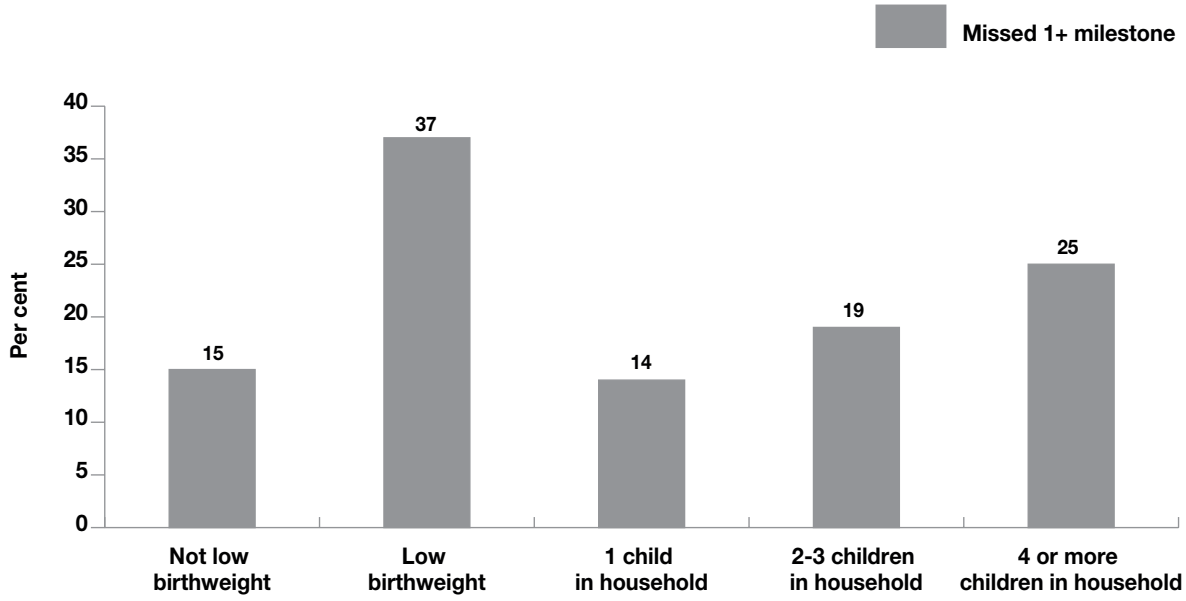
**** = p<.001*

The rest of the discussion in this section focuses on the 2010/11 results. Of those children who had missed milestones, problems with gross motor coordination skills were more common than with fine motor coordination. For example, 68% could not stand while holding onto something and 25% could not move about on the floor independently. In contrast, 16% couldn't put their hands together and 12% couldn't pick up a small object between their fingers.

45 To investigate the possibility that the difference was due to the children in cohort 2 being slightly older than those in cohort 1 the analysis was repeated with just those children aged 10 months in both cohorts. The same pattern was found: 24% of 10-month-old children in 2005/06 had missed one or more motor milestones compared with 19% of those in 2010/11

The likelihood of missing milestones was not associated with measures of socio-economic status such as area deprivation or education level of the household. However, as Figure 9.5 shows, the likelihood of missing milestones increased as the number of children in the household increased. Similarly, second and subsequent children were also more likely to have missed milestones than firstborn children. Given these findings, it is therefore unexpected that mothers aged 40 or over at birth were a little more likely to have children who had missed milestones than mothers aged 39 or under. Birthweight was strongly associated with missing milestones, which is likely to reflect longer-term developmental problems associated with prematurity. The number of different health problems children had experienced was not associated with missing milestones.

**Figure 9.5 Proportion of children at 10 months who missed one or more motor milestones, by birthweight and number of children in household**




*Base – all children: not low birthweight = 382, low birthweight = 5689; 1 child in household = 2803, 2-3 children in household = 3034; 4 or more children in household = 257*

## 9.6 Development of communication skills

New questions about early communication were asked in 2010/11. These were included in the first birth cohort, but not until the children were 22 months old, so no comparisons can be made at this point. The items came from the Communication and Symbolic Behaviour Scale (CSBS) (Wetherby and Prizant, 2001) which has been widely used to assess children's pre-verbal communication skills and includes aspects such as gazing, waving, nodding, pointing with the purpose of obtaining objects (imperative pointing), and pointing to merely draw other people's attention to objects (declarative pointing). Some studies suggest that there is a positive association between these kinds of early symbolic gestures and later language development (Akhtar and Martinez-Sussman, 2007). The direct assessments of vocabulary planned for the next wave of the new birth cohort will be able to explore this further. To avoid the possibility that carers might not want to tell an interviewer if their child cannot do something that most children can, the questions were in the self-completion section.

Table 9.5 presents the proportions of children whose main carers said they displayed each communication or symbolic behaviour type sometimes or often. All but one of the behaviours were displayed by the majority of children, though pointing was less common, and only around a quarter of children could nod to indicate yes. For half of the individual items, girls' communication skills were more advanced than boys – a common finding in most communication research with children – while for the remaining items there were no differences between boys and girls. Main carers also thought that girls knew slightly more words or phrases than boys, though the difference here was not large.

**Table 9.5 Communication and symbolic gestures, by sex**

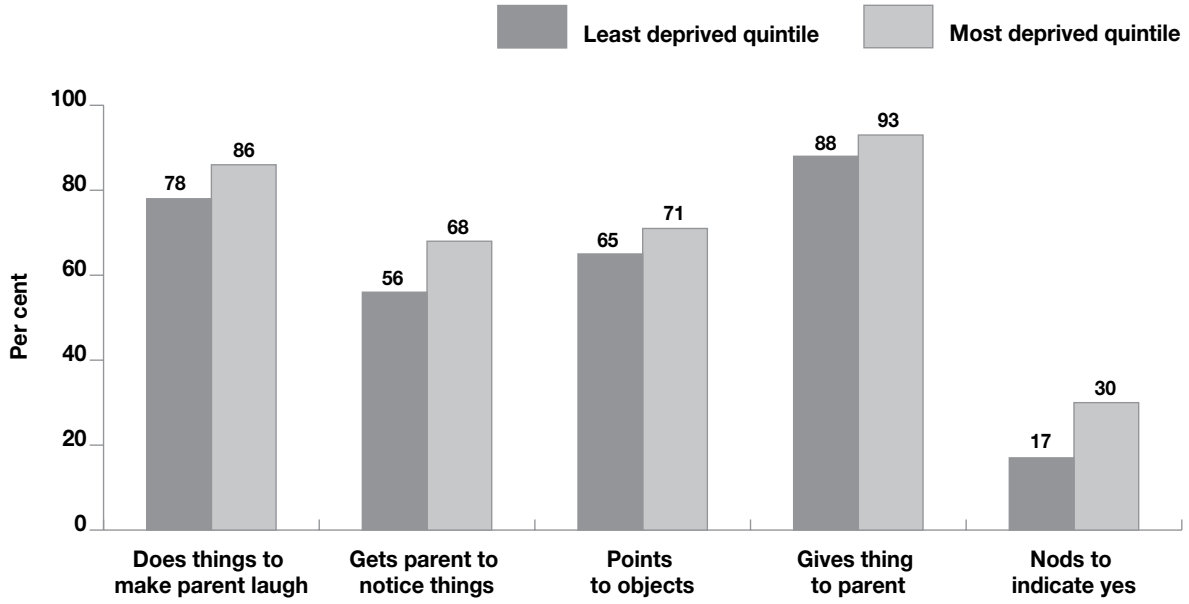
| | Boys | Girls |
|---|---|---|
| **Child…** | **%** | **%** |
| …responds by looking/turning if name is called | 99 | 100 |
| …looks at a toy if parent points to it across a room | 95 | 96 |
| …lets parent know if they want an object out of reach | 96 | 95 |
| …picks up objects and gives them to parent | 87 | 92 |
| …waves to greet people | 73 | 86 |
| …shows objects to parent without giving it to them | 82 | 85 |
| …does things just to make parent laugh | 82 | 82 |
| …points to objects | 64 | 73 |
| …gets parent to notice interesting objects (without wanting anything to be done with object) | 59 | 65 |
| …nods head for yes | 21 | 27 |
| **Number of words/phrases child knows** | | |
| None | 14 | 13 |
| 1-3 | 43 | 38 |
| 4-10 | 34 | 38 |
| 11-30 | 8 | 10 |
| Over 30 | 1 | 1 |
| *Bases** | *3023* | *2993* |

**Bases vary – those shown are for the lowest of the range (number of words known)*

In contrast to the motor skills development items, some of the communication and symbolic behaviours showed some notable variations across social groups. By way of illustration, Figure 9.6 presents the five behaviours that were significantly associated with area deprivation and compares the proportion of children in the least and most deprived SIMD quintiles who displayed each behaviour. In each case children in the most deprived areas were more likely to display the behaviour than children in the least deprived areas, with the greatest difference evident for affirmative nodding.

As noted above, early symbolic behaviour has been linked with later language development. However, findings from the first GUS cohort, and other similar studies such as the Millennium cohort, show that early language skills are negatively associated with deprivation and low socio-economic status to the extent that by the time children reach school the vocabulary development of those from the lowest income households was 13 months behind the least deprived children, with the gap between children whose parents have a degree and those with no qualifications being 18 months (Bradshaw, 2011). The finding that children from more socio-economically disadvantaged backgrounds have better communication and symbolic behaviour skills at 10 months is therefore potentially surprising (though replicate similar findings from cohort 1). It could be due to the different measurement methods used and the fact that some of the behaviours being asked about (such as declarative pointing) are difficult to assess. While parents are generally capable of accurately reporting their children's development, the direct assessments of vocabulary development used in the first GUS cohort are more accurate, and assess a more readily accessible skill.

**Figure 9.6 Selected communication and symbolic behaviours by Scottish Index of Multiple Deprivation quintile**




*Base – all children: least deprived quintile = 1149, most deprived quintile = 1283. Bases vary – those shown are for the lowest of the range*

To enable more detailed analysis, a composite scale was created using all the items in the interview to help identify the children with relatively less and relatively more developed communication and symbolic behaviour skills.

The full set of CSBS items can be used to derive a validated scale which can be used to create clinical thresholds indicating children whose early communicative behaviour warrants further professional assessment. As only a subset of the CSBS items was included in the GUS questionnaire these thresholds cannot be created. However, the individual items could be scored in the same way as the full CSBS scale[46] to create a scale that ranged from zero to 24. The scale's distribution was approximately normal, and had a mean of 14.5 (and a

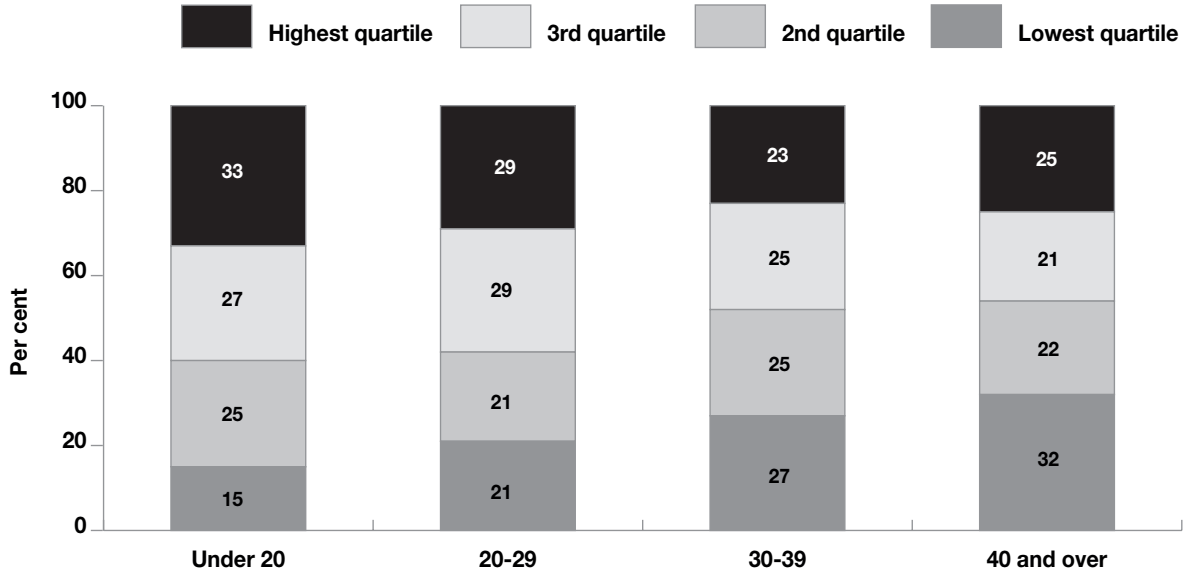
46 One point was allotted for each behavior the child displayed 'sometimes', two points for 'often', and one point was allotted for knowing 1-3 words/phrases, two points for 4-10, three points for 11-30 and four points for 30 or more.

median of 15). The scale was then grouped into four roughly equal groups (quartiles). Children in the first quartile had the lowest scores, and therefore less well developed communication skills, while those in the fourth quartile, with the highest scores, had the most advanced skills.

As would be expected from the results in Table 9.5, girls had higher scale scores than boys. For example, 31% of girls and 22% of boys had scores in the highest quartile, while 19% of girls and 28% of boys had scores in the lowest quartile.

Figure 9.7 shows that the proportion of children in the lowest scoring quartile followed a fairly linear increase as maternal age at birth increased, resulting in children whose mothers were aged 40 and over when they were born being twice as likely as those with mothers under 20 to have the lowest scores (32% versus 15%). In contrast, while one in three children born to mothers under 20 were in the highest scoring quartile, this declined to one in four of those whose mothers were aged 40 and over.

**Figure 9.7 Communication and symbolic behaviour scale scores by age of mother at cohort child's birth**




*Base – all children with complete CSBS data: under 20 = 295, 20-29 = 2168, 30-39 = 2481, 40 and over = 222*

Table 9.6 presents a wider range of factors found to be associated with CSBS scale scores. Compared with the average child, early communication skills were less well developed if a child was not a mother's firstborn, if they lived in the least deprived areas, and if they had a main carer from an ethnic group other than white. This latter finding may, in part, reflect differences in how the questions were interpreted by parents from other ethnic backgrounds.

The results also show how early motor development and communication skills are related – many of the symbolic behaviours are dependent on children having reached a certain level of motor coordination (eg. being able to point or wave) so it is unsurprising that the children showing motor delays had lower CSBS scores. However, it is perhaps worth highlighting that missing just one of the milestones was associated with notably lower CSBS scores; it

wasn't simply the case that children with the most significant motor delays had poorer communication skills. Although a small group in the population overall, those children with both motor and communication development delays are likely to require enhanced monitoring in their early years, and intervention where beneficial. Linked to this, the impact of low birthweight on later development is clear, with low birthweight children almost twice as likely to have low CSBS scores as those with a normal birthweight. The number of different health problems children experienced in their first 10 months was unrelated to CSBS scores.

An exploratory logistic regression model was run to investigate the factors independently associated with children being in the lowest CSBS quartile (with the least well-developed communication skills), once other factors were controlled for at the same time. It showed that maternal age at birth and household education were not associated with being in the lowest group, but that all the items presented in Table 9.6 remained significantly associated.

**Table 9.6 Communication and symbolic behaviour scale scores by selected key variables**

| | | CSBS scale score | | | | |
|---|---|---|---|---|---|---|
| | | Lowest quartile (<12) | 2nd quartile (12-14) | 3rd quartile (15-17) | Highest quartile (>18) | *Base: All children with complete CSBS information* |
| Total | % | 24 | 23 | 27 | 26 | *5178* |
| **Birth order of cohort child*** ** | | | | | | |
| Firstborn | % | 20 | 22 | 28 | 30 | *2506* |
| Second born | % | 26 | 25 | 26 | 23 | *1767* |
| Third born | % | 30 | 24 | 24 | 22 | *677* |
| Fourth born or more | % | 30 | 23 | 25 | 23 | *228* |
| **Ethnicity of main carer*** ** | | | | | | |
| White | % | 23 | 23 | 27 | 27 | *4951* |
| Other ethnic group | % | 35 | 29 | 20 | 16 | *217* |
| **SIMD*** ** | | | | | | |
| Least deprived quintile | % | 30 | 23 | 24 | 23 | *980* |
| 2nd | % | 27 | 23 | 27 | 23 | *1007* |
| 3rd | % | 22 | 24 | 28 | 27 | *1081* |
| 4th | % | 22 | 23 | 28 | 27 | *1036* |
| Most deprived quintile | % | 19 | 23 | 27 | 30 | *1073* |

| | | CSBS scale score | | | | |
|---|---|---|---|---|---|---|
| | | Lowest quartile (<12) | 2nd quartile (12-14) | 3rd quartile (15-17) | Highest quartile (>18) | *Base: All children with complete CSBS information* |
| **Number of motor milestones missed*** ** | | | | | | |
| None | % | 19 | 23 | 29 | 29 | *4320* |
| One | % | 40 | 27 | 20 | 14 | *660* |
| Two or more | % | 66 | 19 | 12 | 2 | *178* |
| **Birthweight*** ** | | | | | | |
| Low (<2500g) | % | 42 | 19 | 21 | 17 | *316* |
| Not low (>2500g) | % | 22 | 24 | 27 | 27 | *4840* |

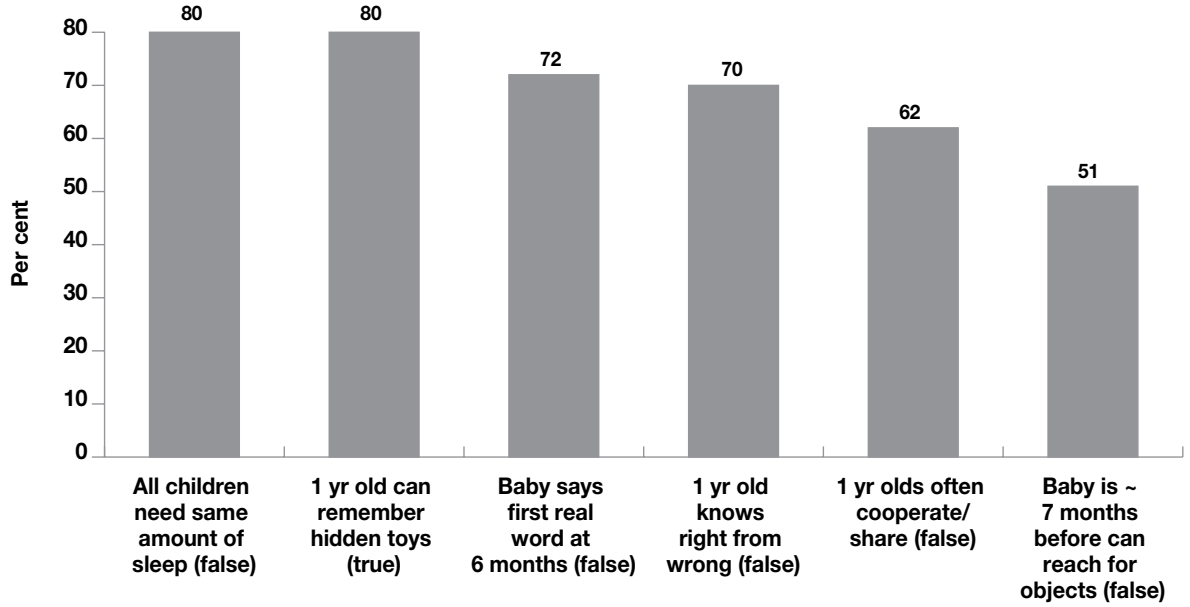
*** = p<*.001*

## 9.7 Parental knowledge of child development

The preceding two sections looked at children's motor and communication development, as assessed by their main carers. To help explore the association between parental knowledge of child development and child outcomes the interview included a series of knowledge questions about motor skills, communication and socio-emotional development. It is possible, for example, that if parents have low expectations or awareness of what a child can do at certain stages that this could affect their interactions with their child and, consequently, result in slower development. Additionally, with limited universal reviews of child development (from April 2013 these will be introduced at 27-30 months), delays in development are largely identified via parents reporting concerns. If knowledge of what should be expected of children is low, then this might result in developmental delay being unrecognised.

Figure 9.8 shows the percentage of main carers who correctly answered each question (whether the statement was true or false is also shown). For the items that were false, main carers also had to say whether a child would need to be older or younger to complete the task. For example, only those who said that a baby would be older than six months before saying their first real word was judged to have given a correct answer. With the exception of the question about the age at which babies can reach for objects, a clear majority of main carers answered each item correctly. Knowledge was highest in relation to the amount of sleep children need and whether a 1 year old can remember a hidden toy.

**Figure 9.8 Main carers' knowledge of early child development (% giving correct answer)**




*Base – all parents,* n = *6119*

A scale of parental knowledge was created. One point was given for each correct item and one point was deducted for each incorrect item. No points were given (or deducted) for non-committal answers (eg. don't know, not sure). Scores therefore ranged from -6 to 6. The scale was not normally distributed, the mean score was 2.6, while the modal (most common) score was 4 (27% of main carers achieved this). At the extremes of the distribution, just 8% had scores below zero, 12% scored zero, and 14% got the highest score, by answering all six items correctly.

To compare levels of knowledge the scores were grouped as follows: 1 or less (least knowledgeable), 2-3, 4, and 5-6 (most knowledgeable). As Table 9.7 shows, levels of knowledge showed clear social patterns. Main carers in households with no qualifications or education classified as 'other' – which includes many international qualifications – had the lowest levels of knowledge with the proportion in the least knowledgeable group declining in a stepwise fashion as education increased. Main carers from ethnic groups other than white had lower child development knowledge levels than the rest of the population, as did those living in the most deprived areas. Interestingly, knowledge increased as maternal age increased, but was lower among carers whose child was their fourth or subsequent than among those with first- to third born children.

**Table 9.7 Knowledge of early child development**

| | | Developmental knowledge group | | | | |
|---|---|---|---|---|---|---|
| | | Least knowledgeable quartile (1 or less) | 2nd quartile (2-3) | 3rd quartile (4) | Most knowledgeable quartile (5-6) | *Base: all families* |
| **Total** | % | 26 | 30 | 27 | 18 | *6127* |
| **Education level of household*** ** | | | | | | |
| No qualifications | % | 43 | 30 | 19 | 8 | *281* |
| Other (inc international) | % | 63 | 26 | 8 | 2 | *96* |
| Lower level standard grades | % | 40 | 32 | 19 | 9 | *261* |
| Higher level standard grades | % | 32 | 31 | 23 | 13 | *1000* |
| Higher grades | % | 25 | 31 | 29 | 16 | *1730* |
| Degree | % | 17 | 29 | 31 | 23 | *2618* |
| **Ethnicity of main carer*** ** | | | | | | |
| White | % | 25 | 30 | 28 | 18 | *5813* |
| Other ethnic group | % | 46 | 30 | 18 | 7 | *299* |
| **SIMD*** ** | | | | | | |
| Least deprived quintile | % | 18 | 28 | 32 | 22 | *1155* |
| 2nd | % | 23 | 28 | 28 | 21 | *1175* |
| 3rd | % | 24 | 31 | 30 | 14 | *1273* |
| 4th | % | 29 | 31 | 24 | 16 | *1235* |
| Most deprived quintile | % | 31 | 32 | 23 | 14 | *1288* |
| **Maternal age at birth*** ** | | | | | | |
| Under 20 | % | 36 | 32 | 21 | 11 | *343* |
| 20-29 | % | 29 | 31 | 25 | 16 | *2553* |
| 30-39 | % | 21 | 30 | 30 | 20 | *2950* |
| 40 and over | % | 23 | 28 | 28 | 20 | *267* |
| **Birth order of cohort child** ** | | | | | | |
| Firstborn | % | 27 | 31 | 26 | 17 | *2925* |
| Second born | % | 23 | 29 | 29 | 19 | *2119* |
| Third born | % | 26 | 31 | 27 | 16 | *804* |
| Fourth born or more | % | 33 | 29 | 25 | 13 | *279* |

*** = p<*.001*, *** = p<*.01*

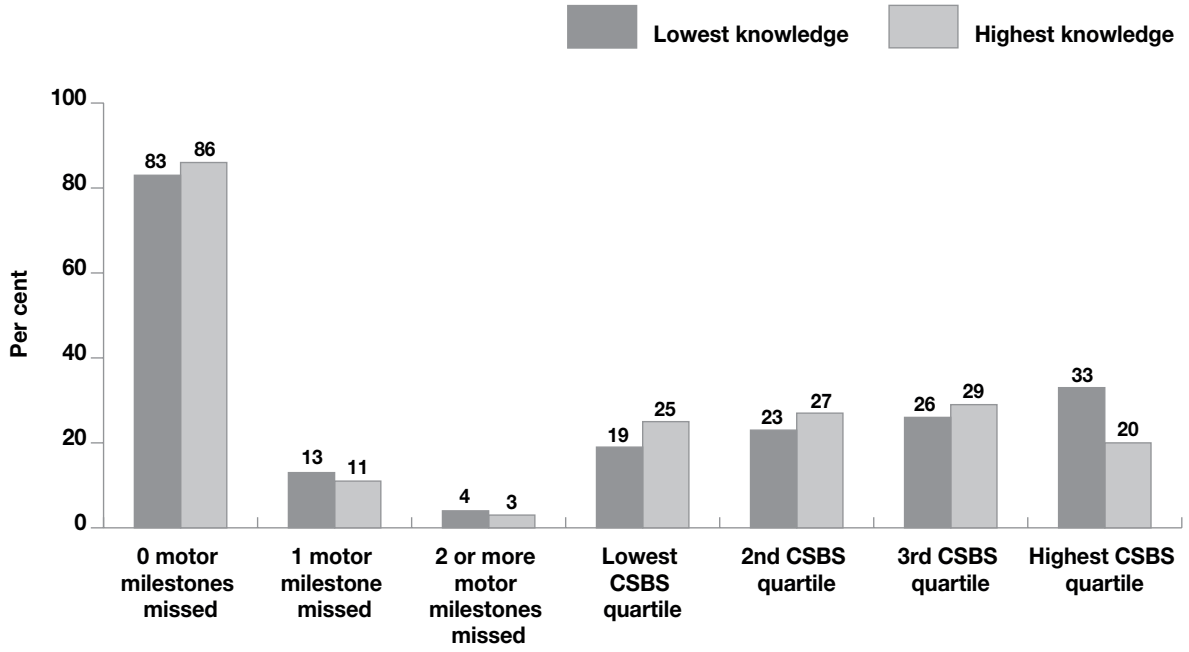
Figure 9.9 shows that there was no evidence of an association between knowledge and children's achievement of motor milestones, and while there was an association with communication and symbolic behaviour, the children with the most knowledgeable carers actually had lower scores compared with those with the least knowledge. This is unsurprising, as the social profile of children with the least well developed communication skills was relatively advantaged, which matches the profile of the most knowledgeable main carers. The regression analysis of CSBS scores included parental knowledge and this association was found to be significant, even after controlling for the other factors shown in Table 9.6. These results do not, therefore, appear to support the hypothesis that levels of child development knowledge positively enhance these outcomes.

Indeed, it is also possible that the behaviour of parents who overestimate what a young child can do may have a positive influence by transmitting high expectations. Or, it might be the case that parents of children experiencing delayed development become more knowledgeable of what a child should be able to do, as a consequence of discussing concerns about their child's progress with professionals.

Systematic reporting error of the motor milestones or CSBS items might also have contributed to the lack of association if parents with low levels of knowledge over estimated what their children could do, either through error or social desirability bias. Similarly, parents with high knowledge levels may have underestimated their children's abilities. The use of self-completion methods should have helped to reduce socially desirable answers, but without direct assessments, other forms of reporting error cannot be ruled out. It was noted above that some of the CSBS items address quite complex behaviours, though the motor milestones are more straightforward so should arguably be less prone to this kind of error.

The final point to stress is that while these results show no association between knowledge and outcomes, it is possible that more detailed and/or sensitive measures of both aspects may well show an association. Direct assessments of the children will be carried out at the next sweep of the study, so these early knowledge items can be assessed again to see if they are associated with later developmental outcomes. Though, if the greatest concern lies with the accuracy of parental reporting, then this has practice implications: the guidance for the new 27-30 month reviews starting in April 2013 include a number of tools that rely on parental reports, rather than direct assessments.

**Figure 9.9 Motor milestones and communication and symbolic behaviour scale scores by main carers' knowledge of early child development**




*Base – all children: Milestones missed – lowest knowledge = 1530, highest knowledge = 1071; CSBS quartiles – lowest knowledge = 1254, highest knowledge = 900*

## 9.8 Parental concerns about development

The interview included questions to tap main carers' concerns about their child's development in three broad areas: development, learning and behaviour; communication; gross and fine motor skills[47]. The first area was also asked about in 2005/06, the latter two were only asked in 2010/11.

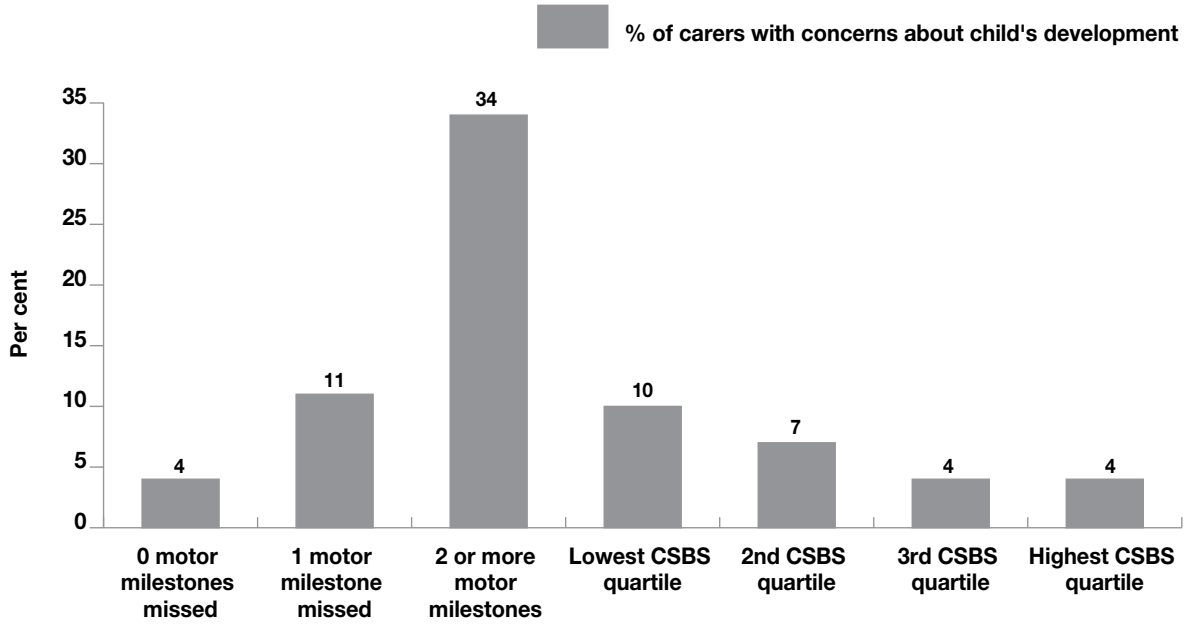
The overall prevalence of parental concerns was quite low: just 5% of main carers in 2010/11 reported some or a lot of concerns about their child's development, learning or behaviour. This was a reduction from the 8% registering such concerns in 2005/06. Concerns about communication or motor skills were less common, each were mentioned by just 2% of main carers (though it is likely that some carers' concerns about these areas will have been captured by the first, more general question). In total, combining all three areas of development covered, 6% of main carers in 2010/11 had concerns in one or more of the domains.

Although girls had more advanced communication skills than boys (see section 9.6), the prevalence of developmental concerns did not vary significantly by the children's sex, or by maternal age at birth, or birth order. The prevalence of developmental concerns was, however, associated with socio-economic status. For example, 9% of carers in the lowest household income quintile had concerns compared with 4% in the two highest quintiles. The association with area deprivation was significant, but not linear, with concerns most prevalent in the fourth most deprived quintile (9%) and lowest in the least deprived quintile (4%). Prevalence of concerns was higher in households where the highest qualification obtained was at standard grade level or below (7%-9%) than in households obtaining degrees or higher grades (4%-6%).

47 The question wording used lay expressions for these areas, for example motor skills concerns were described as concerns about how the child moves around or uses his/her hands.

As Figure 9.10 illustrates, there was a marked association between the achievement of motor milestones and parental concerns: 4% of main carers whose children had met all of the six motor milestones (as described above in section 9.5) reported developmental concerns, rising to 34% for children missing two or more milestones. In contrast, while there was an association between CSBS scores and reported concerns, the difference in the prevalence of concerns between carers whose children were in the lowest and highest scoring groups was much smaller (10% versus 4%). This possibly suggests that delays in motor skill development are more apparent to carers and therefore trigger concerns more readily than problems with communication skills. The fact that the majority of carers of children who had not met the milestones achieved by their peers did not register any concerns about their child's development does not necessarily mean that problems are going unnoticed. The windows within which children meet milestones are quite wide, so the fact that a child has not met them all by 10 months does not in itself indicate a problem.

**Figure 9.10 Proportion of carers with concerns about their child's development, by number of motor milestones missed and communication and symbolic behaviour scale scores**

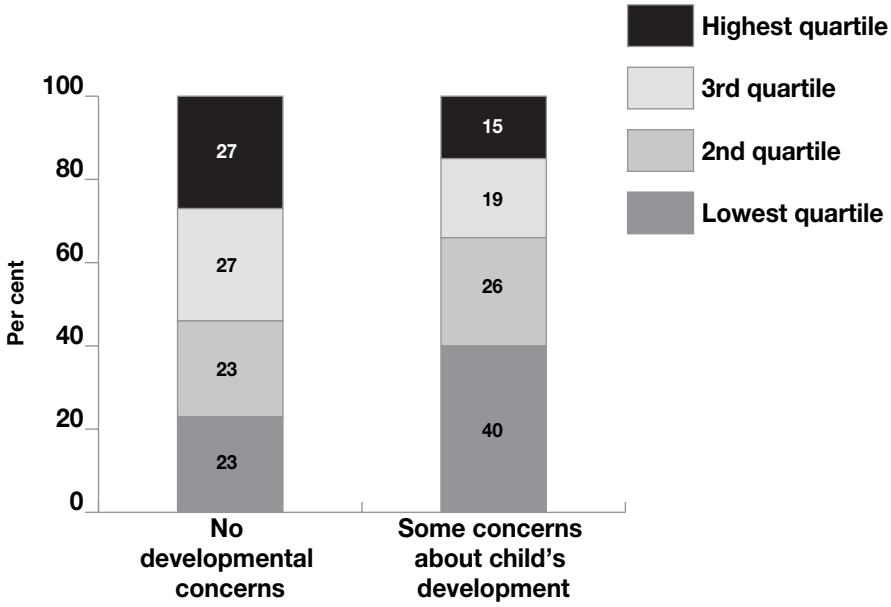



*Base – all children: 0 milestones missed = 5085, 1 milestone missed = 791, 2 or more milestones missed = 218; lowest CSBS quartile = 1228, 2nd CSBS quartile = 1204, 3rd CSBS quartile = 1393, highest CSBS quartile = 1353*

It is perhaps more useful to look at this from the opposite perspective – what proportion of children whose carers expressed no concerns about their development missed motor milestones or had relatively less well developed communication skills? Just 15% of children whose carers expressed no concerns about their development had missed one or more motor milestones, compared with 44% of children whose carers had some concerns. Similarly, as Figure 9.11 shows, the CSBS scores of children whose carers had no concerns were roughly evenly distributed across the four groups whereas two-thirds of children whose parents expressed concerns were in the two lowest scoring CSBS groups.

We cannot conclude from these two sets of findings that parents are necessarily missing developmental delays in their children – as stressed above, missing a motor milestone at 10 months does not automatically mean there is a problem, while these early communication behaviour patterns are not meant for use as diagnostic tools – but it does seem clear that parental concerns are more likely to be triggered by potential delays in communication than in motor skills. The power of these early measures to predict later delayed outcomes can be assessed as the children age.

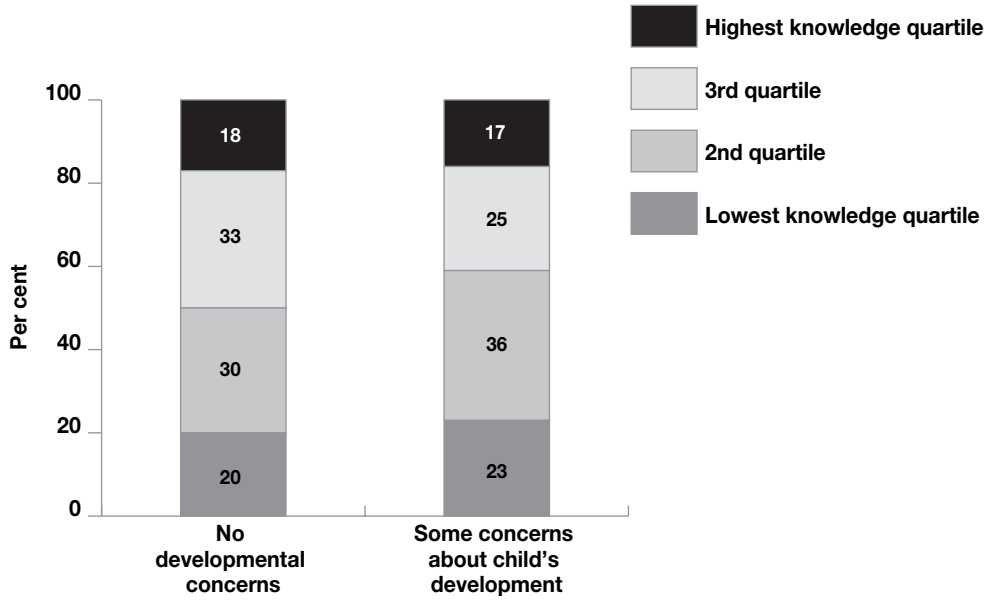
**Figure 9.11 Communication and symbolic behaviour scale scores by parental concerns about development**




*Base – all children: No concerns = 5755, some concerns = 365*

Figure 9.12 investigates whether parents who said they had no concerns about their child's development despite having low CSBS scores were less knowledgeable about development than parents of similarly able children who did have concerns. It shows that knowledge levels did not differ markedly between the two groups, and that, if anything, for this particular group of parents, those with no developmental concerns were somewhat more knowledgeable than those with some concerns.

**Figure 9.12 Knowledge of child development by parental concerns about development, among children with the lowest CSBS scores**




*Base – all children: No concerns = 5755, some concerns = 365*

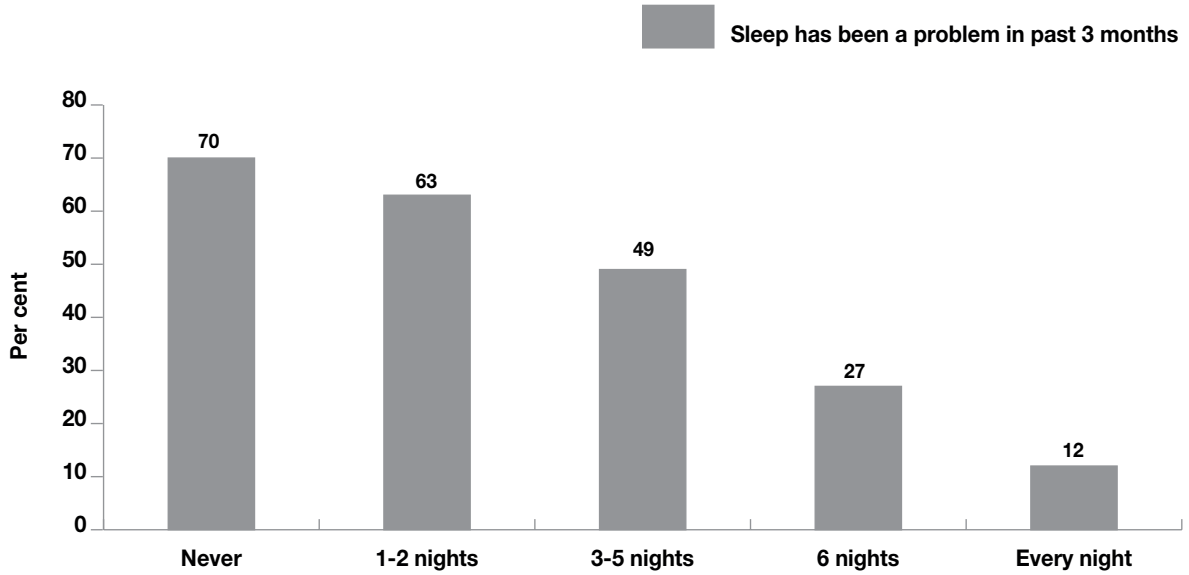
## 9.9 Sleep

In both cohorts just under half of children were reported to be sleeping through the night on every night of the week (48% BC1, 46% BC2), while one in five (20%/21%) never did this. The mean number of hours children were reported to sleep in a typical 24-hour period (including daytime naps) was also similar in both years (13.0 in 2010/11 and 12.9 in 2005/06). Also, 8% of main carers in both cohorts said that their child's sleep had been a big problem for them in the preceding three months, with a further one in four (25% in 2005/06 and 28% in 2010/11) describing it as a bit of a problem, and around two-thirds (67% in 2005/06 and 64% in 2010/11) saying their child's sleep had not been a problem for them at all[48].

The rest of the discussion focuses on the 2010/11 results. There was a close correspondence between reported problems with sleep and both children's sleeping patterns and their mean hours of sleep. Figure 9.13 shows that, as might be expected, the likelihood of carers reporting problems with their child's sleep reduced notably as the frequency of the child sleeping through the night increased. The mean number of hours children slept each day increased in line with the number of full nights' sleep reported each week, from 12.2 hours for children who never slept through the night to 13.4 hours for those reported to do so every night. This suggests that children with interrupted sleep at night do not make up for this lost time via daytime naps. Children whose sleep was described as a big problem in past three months slept for a mean of 11.7 hours a day, this increased to 12.7 for children whose sleep was described as a bit of a problem, and 13.2 hours for those whose sleep was not a problem at all.

48 No definition of sleep problems was provided for parents

**Figure 9.13 Proportion of carers reporting problems with child's sleep in past three months by number of times child sleeps through the night each week**




*Base – all children: never = 1302, 1-2 nights = 592, 3-5 nights = 771, 6 nights = 638, Every night = 2822*

Table 9.8 presents the proportions of children who never slept through the night, and those doing so every night, as well as the mean hours of sleep per day, and the proportion of carers reporting any recent sleep problems, by a range of socio-demographic factors. It illustrates how the correspondence between sleeping patterns, duration, and problems noted above was not consistently evident across social groups.

For example, although children born to mothers aged under 20 were the most likely to be sleeping through the night (and the least likely to never do this), and were least likely to have their sleep described as problematic, their sleep duration was, at 12.8 mean hours, lower than for children born to mothers aged 20-39, even though children in these groups were less likely to always sleep through the night. In fact, children born to mothers aged under 20 slept for the same number of hours per day as those born to the oldest mothers who were much more likely to report problems with sleep and say their child never slept through the night.

Another example of a potential discordance between sleeping patterns and reported problems is evident among main carers from non-white ethnic groups. Children with non-white carers were less likely to sleep through the night than children with white main carers (33% versus 21%) and their sleep duration was shorter (12.6 versus 13.0 mean hours), however, the proportions describing their child's sleep as problematic were not significantly different (38% and 36%, respectively). Perhaps the most extreme example of this type of discordance is illustrated by the results by area deprivation quintile. Sleep patterns and reported problems did not vary significantly by area deprivation, despite the fact that the mean number of hours children slept per day decreased as deprivation increased, from 13.3 hours in the least deprived areas to 12.6 in the most deprived areas.

**Table 9.8 Sleep patterns, duration and reported problems by selected key characteristics**

| | | Sleep measures | | | | |
|---|---|---|---|---|---|---|
| | | Never sleeps through night | Sleeps through night every night | Mean hours of sleep in 24-hr period | Child's sleep has been a problem in last 3 months | *Base: all families* |
| **Total** | % | 21 | 46 | 12.9 | 36 | *6118* |
| **Maternal age at birth** | | ** | | *** | *** | |
| Under 20 | % | 14 | 58 | 12.8 | 28 | *342* |
| 20-29 | % | 21 | 47 | 12.9 | 34 | *2547* |
| 30-39 | % | 23 | 43 | 13.1 | 38 | *2948* |
| 40 and over | % | 21 | 41 | 12.8 | 39 | *267* |
| **Number of children in household** | | *** | | NS | * | |
| One | % | 18 | 49 | 13.0 | 35 | *2809* |
| Two or three | % | 24 | 44 | 13.0 | 37 | *3052* |
| Four or more | % | 28 | 41 | 12.7 | 29 | *257* |
| **Education level of household** | | ** | | *** | ** | |
| No qualifications | % | 27 | 43 | 12.3 | 32 | *281* |
| Other (inc international) | % | 32 | 32 | 12.8 | 34 | *95* |
| Lower level standard grades | % | 21 | 48 | 12.5 | 37 | *259* |
| Higher level standard grades | % | 22 | 50 | 12.7 | 33 | *997* |
| Higher grades | % | 19 | 49 | 13.0 | 34 | *1729* |
| Degree | % | 22 | 43 | 13.3 | 39 | *2617* |
| **Ethnicity of main carer** | | *** | | ** | NS | |
| White | % | 21 | 47 | 13.0 | 36 | *5806* |
| Other ethnic group | % | 33 | 33 | 12.6 | 38 | *298* |
| **SIMD*** ** | | NS | | *** | NS | |
| Least deprived quintile | % | 20 | 43 | 13.3 | 39 | *1155* |
| 2nd | % | 21 | 45 | 13.2 | 37 | *1173* |
| 3rd | % | 23 | 46 | 13.1 | 35 | *1273* |
| 4th | % | 21 | 47 | 12.8 | 36 | *1231* |
| Most deprived quintile | % | 21 | 47 | 12.6 | 33 | *1285* |

*Bases vary, those shown are for the lowest of the range (mean hours of sleep)*

*** = p<.001, ** = p<.01, * = p<.05, NS = not significant*

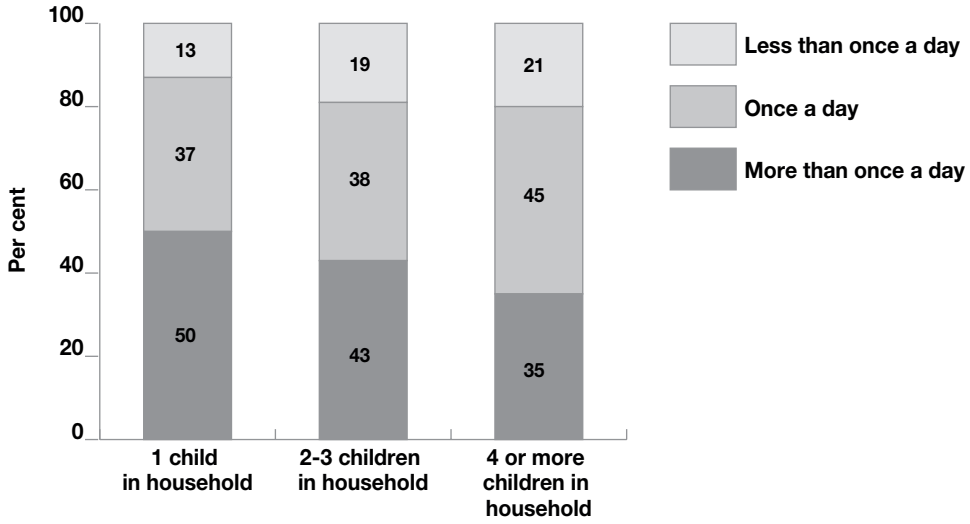
## 9.10 Dental health

Parents are advised to start tooth brushing with fluoride paste as soon as a child's first tooth appears, and to visit a dentist at least twice a year. Brushing is recommended last thing at night as well as at least once during the day[49]. In 2010/11, 92% of children had at least one tooth. Whether a child had any teeth did not show much socio-demographic variation, with one notable exception: 14% of children with non-white main carers did not have any teeth compared with 7% of those with carers from white ethnic groups. The rest of the following discussion focuses on teeth brushing habits which, by definition, excludes children without teeth.

Main carers were asked how often their child's teeth were brushed with fluoride toothpaste; the answer options were more than once a day (in line with the recommended practice), once a day, and less than once a day. Almost half (46%) of children have their teeth brushed more than once a day, 38% have them brushed once a day, while 16% are brushed less than once a day.

By the time children reach school, dental health shows quite marked socio-economic patterns. For example, in 2010, 45% of primary 1 children in the most deprived 10% of areas were free of dental decay compared with 82% of their counterparts in the least deprived 10% of areas (NHSScotland, 2011). It is therefore interesting that frequency of brushing did not vary by area deprivation, in fact the proportion of children whose teeth were brushed more than twice a day was the same (47%) in the most and least deprived quintiles, as was the proportion whose teeth were brushed less than once a day (16%). There were, however, other socio-demographic differences of note.

**Figure 9.14 Frequency of tooth brushing with fluoride paste, by number of children in the household**




*Base – all children with teeth: 1 child in household = 2601, 2-3 children in household = 2808, 4 or more children in household = 237*

49 See: http://www.readysteadybaby.org.uk/growing-together/looking-after-your-growing-baby/teething.aspx

For example, Figure 9.14 shows that the proportion of children having their teeth brushed every day dropped from half in single child households to a third in households with four or more children. In addition, Table 9.9 shows that the frequency of tooth brushing was significantly associated with ethnicity, education and household income. Children with non-white main carers, in households with lower levels of education, and in the lowest income households have their teeth brushed less often than the average child.

**Table 9.9 Teeth brushing patterns**

| | | Frequency of tooth brushing with fluoride paste | | | |
|---|---|---|---|---|---|
| | | More than once a day | Once a day | Less than once a day | *Base: All children with teeth* |
| **Total** | % | 46 | 38 | 16 | *5646* |
| **Ethnic group of main carer*** ** | | | | | |
| White | % | 46 | 38 | 15 | *5377* |
| Other | % | 32 | 33 | 35 | *255* |
| **Education level of household*** ** | | | | | |
| No qualifications | % | 33 | 44 | 23 | *266* |
| Other (inc international) | % | 28 | 36 | 36 | *89* |
| Lower level standard grades | % | 44 | 37 | 19 | *232* |
| Higher level standard grades | % | 45 | 39 | 16 | *928* |
| Higher grades | % | 47 | 39 | 15 | *1578* |
| Degree | % | 48 | 37 | 16 | *2422* |
| **Household income**** | | | | | |
| Bottom quintile (<£10,833) | % | 42 | 40 | 18 | *1052* |
| 2nd | % | 44 | 37 | 19 | *945* |
| 3rd | % | 46 | 38 | 16 | *754* |
| 4th | % | 47 | 39 | 14 | *1265* |
| Top quintile (>£40,625) | % | 49 | 38 | 14 | *977* |

*** = p<*.001*, ** = p<*.01*, * = p<*.05*.

*Note: the difference in the % brushing more than once a day by household income was not significant, however the difference in the % brushing less than once a day was*

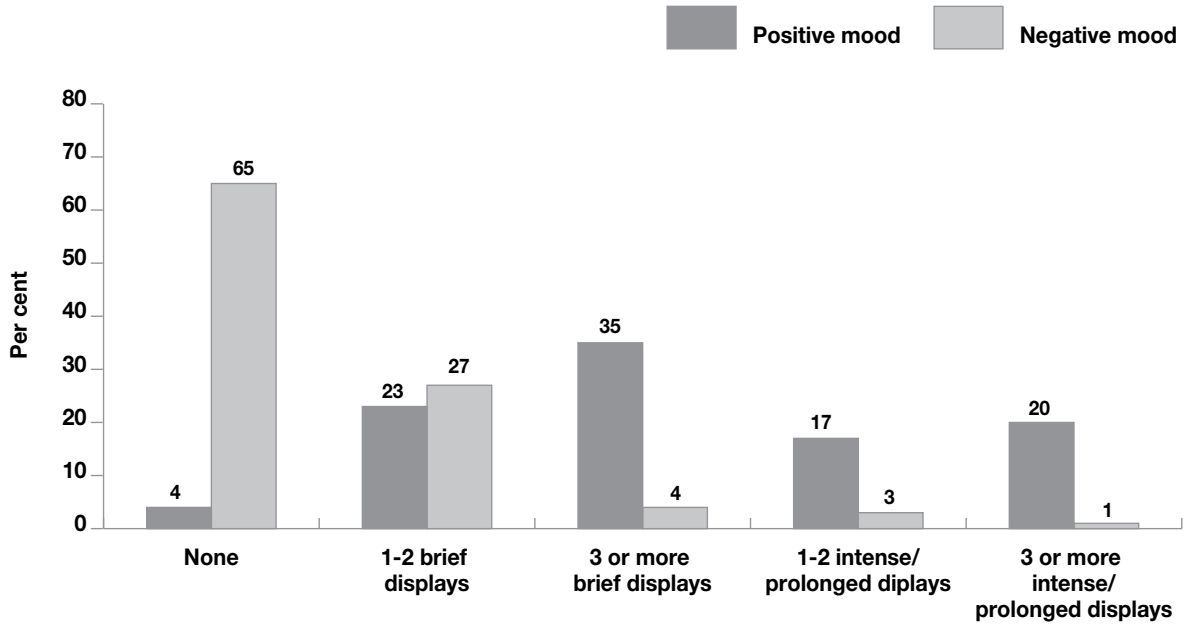
## 9.11 Temperament

The second birth cohort introduced some new measures of children's temperament based on assessments made by the people conducting the interviews. Following training about how to make such assessments, interviewers recorded the degree of each child's positive or negative responses to either their carer or the interviewer during the interview (based on the number of displays of positive or negative behaviour), and rated the child's level of anxiety using a 5-point scale ranging from 'not at all shy or anxious' to 'extremely shy, quiet or withdrawn'.

Interviewer observations were completed for 79% of children in the cohort, the remaining cases being where the child was not present during the interview. Interviewer observations were equally likely to have been made of boys and girls, however, children from more advantaged homes were less likely to have been observed. For example, observation data was collected for 85% of children in the most deprived areas compared with 72% of those in the least deprived areas. In a similar vein, 87% of children born to mothers under 20 were observed, which declined to 76%-78% of those born to mothers aged 30 and over. This is likely to have been caused by a higher proportion of interviews with carers from more affluent backgrounds being conducted in the evenings when children were in bed, to fit round working patterns (children with full-time working mothers were less likely to have been observed). It is difficult to quantify the extent to which these variations in observation rates will have biased the estimates of child temperament, but based on evidence from the first birth cohort about children's socioemotional development which showed that conduct disorder is less common in children from more advantaged social groups (Bromley and Cunningham-Burley, 2010), it is likely that some bias will have been introduced.

Figure 9.15 shows that positive behaviour was more likely to be displayed during the interview than negative behaviour, and that where negative mood was in evidence, this was generally confined to a small number of brief displays. And while just under half (47%) of children were described by the interviewers as not at all anxious or shy, at the other end of the scale, only 6% were judged to be moderately or extremely shy.

**Figure 9.15 Number of displays of positive or negative mood during interview**




*Base – all children where observations completed,* n = *4840*

The questionnaire included a number of measures of carers' mental health (eg. the SF12 – see chapter 10) and feelings about parenthood, such as their levels of patience or feelings of irritation when spending time with their child, feelings of confidence as a parent, and resentment about sacrifices made to be a parent (see chapter 5). Evidence from the first birth cohort showed that children whose mothers had low levels of mental wellbeing had poorer health and developmental outcomes (Marryat and Martin, 2010). There did not, however, appear to be any associations between interviewer observed levels of child anxiety at 10 months and their carers' mental wellbeing or feelings about parenthood. For example, 46% of children whose carers reported feeling annoyed or irritated when they were with their child at least occasionally were judged to be not at all anxious or shy, as were 48% of children whose carers said they had feelings of irritation only very rarely, or never. Similarly, the number and intensity of children's positive mood displays did not vary by carers' mental wellbeing or feelings about parenthood.

## 9.12 Summary

At 10 months of age, most children in Scotland are deemed by their parents to be healthy. In fact, 95% are said to have good or very good health. This position has not changed since 2005/06 when the corresponding figure was 94%. Similar levels of long-standing conditions or illness were also reported in both cohorts. Neither have the inequalities associated with child health much changed. As has been shown, on these, and a number of other measures, children in more disadvantaged circumstances report poorer health than those in advantaged circumstances.

Most parents had contacted someone about their children's health problems: 40% made contact about all of them, 45% about some of them, and just 14% said they had not contacted anyone. Patterns of contact in some way contrast with the discussion of use of

formal support provided in chapter 5. Data here showed that mothers in the youngest group were more likely than older mothers to say they had contacted a professional about all their child's health problems. Yet in chapter 5, younger mothers were shown to be generally less comfortable than older mothers engaging with formal support and more likely to perceive a stigma attached to seeking that support. The findings here suggest that this perception may vary dependent upon the type of support or advice being sought.

The association between low birthweight and later poorer health continues. Children with a low birthweight were less likely than those with a normal weight to be described by their main carer as having 'very good' health and were more likely to have a long-standing condition and to have experienced four or more different health problems since birth. Low birthweight was also found to be associated with a number of other health outcomes.

Child accidents have been the subject of a number of targeted campaigns as noted in the introduction. GUS data shows a small, but statistically significant decrease in the proportion of 10-month old children who had received treatment for an accident. This is in line with similar decreases (for children over a wider age range) shown in data from the Scottish Health Survey and in ISD data on hospital admissions and deaths of children due to accidents (Bradshaw, 2012).

The acquisition of early motor skills has been linked to wider cognitive and emotional development (Adolph and Berger, 2011). Of the seven motor development milestones covered, five milestones were met by over 90% of children in both cohorts. Although statistically significant, the difference between the proportions missing one or more milestones in 2010/11 and 2005/06 (20% and 17%, respectively) was quite small. The likelihood of missing milestones was not associated with measures of socio-economic status but birth weight was, which is likely to reflect longer-term developmental problems associated with prematurity.

A great deal of policy and practice efforts are being made to promote the importance of, and encourage, interaction with babies and toddlers to help their cognitive and social development. GUS data on pre-verbal communication skills shows that all but one of the behaviours covered were displayed by the majority of children. Some significant variations were observed by socio-economic characteristics though perhaps not in the direction expected. For example, children in the most deprived areas were more likely to display the behaviour than children in the least deprived areas. The reasons for this pattern is unclear but may be related to the subjective nature of the items in contrast to the more objective assessments of vocabulary development which will occur at later sweeps.

However, the results do show how early motor development and communication skills are related – children showing motor delays had lower communication scores. Although a small group in the population overall, those children with both motor and communication development delays are likely to require enhanced monitoring in their early years, and intervention where beneficial. Linked to this, the impact of low birth weight on later development is clear, with low birthweight children almost twice as likely to have low CSBS scores as those with a normal birthweight.

Most parents demonstrated a reasonable knowledge of early child development, being able to correctly respond to statements about child behaviour in the first few years of life. However, it is clear that knowledge is lower amongst some groups including parents with lower educational qualifications, younger mothers, those from minority ethnic backgrounds, and those living in more deprived areas. It would appear, therefore, that efforts to improve parenting knowledge of early development through classes, seminars and other resources is warranted. With parents remaining a key source of early identification of developmental delays, improving this knowledge should lead to better early identification of problems and intervention to address them.

It is clear that many parents recognise developmental delay. Concerns about development were significantly higher amongst parents whose children were reported to have missed two or more developmental milestones. The fact that the majority of carers of children who had not met the milestones achieved by their peers did not register any concerns about their child's development does not necessarily mean that problems are going unnoticed; the age range within which children meet milestones are quite wide. Nevertheless, there is some suggestion that some delays may be getting missed by parents.

Almost half (46%) of children have their teeth brushed more than once a day, 38% have them brushed once a day, while 16% are brushed less than once a day. There were no significant variations in teeth brushing behaviour by area deprivation despite NHS data indicating large variations in dental decay amongst children from more and less deprived areas in primary 1. However, children with a larger number of siblings, those in minority ethnic households and those whose parents had lower levels of education had their teeth brushed less often than the average child.

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chapter

# 10 PARENTAL HEALTH

TESSA HILL, SCOTCEN SOCIAL RESEARCH

## 10.1 Introduction

Parental health and wellbeing is important to parenting and in shaping the early experiences of young children, including their health and development (Anderson et al. 2007). Previous GUS reports have shown that maternal health problems are a significant factor associated with child outcomes (Barnes et al. 2010). Maternal psychological wellbeing has been found to be a key association between maternal health and behaviour difficulties in children (Kelly and Bartley, 2010 cited in Chanfreau et al. 2011).

Factors such as problematic parental drug and alcohol misuse can impact on family life and pose harm to children (Hill, 2012). In a study of children's telephone calls to ChildLine Scotland about parental and significant carer health and wellbeing, parental alcohol misuse was the most frequently reported concern (Ogilvie-Whyte, 2005).

Given the importance of parental health to family wellbeing and children's development, a range of policy initiatives have been introduced in Scotland with the aim of improving health and promoting healthy living. *Equally Well*[50] aims to tackle the underlying causes of health inequalities and is also supported by a range of frameworks to improve maternal health and reduce health inequalities[51]. Other initiatives include: the *Healthy Eating Active Living* action plan[52] which aims to improve diet, increase physical activity and tackle obesity; an obesity prevention strategy;[53] the Health Works strategy which recognises the links between health and wellbeing, work and other meaningful activity;[54] the *Good Places, Better Health* strategy on health and the environment;[55] and Framework for Action on alcohol[56].

A key factor influencing quality of life, and parental health and health behaviour, is socio-economic status (SES). For example, SES has been found to be a key association between parental health and children's cognitive ability (Kelly and Bartley, 2010 cited in Chanfreau et al. 2011). The factors associated with living on a low income (eg. food poverty, fuel poverty, restrictions in social participation, living with debt) can undermine present and future physical and mental health and wellbeing (Ridge, 2009; Ghate and Hazel, 2002; Turner, 2006), lead to stigma, exclusion and isolation for the whole family (Green 2007; Ridge 2009; McKendrick et al. 2003b), and undermine a parent's capacity to maintain a satisfactory family life. The stress arising from financial difficulty can have a detrimental effect on parenting (Ghate et al. 2002; McKendrick et al. 2003a; Ridge, 2009), and affect outcomes for children (Katz et al. 2007). The combination of working long hours and low pay can make it difficult for parents

50 Equally Well: http://www.scotland.gov.uk/Publications/2010/06/22170625/0
51 Frameworks to improve maternal health and reduce health inequalities: http://www.scotland.gov.uk/Topics/People/Young-People/child-maternal-health
52 Healthy Eating Active Living (HEAL): http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Food-Health
53 Obesity prevention strategy: http://www.scotland.gov.uk/Publications/2010/02/17140721/0
54 Health Works strategy: http://www.scotland.gov.uk/Publications/2009/12/11095000/0
55 Good Places, Better Health (GPBH): http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Good-Places-Better-Health
56 Framework for Action on alcohol: http://www.scotland.gov.uk/Topics/Research/About/Social-Research/Work-Programmes/Scottish-Alcohol-Research

to provide nutritious meals for children (Green, 2007), yet some parents do not apply for free school meals for fear of stigmatisation (Seaman et al. 2005).

Aside from socio-economic factors, life-events such as physical or mental ill-health, bereavement, and parental conflict or separation can influence parents' emotional wellbeing, put pressure on family relationships, and undermine parents' capacity to parent in the way they would wish (Parentline Plus, 2008; Walker et al. 2010).

The factors outlined above can combine to undermine parents' involvement in services. Preventive services (for example, services that aim to promote quality of life and wellbeing, or prevent or delay the need for costly and intensive services) usually rely on parents actively seeking help or voluntarily accepting help offered to them. However, families such as those living on low-incomes or in rural areas, can face practical barriers (eg. lack of transport) to accessing healthcare and advice and support services (McSorley 2008; Palmer et al. 2006; Bradshaw et al. 2009; Green, 2007; Ridge, 2009). Without transport, mothers are particularly likely to not attend preventative (but non-urgent) healthcare services (Bostock, 2001 cited in Ridge, 2009).

Barriers to using mental health services relate to perceptions, feelings and beliefs, rather than availability, affordability and access (Brownlie, 2011; Anderson and Brownlie, 2011; Broadhurst, 2003). This suggests that expanding provision alone may not be sufficient to increase service use (Anderson et al. 2009).

While a range of initiatives have been developed in recent years to promote wellbeing and positive health behaviour, and address the underlying causes of health inequalities, the factors outlined may undermine the extent to which some families' can benefit from such developments. In addition, the current economic climate and proposed welfare changes (including changes to disability related benefits), combined with the ongoing cut-backs in existing welfare advice and other local services, are likely to increase anxiety and uncertainty amongst families and deepen health inequalities.

This chapter provides an overview of the health of the parents. It includes information on a number of indicators covering physical and mental health, and health behaviours such as smoking, drinking alcohol and use of illicit drugs.

## 10.2 Key findings

- 88% of main carers said that their general health was good, very good or excellent. Socio-economic status, whether measured by income, NS-SEC or area deprivation, had the greatest effect on general health. For example, 93% of parents living in the least deprived area reported their health as good or better compared with the proportion dropped from 93% in the least deprived quintile to 83% in the most deprived.
- 14% of main carers had a long standing illness, including 5% who said this was limiting. Variations were again evident by area deprivation, particularly in relation to limiting illness.

- Socio-economic status was also associated with physical and mental wellbeing as measured by the SF-12. Parents in more disadvantaged circumstances were more likely to report lower levels of both.
- 24% of main carers smoked. This represents a decrease – from 28% – compared with 2005.
- 12% of main carers were classified as hazardous drinkers according to the AUDIT-PC scale.
- Hazardous and binge drinking varied according to demographic and socio-economic characteristics. Differences were particularly stark in relation to maternal age with younger mothers significantly more likely to be classed as hazardous drinkers and to report binge drinking monthly or more often.
- 24% of main carers had taken drugs at some point in their lives though only 3% had reported drug use in the last year.
- Similarly, 4% of those in the top income quintile had used drugs in the last year, compared with 22% in the bottom income quintile. Younger mothers and parents living in more deprived areas also reported higher drug use in the last year.

## 10.3 General health

All respondents were asked to assess their general health as either 'excellent', 'very good', 'good', 'fair' or 'poor'. The vast majority of parents (88%) said that their general health was good or better (Table 10.1). In fact almost a quarter of parents (24%) said that their health was excellent. Only 12% regarded their health as fair or poor, with only 2% reporting the lowest rating. Fair or poor health was reported for both parents in just 1% of families.

**Table 10.1 Parental self-reported general health**

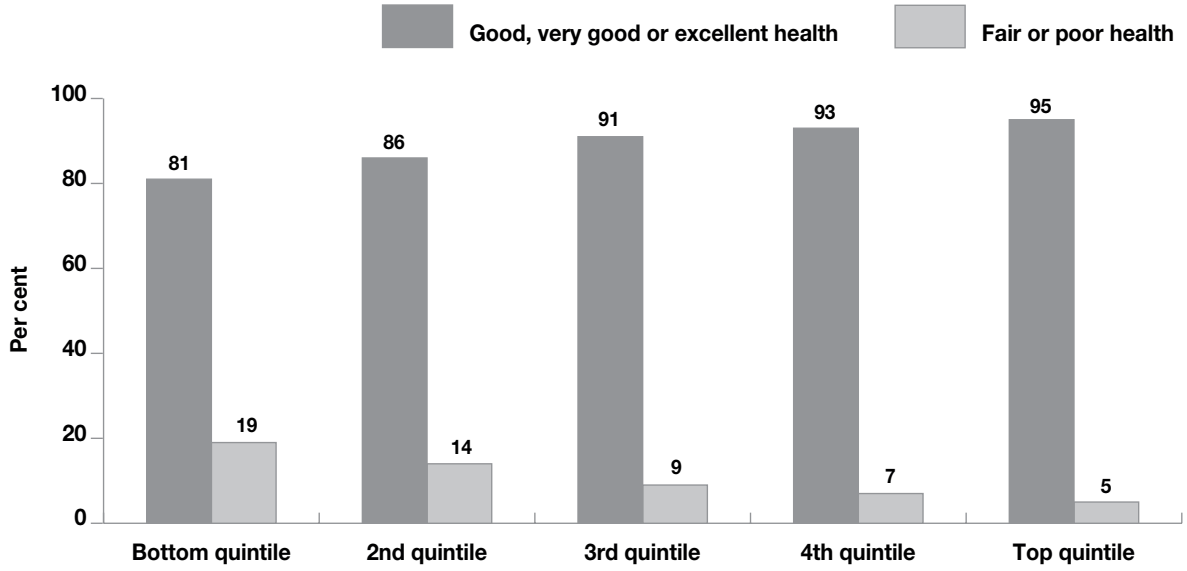
| | % |
|---|---|
| Excellent | 24 |
| Very good | 40 |
| Good | 25 |
| Fair | 10 |
| Poor | 2 |
| Can't say | <1 |
| *Base: all families* | *6024* |

Family composition was associated with how the respondent rated their general health. Eight out of 10 respondents in lone parent families reported their health to be good or better compared with nine out of 10 in couple families. The proportion of respondents reporting good or better health decreased as the number of children in the household increased. 90% of respondents with one child reported good or better health compared with 87% of those with two or three children and 82% of those with four or more children.

General health also varied with ethnicity; 11% of white respondents reported fair or poor health compared with 19% of those from other ethnic backgrounds.

Socio-economic status, whether measured by income, NS-SEC or area deprivation, had the greatest effect on general health. The proportion reporting good or better health ranged from 93% in managerial and professional occupations to 77% amongst those who had never worked. Similarly for area deprivation, the proportion of parents with good or better health dropped from 93% in the least deprived quintile to 83% in the most deprived. Figure 10.1 shows how the proportions varied according to income quintile. Those in the lowest income quintile were almost 4 times more likely to report fair or poor health than those in the top income quintile (5% compared with 19%).

**Figure 10.1 Self-assessed general health by income quintiles**




*Base – all families: bottom quintile = 1101, 2nd quintile = 1019, 3rd quintile = 823, 4th quintile = 1354, top quintile = 1046*

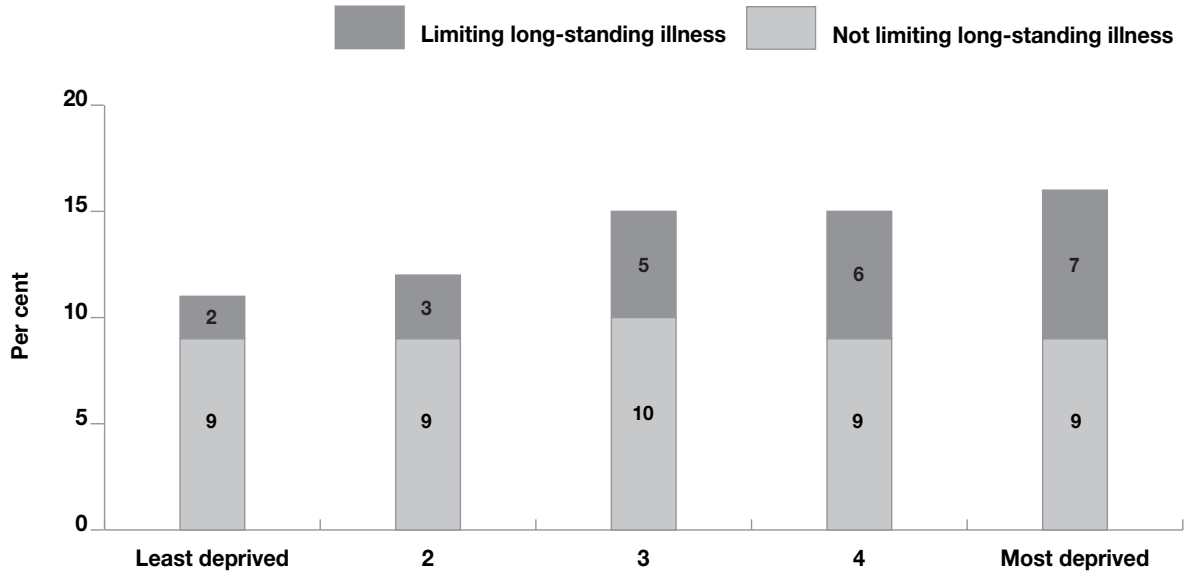
## 10.4 Long-standing illness

All respondents were asked whether they had any health problems or disabilities that had lasted or were expected to last for more than a year. They were then asked to say whether their illness limited their ability to carry out normal day-to-day activities in any way. Around one in seven parents (14%) reported a long-standing illness, of which just over a third (35%), or 5% of the whole sample, said it was limiting.

Lone parents were more likely to report a long-standing illness than parents in couple families (17% compared with 13%). Nearly a quarter of parents (24%) with four or more children had a long-standing illness, twice the proportion of those with only one child (12%). In both cases, the long-standing illnesses were also more likely to be limiting.

All measures of socio-economic status affected the prevalence of a long-standing illness. 10% of those in the top income quintile had a long-standing illness compared with 18% of those in the bottom income quintile. The proportion ranged between 11% and 16% for the most and least deprived area deprivation quintiles respectively, but the most striking differences were seen in the proportion of those illness that were limiting. Those in the most deprived quintile were over three times more likely to have a limiting long-standing illness than those in the least deprived quintile (7% of the total sample compared with 2%; Figure 10.2).

**Figure 10.2 Long-standing illness by area deprivation quintile**




*Base – all families: least deprived = 1147, 2nd quintile = 1166, 3rd quintile = 1243, 4th quintile = 1212, most deprived = 1252*

## 10.5 Physical and mental wellbeing (SF-12)

Health-related quality of life was measured by the Medical Outcomes Study 12-Item Short Form (SF-12). This measure has been used on previous sweeps of GUS and is also widely used on other large population surveys such as the *Scottish Health Survey*. The SF-12 gives two summary scale scores: a physical component score (PCS) and a mental component score (MCS). Higher summary scale scores are indicative of better health-related quality of life. However, as the results are based on the respondents' self-reports of their own physical and mental functioning they are subjective and may lead to differential reporting between respondents with an equivalent health status.

Table 10.2 presents the results for the items that make up the SF-12 scale split by those in the lowest 15% of area deprivation scores compared with the highest 85%, and for the sample as whole.

Those in the lowest 15% scored consistently lower on both mental and physical health items. For example, around one in six (16%) of those in the lowest 15% said that their health limited them at least a little in moderate daily activities. This was compared with around one in eleven (9%) of those in the rest of the country. The difference was also apparent on the emotional measures. 27% of those in the most deprived group reported that they had felt down some of the time or more often compared with 20% of the rest of the country.

**Table 10.2 Health-related quality of life (SF-12) by area deprivation**

| | SIMD deprivation score % | | |
|---|---|---|---|
| **Health-related quality of life measures** | Top 85% | Lowest 15% | All % |
| **Health assessed as fair or poor** | 10 | 18 | 12 |
| **Extent to which ill-health limits ability to perform moderate activities** | | | |
| A lot | 2 | 4 | 2 |
| A little | 8 | 11 | 8 |
| Not at all | 91 | 85 | 90 |
| **Extent to which ill-health limits ability to climb several flights of stairs** | | | |
| A lot | 2 | 5 | 2 |
| A little | 9 | 15 | 10 |
| Not at all | 90 | 80 | 88 |
| **Accomplished less as a result of poor physical health** | 11 | 16 | 12 |
| **Limited in work or other daily activities as a result of poor physical health** | 8 | 13 | 9 |
| **Accomplished less as a rest of emotional problems** | 12 | 16 | 12 |
| **Performed work or any other activities less carefully as a result of emotional problems** | 8 | 12 | 9 |
| **Pain interfered with normal work at least slightly** | 18 | 27 | 20 |
| **Extent to which felt calm and peaceful in last 4 weeks** | | | |
| All/most of the time | 50 | 53 | 51 |
| Good bit/some of the time | 42 | 39 | 41 |
| A little/none of the time | 9 | 8 | 9 |
| **Amount of time had a lot of energy in last 4 weeks** | | | |
| All/most of the time | 41 | 42 | 41 |
| Good bit/some of the time | 48 | 46 | 47 |
| A little/none of the time | 11 | 12 | 11 |
| **Amount of time felt down in last 4 weeks** | | | |
| All/most of the time | 3 | 5 | 3 |
| Good bit/some of the time | 17 | 22 | 18 |
| A little/none of the time | 80 | 73 | 79 |

| | SIMD deprivation score % | | |
|---|---|---|---|
| **Health-related quality of life measures** | Top 85% | Lowest 15% | All % |
| **Amount of time felt that physical or emotional problems interfered with social activities in last 4 weeks** | | | |
| All/most of the time | 2 | 6 | 3 |
| Good bit/some of the time | 10 | 14 | 10 |
| A little/none of the time | 88 | 80 | 87 |
| **Mean physical component score (PCS)** | 53.4 | 51.5 | 53.1 |
| Standard error of mean | 0.09 | 0.24 | 0.86 |
| **Mean mental component score (MCS)** | 52.0 | 51.3 | 51.9 |
| Standard error of mean | 0.11 | 0.27 | 0.11 |
| *Base: all families* | *911* | *5046* | *6024* |

The summary scores were compared across a range of other groups within the sample. They were also associated to other measures of deprivation such as income and NS-SEC, with those in more disadvantaged circumstances scoring lower on both the PCS and MCS. For example, those in the top income quintile scored an average of 54.5 on the PCS, compared with 51.5 for those in the bottom income quintile. The respective scores for the MCS were 52.7 and 50.7.

Family type and composition were also associated with SF-12 scores. Lone parents averaged significantly lower on both component scores compared with those in couple families (PCS: 52.2 and MCS: 50.3 compared with 53.3 and 52.3 respectively). Those with four or more children were also more likely to score lower on the summary scores (PCS: 51.9, MCS: 49.7) compared with those in smaller families (PCS: 53.1, MCS: 52.0 respectively).

Non-white respondents scored lower than white respondents (50.3 compared with 53.2) on the physical component. However, there was no difference by ethnicity on the MCS (51.7 and 51.9 for non-white and white respondents respectively). It may be explained by the self-report nature of the measure. Those from non-white backgrounds typically report lower physical wellbeing. However, they may perceive their mental wellbeing to better than those from white ethnic backgrounds who are in a similar state of physical wellbeing. In other words, lower scores on both the PCS and MCS would be expected amongst non-white respondents but due to a more favourable perception of their mental health, the difference is only apparent on the PCS score. There is some tentative evidence to support this from the latest Scottish Health Survey equalities report (Whybrow et al. 2012). This shows that adults classed as white British have the lowest mental wellbeing scores of all ethnic groups in Scotland.

## 10.6 Smoking, alcohol and drugs

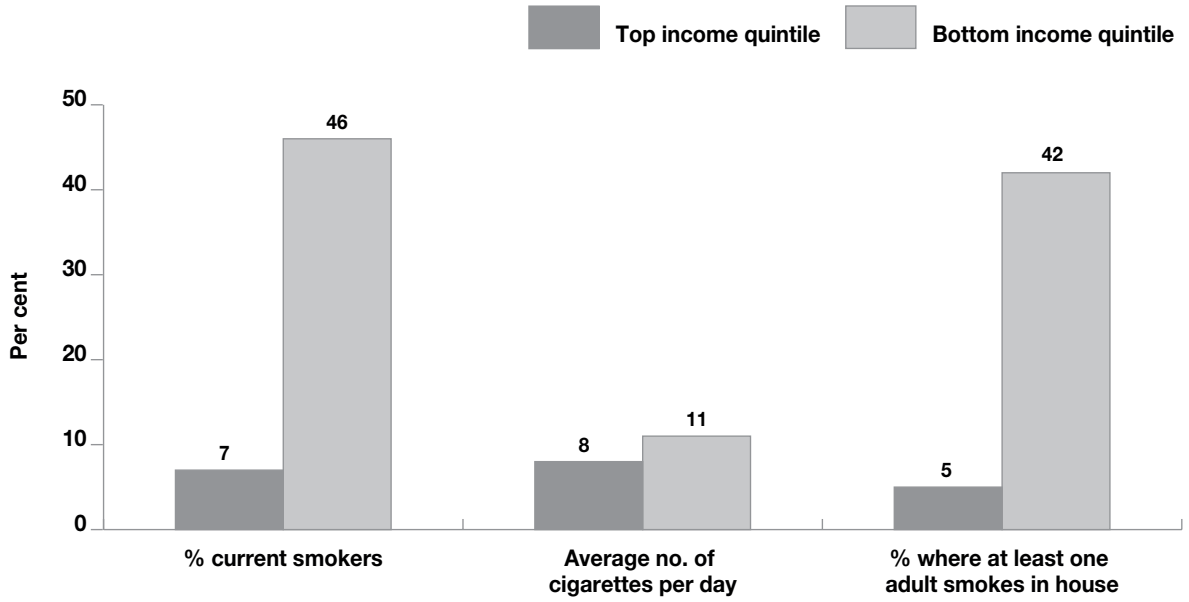
Respondents were asked a number of questions on smoking, drinking and drug use. Because of the sensitive nature of these topics, the questions were asked in the self-complete section of the interview where the responses were not seen by the interviewer. The data relating to current smoking, drinking and drug use are presented in this chapter. For questions relating specifically to the pregnancy see chapter 3.

### *10.6.1 Smoking*

Overall, 24% of parents were current smokers at the time of interview, similar to the percentage of Scottish women smoking in the equivalent Scottish Health Survey data (22%; Dowling, 2012). 22% of households had at least one adult who smoked in the house. Any current smokers were also asked how many cigarettes they smoked on a typical day, the average of which was 10.

The responses to all of the questions on smoking varied significantly according to socio-economic status. Those in the bottom quintile for area deprivation, the lowest income quintile and the lower NS-SEC categories were all more likely to be current smokers, to smoke more cigarettes per day and to have at least one smoker in the house than their respective top categories.

**Figure 10.3 Smoking by income**




*Base: For current smokers and adult smoking in house, all families – top income quintile = 1046, bottom income quintile = 1101; For average no. of cigarettes per day, all where respondent smoked – top income quintile = 68 , bottom income quintile = 493*

For example, 46% of those in the bottom income quintile smoked compared with 7% of those in the top income quintile. Smokers in the bottom quintile smoked an average of 11 cigarettes per day compared with eight by those in the top quintile. 42% of households in the bottom quintile had at least one adult who smoked in the house compared with 5% in the top quintile (Figure 10.3).

Lone parents were far more likely to smoke compared with those in couple families (49% compared with 18%), as were those with four or more children compared with those in smaller families (36% compared with 24%). They were also more likely to smoke more cigarettes per day and more likely to have at least one adult who smoked in the house.

Those from a white ethnic background were nearly three times more likely to smoke than those from non-white backgrounds (25% compared with 9%). They were also more likely to have at least one adult who smoked in the house but the average number of cigarettes smoked per day by smokers did not differ.

Mother's age at birth also influenced the likelihood of the respondent being a smoker, with those under 20 being three times more likely to smoke than those over the age of 40 (46% compared with 15%). There was also more likely to be one adult who smoked in the house amongst younger families, but the number of cigarettes smoked per day was the same across all age groups.

**Comparison with BC1**

Across all measures, smoking had decreased between the two birth cohorts. Smoking prevalence decreased from 28% amongst BC1 respondents to 24% amongst BC2 respondents. The average number of cigarettes smoked per day decreased from 11 to 10. In addition, the proportion of households with at least one adult who smoked in the house decreased from 30% to 22%. This is in line with population trends documented by the Scottish Health Survey in recent years.

### *10.6.2 Alcohol*

Six questions were asked on the topic of alcohol; two covered frequency and quantity of regular drinking and four related to more serious drinking. Together, five of these questions formed a version of the Alcohol Users Disorders Identification Test (AUDIT-PC) which is used to identify hazardous drinkers. The sixth item contributes to a shorter 3-item screening tool (AUDIT-C).

This section focuses on the responses to the questions on regular drinking and, although the questions differ slightly from those used with BC1, it makes some comparisons with the data from the previous cohort. The results of the AUDIT-PC are also presented[57].

**Regular alcohol consumption**

One in five parents said they never drank alcohol (21%). This is slightly higher than the proportion reported in the 2011 Scottish Health Survey for all adults (17% of women, 11% of men; Sharp, 2012) Given that all GUS respondents have young children, this is not surprising. The proportion of non-drinkers was highest amongst those in more disadvantaged groups (low income, higher deprivation quintiles, lower NS-SEC category). For example, those in the lowest income quintile were three times more likely to never drink alcohol compared with the top income quintile (29% compared with 10%).

57 Analysis of the combined AUDIT-C items is not included in this report although the responses to the additional item are.

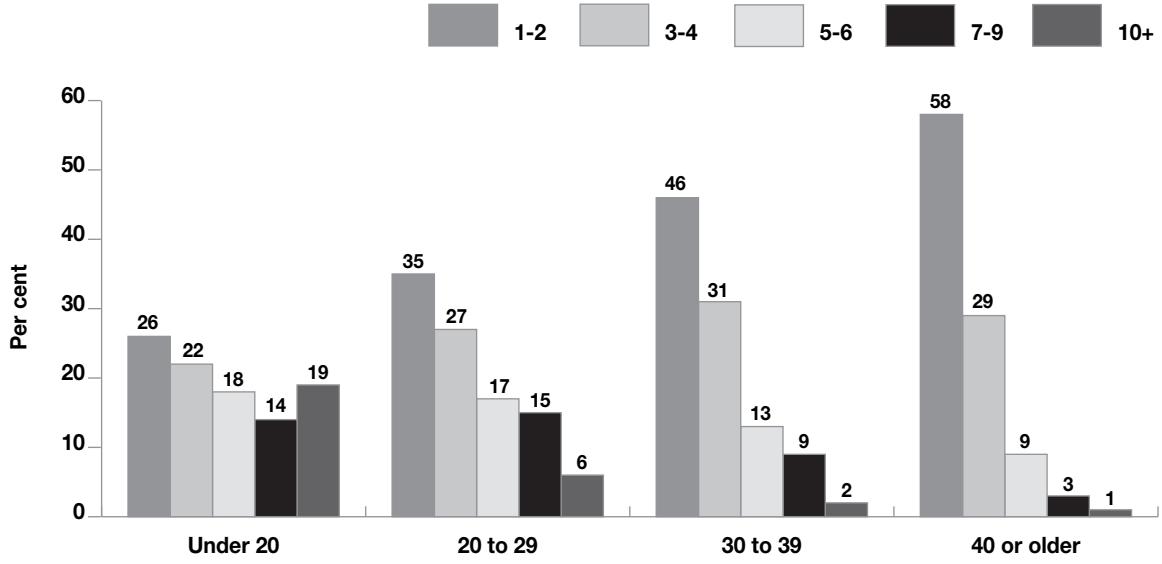
Four out of five parents said they drank some alcohol (79%), with two in five (39%) drinking two times per month or more frequently (see Table 10.3). Those in more advantaged circumstances were more likely to drink more regularly. The proportion of those drinking twice per month or more frequently ranged from 59% in the least deprived areas to 27% in the most deprived areas. While there was no difference in the proportion that never drank alcohol between lone parents and couple families, lone parents were significantly less likely to drink alcohol on a regular basis (two times per month or more frequently) than those in couple families (27% compared with 42%).

Those sub-groups that tended to drink alcohol less frequently were, however, more likely to drink higher quantities on a typical drinking day. For example, parents in the bottom income quintile were over twice as likely to drink 5[58] or more units on a typical drinking day compared with those in the top quintile (45% compared with 20% respectively). There was a difference of a similar magnitude when comparing between family types. 49% of lone parents reported drinking 5 or more units on a typical drinking day compared with 26% of those in couple families.

These trends are also reported in the latest *Scottish Health Survey* report (Sharp, 2012). For example, adults who lived in the most deprived quintile were more likely to be non-drinkers. However, amongst those that did drink, levels of alcohol consumption were higher than those in the less deprived quintiles.

The most striking differences were seen when comparing the sample by maternal age at birth (Figure 10.4). Over half (52%) of mothers aged under 20 drank 5 or more units on a typical drinking day compared with 38% of mothers in their twenties, 23% of mothers in their thirties and 13% of mothers who were over 40. Nearly one in five mothers under 20 (19%) reported drinking 10 or more units on a typical drinking day, over three times as much as any other age group.

**Figure 10.4 Alcohol units consumed on a typical drinking day by maternal age**




*Base: all families where main respondent drank alcohol – under 20 = 267, 20 to 29 = 1927, 30 to 39 = 2376 , 40 or older = 215*

58 Current guidelines state the daily limit for alcohol consumption is 4 units for men and 3 units for women

### Comparison with BC1

Similar questions were about the frequency and quantity of alcohol consumption were asked at BC1 sweep 1. However, the responses were changed for BC2 to allow for the calculation of the AUDIT-PC. Table 10.3 shows the original responses at sweep 1 for BC1 and BC2, and the responses for BC1 when some answer categories are combined to match those of BC2. Although this allows for easier comparison, caution should be applied when interpreting these results as the number of possible responses and their position on the list can influence the response given.

**Table 10.3 Frequency of alcohol consumption by cohort**

| | BC1 % | | BC1 % | BC2 % |
|---|---|---|---|---|
| Do not drink at all | 14 | Never | 14 | 21 |
| Not in the last year | 5 | Monthly or less | 33 | 40 |
| Once a month or less | 28 | | | |
| 2-3 times per month | 15 | 2-4 times per month | 35 | 27 |
| Once a week | 20 | | | |
| 2-3 times per week | 13 | 2-3 times per week | 13 | 11 |
| 4-6 times per week | 4 | 4+ times per week | 5 | 2 |
| Every day | 1 | | | |
| Can't say | 1 | | | |
| *Base: all families* | *5188* | | *5157* | *6023* |

*Note: Bases differ between the two BC1 columns because the 31 respondents who answered "Can't say" were recoded to missing for the comparison with BC2.*

Nevertheless, the data appears to show that the majority of BC1 respondents were drinking on an almost weekly basis while the majority of BC2 respondents drink less frequently. This may be indicative of the general trend identified by the Scottish Health Survey, as the proportion exceeding the recommended guidelines for alcohol consumption has decreased in recent years. However, as the GUS respondents are predominantly female and all carers of young babies, they are not nationally representative of the entire Scottish adult population and so may demonstrate different trends over time.

### AUDIT-PC

The Alcohol Use Disorders Identification Test 5-item version (AUDIT PC) has been shown to be a reliable tool for screening for hazardous alcohol intake (Piccinelli et al. 1997). Responses are allocated points between 0-4 which are then summed to give an overall score out of 20. Those scoring 5 and above are classed as hazardous drinkers[59].

59 If respondents never drank alcohol then they were not asked the following 5 questions on alcohol. Their answers have been set to 0 for the following questions for the purposes of calculating the AUDIT-PC.

The scores from the GUS respondents ranged between 0 and 20 with 12% being classed as hazardous drinkers. The vast majority of these hazardous drinkers were on the borderline, scoring 5 points. Only 4% of respondents scored 6 or more points.

This is considerably lower than the proportion of Scottish adults classed as hazardous or harmful drinkers in the 2011 Scottish Health Survey (Sharp, 2012) although the definition is different (being based on units consumed per week[60]). SHeS data found that one quarter of men (25%) and just under a fifth (18%) of women were classed as hazardous or harmful drinkers (Sharp, 2012).

Interestingly, the prevalence of hazardous drinking was associated with household income but not with area deprivation. Those in the lowest income quintile were more likely to be hazardous drinkers than those in the top quintile (15% compared with 10%).

The most striking difference was again related to maternal age at birth; 23% of mothers under 20 were classed as hazardous drinkers compared with 11% in the older groups. This is partly explained by the responses to the item on units consumed on a typical drinking day as noted above. 19% of mothers under 20 drank 10+ or more units compared with 4% of the older age groups.

### Binge drinking

The further single item included that did not form part of the AUDIT-PC asked how often the respondent had 6 or more units of alcohol on one occasion. This is the current definition of binge drinking[61]. 34% of respondents said they had never drunk 6 or more units of alcohol on one occasion. Nearly half of all respondents (48%) said that they had done this, but that it occurred less than monthly. 16% said that it occurred monthly, 3% weekly and less than 1% said that it occurred on a daily or almost daily basis.

The percentage of parents who reported binge drinking monthly or more often varied by many of the same characteristics that influenced the results of the AUDIT-PC. For example, those in more socio-economically deprived circumstances were more likely to report more frequent binge drinking. This was particularly highlighted by 26% of those in the bottom income quintile reporting monthly or more frequent 'binge' drinking compared with 16%-18% of parents in all other income quintiles.

Again, maternal age at birth was a strong differentiating factor. 34% of mothers under 20 reported binge drinking monthly or more often compared with 18% of mothers over 20. Also, lone parents were almost twice as likely to report 'binge' drinking on a monthly or more frequent basis compared with those in couple families (29% compared with 16%). This reflects, to a large extent, the younger average age of lone parents compared with parents in couple families as described in chapter 2.

60 Men drinking more than 21 units per week and women drinking more than 14

61 Binge drinking is defined by the NHS and the National Office of Statistics as drinking double the daily unit guidelines for alcohol in one session. This is 6 units for women and 8 units for men. The AUDIT-PC asks about drinking over 6 units in one session as a measure of binge

### *10.6.3 Drugs*

Parents were asked a series of questions about their use of certain illicit drugs – whether they had ever used drugs, whether they had used drugs in the last 12 months (since the birth of the cohort child) and what types they had used. Although the questions were included in the self-completion section of the interview – to provide a more confidential setting for the collection of this more sensitive information – there are a number of limitations associated with the data.

Firstly, it is likely that more 'serious' or 'chaotic' drug users are under-represented in the sample as they are more likely to be homeless, in prison or never available for interview. Secondly, as the drugs included are mostly illegal (though methadone could be prescribed), it is likely that drug use is under-reported within the survey, particularly amongst the 'heavier' substances. Finally, it is possible that people have forgotten occasional use of drugs, particularly if it was a long time ago.

**Table 10.4 Percentage of parents ever using drugs and use in the previous 12 months by type of drug used**

| | Ever taken drugs | | Taken drugs since birth of child | |
|---|---|---|---|---|
| | % of all parents | % of those who ever taken drugs | % of all parents | % of those who have taken drugs since birth of child |
| Cannabis | 22 | 92 | 2 | 79 |
| Amphetamines | 5 | 20 | <1 | 8 |
| Cocaine | 5 | 19 | <1 | 9 |
| Crack | <1 | 1 | <1 | 1 |
| Ecstasy | 5 | 21 | <1 | 6 |
| Heroin | 1 | 2 | <1 | 2 |
| Methadone | 1 | 2 | <1 | 13 |
| Acid or LSD | 2 | 8 | <1 | 1 |
| Another illegal drug | <1 | 2 | <1 | 1 |
| None of these | 76 | | 3 | |
| *Base: as detailed in top row* | *6021* | *1442* | *6008* | *172* |

24% of respondents said that they had taken drugs at some point in their lives. The majority of this was accounted for by cannabis use (92% of those who had taken drugs, and 22% of all parents). The next most common drugs to have been used were amphetamines, cocaine and ecstasy. However, these were all in very small proportions in comparison (reported by 19-21% of those who had taken drugs and 5% of all parents). The proportion of respondents who had ever taken drugs did not vary by any socio-economic characteristics.

Just 3% of all respondents had taken drugs in the last year (that is since their child was born). The majority of this was again accounted for by cannabis use (2% of all parents, 79% of those who reported drug use in the last year). However, in this instance, the next most common substances used were harder drugs such as methadone (used in the last year by <1% of all parents and 13% of those who used drugs in the last year) and cocaine (0.3% of all parents, 9% of those using in last year).

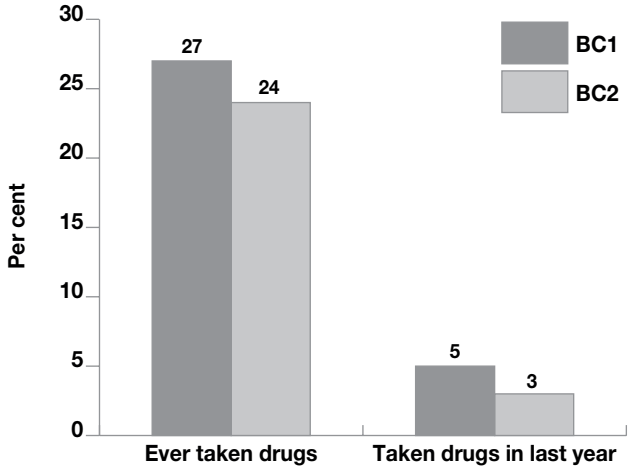
Drug use in the last year was influenced by various deprivation characteristics. For example, 8% of those in the least deprived quintile had used drugs in the last year compared with 23% in the most deprived quintile. Similarly, 4% of those in the top income quintile had used drugs in the last year, compared with 22% in the bottom income quintile. Mothers aged under 30 were also more likely to have used drugs in the last year than those aged 30 or over (17% had done so compared with 9%).

**Comparison with BC1**

Between 2005 and 2011, there was a small but significant decrease both in the proportion of parents reporting having ever taken drugs and having taken drugs in the last year (Figure 10.5).

Although this may reflect recent campaigns and interventions to reduce drug use amongst parents, it may also be due to sampling variation with fewer drugs users being included in the BC2 sample. It is also possible parents in BC2 were more likely to under-report drug use than those in BC1 given a greater perceived stigmatism about drug use generally and specifically amongst parents.

**Figure 10.5 Drug use in both birth cohorts**




*Base – all families: BC1 = 5182, BC2 = 6021*

## 10.7 Summary

The data in this chapter presents a broad overview of the health of parents in Scotland with young children. The majority (88%) report to be in good health or better and 95% are without a limiting longstanding illness.

Smoking prevalence amongst main carers of children was similar to that of the overall Scottish population (around one in four). This proportion is considerably less than that reported at amongst parents in BC1 at the equivalent time point. This reduction can be attributed, at least in part, to the ban on smoking in enclosed public places introduced in 2006 and mirrors a decrease in smoking prevalence across the broader adult population during that time. Encouragingly, the percentage of households with at least one adult smoking inside the house dropped by a greater degree. This may be a by-product of the smoking ban increasing awareness of passive smoking and encouraging more parents to keep their homes smoke-free too.

The vast majority of parents drank some alcohol and most drank within the recommended guidelines. Indeed, alcohol consumption amongst parents is lower than amongst the general adult population. Only a small proportion reported drinking habits which categorised them as 'hazardous'. Alcohol consumption varied, in particular, by maternal age. Compared with older mothers, younger mothers, particularly those aged under 20 at the child's birth, reported more frequent drinking, a higher level of units on a typical drinking day, more binge drinking and were more likely to be classed as hazardous drinkers. Along with smoking, alcohol consumption had also reduced between cohorts.

Many parents had also tried drugs at some point in their lives, though very few had done so in the last year. Almost all drug use was accounted for by cannabis. Drug use had also decreased between the two cohorts.

With less smoking, lower alcohol consumption and less drug use, parents in 2011 appear to have adopted a healthier lifestyle when compared with parents in 2005. Nevertheless, the well reported links between deprivation status and health outcomes are still evident. On measures of general health and long-standing illness, physical and mental wellbeing, and smoking, drinking and drug use, parents in more disadvantaged circumstances continue to report poorer outcomes and health behaviours than their more advantaged peers.

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appendix A

# TECHNICAL NOTES

## Data collection

### Mode of data collection

Interviews were carried out in participants' homes, by trained social survey interviewers using laptop computers (otherwise known as CAPI – Computer Assisted Personal Interviewing). The interview was quantitative and consisted almost entirely of closed questions. There was a brief, self-complete section in the interview in which the respondent, using the laptop, inputed their responses directly into the questionnaire programme.

At this sweep 1, primarily because of the inclusion of questions on the mother's pregnancy and birth of the sample child, interviewers were instructed as far as possible to undertake the interview with the child's mother. Where this was not possible or appropriate, interviews were conducted with the child's main carer who may have been the child's father, a grandparent or other carer.

### Length of interview

Overall, the average interview lasted around 74 minutes. The median interview length was 69 minutes.

### Timing of fieldwork

Fieldwork was undertaken over a 14-month period commencing in January 2011. The sample was issued in 12 monthly waves at the beginning of each month and each month's sample was in field for a maximum period of two-and-a-half months. For example, sample 2 was issued at the beginning of February 2011 and remained in field until mid-April 2011.

To ensure that respondents were interviewed when their children were approximately the same age, each case was assigned a 'target interview date'. This was defined as the date on which the child turned $10^{1}/_{2}$ months old. Interviewers were allotted a four-week period based on this date (two weeks either side) in which to secure the interview. In difficult cases, this period was extended up to and including the child's birthday which allowed a further four weeks.

## Further details of key analysis variables

### Equivalised annual household income

The income that a household needs to attain a given standard of living will depend on its size and composition. For example, a couple with dependent children will need a higher income than a single person with no children to attain the same material living standards. 'Equivalisation' means adjusting a household's income for size and composition so that we can look at the incomes of all households on a comparable basis.

We measure total household income using a single question asked to the mother (or main carer) of the GUS child. This question asks the mother to indicate the total income of their household from all sources before tax – including benefits, interest from savings and so on. Respondents are asked to choose from 17 income bands, ranging from 'Less than £3,999' to '£56,000 or more'.

The way GUS collects income information is different from the more specialised income surveys. For example, the Family Resources Survey (FRS), used as the basis for HBAI and SHBAI, asks each adult household member about their own income and totals household income from all sources. The FRS also verifies income amounts during the survey interview, for example by asking respondents to show details of pay slips and benefit awards.

Clearly there are likely to be differences in quality when just one question collects information on total income, when this is asked about the household rather than the individual, and when banded income is used.

On the other hand, there are indications that prior questioning on sources of income (as is the case in GUS) might improve the reporting of income. Furthermore, the loss of information in using income bands rather than a continuous measure is minor when looking at the lower end of the income distribution as most of the loss of variation is in the top (uncapped) category. Overall, the loss in accuracy of income estimates obtained from a single question tends not to be 'catastrophic' (Micklewright and Schnepf, 2007, p.20) and have to be weighed against the cost and feasibility of collecting detailed income information in GUS given the competing demands from other topics in the survey.

**Socio-economic classification (NS-SEC)**

The National Statistics Socio-economic Classification (NS-SEC) is a social classification system that attempts to classify groups on the basis of employment relations, based on characteristics such as career prospects, autonomy, mode of payment and period of notice. There are fourteen operational categories representing different groups of occupations (for example higher and lower managerial, higher and lower professional) and a further three 'residual' categories for full-time students, occupations that cannot be classified due to a lack of information or other reasons. The operational categories may be collapsed to form a nine, eight, five or three category system.

This report uses a five category system in which respondents and their partner, where applicable, are classified as managerial and professional, intermediate, small employers and own account workers, lower supervisory and technical, and semi-routine and routine occupations. The variable is measured at respondent, partner or household level. For the household variables, in couple families this corresponds to the highest classification amongst the respondent and his/her partner.

### Parental level of education

The respondent was asked to provide information on the nature and level of any school and post-school qualifications they and their partner, where applicable, had obtained. Qualifications are grouped according to their equivalent position on the Scottish Credit and Qualifications Framework which ranges from Access 1 to Doctorate. These are further banded to create the following categories: Degree-level academic or vocational qualifications, Higher Grades or equivalent vocational qualification (eg. SVQ 3), Upper-level Standard Grades (grades 1 to 4) or equivalent vocational qualification (eg. SVQ 1 or 2), Lower-level Standard grades (grades 5 to 7) or equivalent vocational qualifications (eg. Access 1 or 2, National Certificates). The highest qualification is defined for each parent and a household level variable can also be calculated. In couple families this corresponds to the highest classification amongst the respondent and his/her partner.

### Area deprivation (SIMD)

Area deprivation is measured using the Scottish Index of Multiple Deprivation (SIMD) which identifies small area concentrations of multiple deprivation across Scotland. It is based on 37 indicators in the seven individual domains of Current Income, Employment, Health, Education Skills and Training, Geographic Access to Services (including public transport travel times for the first time), Housing and a new Crime Domain. SIMD is presented at data zone level, enabling small pockets of deprivation to be identified. The data zones, which have a median population size of 769, are ranked from most deprived (1) to least deprived (6,505) on the overall SIMD and on each of the individual domains. The result is a comprehensive picture of relative area deprivation across Scotland.

In this report, the data zones are grouped into quintiles. Quintiles are percentiles which divide a distribution into fifths, ie., the 20th, 40th, 60th, and 80th percentiles. Those respondents whose postcode falls into the first quintile are said to live in one of the 20% least deprived areas in Scotland. Those whose postcode falls into the fifth quintile are said to live in one of the 20% most deprived areas in Scotland.

Analysis of BC2 data uses SIMD 2009, whereas BC1 data uses SIMD 2006. Further details on SIMD can be found on the Scottish Government website:
http://www.scotland.gov.uk/Topics/Statistics/SIMD/Overview

### Scottish Government Urban Rural Classification

The Scottish Government Urban Rural Classification was first released in 2000 and is consistent with the Government's core definition of rurality which defines settlements of 3000 or less people to be rural. It also classifies areas as remote based in drive times from settlements of 10,000 or more people. The definitions of urban and rural areas underlying the classification are unchanged.

The classification has been designed to be simple and easy to understand and apply. It distinguishes between urban, rural and remote areas within Scotland. The classification can be used in several forms each denoting different levels of detail. Within this report, we have mostly used the sixfold classification which includes the following categories:

- Large urban areas: Settlements of over 125,000 people
- Other urban areas: Settlements of 10,000 to 125,000 people
- Accessible small towns: Settlements of between 3000 and 10,000 people and within 30 minutes drive of a settlement of 10,000 or more
- Remote small towns: Settlements of between 3000 and 10,000 people and with a drive time of over 30 minutes to a settlement of 10,000 or more
- Accessible rural: Areas with a population of less than 3000 people and within 30 minutes drive of a settlement of 10,000 or more
- Remote rural: Areas with a population of less than 3000 people and with a drive time of over 30 minutes to a settlement of 10,000 or more

Further information on the classification can be found on the Scottish Government website: http://www.scotland.gov.uk/Topics/Statistics/About/Methodology/UrbanRuralClassification

## Multivariate analysis

### Description of analysis undertaken

Many of the factors we are interested in are related to each other as well as being related to the outcome variables of interest. For example, younger mothers are more likely to have lower qualifications, to be lone parents, and to live in areas of high deprivation. Simple analysis may identify a relationship between maternal age and breastfeeding, for example. However, this relationship may be occuring because of the underlying association between maternal age and education. Thus, it is actually the lower education levels amongst younger mothers which is associated with a lower likelihood of breastfeeding than the fact that they are younger in age.

To take these possible confounds into account, in relation to breastfeeding and a range of other parent and child behaviours and outcomes, multivariate regression analysis was used. This analysis allows the examination of the relationships between an outcome variable and multiple explanatory variables whilst controlling for the inter-relationships between each of the explanatory variables. This means it is possible to identify an independent relationship between any single explanatory variable and the outcome variable; to show, for example, that there is a relationship between maternal age and breastfeeding that does not simply occur because both education and maternal age are related.

Factors associated with the following outcomes and behaviours have been examined via logistic regression analysis in this report:

- Folic acid in first three months of pregnancy'
- Any vitamin D intake around pregnancy'
- Attendance at antenatal classes
- Use of the internet as a source of information

- Breastfeeding exclusively for six weeks or more
- Breastfeeding for six weeks or more (including as part of mixed feeding)
- Starting solids before five months[62]
- Highly traditional, authoritarian attitudes
- High parenting stress
- Having one or more negative feelings about being a parent
- High home chaos
- Unrestricted TV
- Looking at books with child less than daily
- Nursery rhymes/songs with child less than daily
- Visiting friends less than weekly
- Child watches TV for more than 2 hours daily
- Having a less warm mother-child relationship
- Child had four or more health problems
- Child was in the lowest CSBS quartile (with the least well developed communication skills)

The logistic regression employed both stepwise and non-stepwise approaches. Stepwise regression assesses each variable for significance, entering the most significant variable first and adjusting significance based on variables already entered into the equation, so that the final equation contains only those variables that remain significant when other variables are entered into the model. For the analysis which did not use the stepwise approach, a single model was compiled incorporating a wide range of predictor variables.

### Interpreting regression results

The results of the regression analyses are summarized and described in the text of the relevant chapters. Full results are available on request. Regression results are given in odds ratios together with the probability that the association is statistically significant. The predictor variable was significantly associated with the outcome variable if $p<0.05$. The models determined the odds of being in the particular category of the outcome variable (eg. breastfeeding exclusively for six week) for each category of the independent variable (eg. parental education categories). Odds are expressed relative to a reference category, which has a given value of 1. Odds ratios greater than 1 indicate higher odds, and odds ratios less than 1 indicate lower odds.

62 The binary variable created indicating starting solids before 5 months used the 'mid' version – see appendix for details.

To understand an odds ratio we first need to describe the meaning of odds. The definition of odds is similar but significantly different to that of probability. This is best explained in the form of an example. If 200 mothers out of a population of 1000 breastfed, the probability (p) of breastfeeding is 200/1000, thus p=0.2. The probability of not breastfeeding is therefore 1-p = 0.8. The odds of breastfeeding are calculated as the quotient of these two mutually exclusive events. So, the odds in favour of breastfeeding to not breastfeeding is therefore 0.2/0.8=0.25. Suppose that 150 out of 300 degree-educated mothers breastfeed compared to 50 out of 150 who have no qualifications. The odds of a degree-educated mother breastfeeding are 0.5/0.5=1.0. The odds of mother with no qualifications breastfeeding is 0.3333/0.6666=0.5. The odds ratio of breastfeeding is the ratio of these odds, 1.0/0.5=2.0. Thus the odds of breastfeeding are twice as high among degree-educated mothers (compared to mothers who have no qualifications – the 'reference category').

appendix

# B FURTHER INFORMATION ON BREASTFEEDING VARIABLES

There are a number of inter-related issues regarding the breastfeeding/weaning 'age' variables that should be borne in mind when considering the results of analyses reported in chapter 4.

**Unit of measurement**

i. **Quantification of child's age** Most parents will initially 'quantify' a child's age in weeks, but then after a while 're-calibrate' into months, and eventually into years. The usual transition for switching from weeks to months is around three months of age, so that from then on, each month on the ('anniversary') day of the child's birth, the parent will 'age' the child by a further month. That is, a baby is not generally described as four months old until its fourth 'month-birthday' ie. until it has completed four months of life.

ii. **Units to be used** For some event (eg. weaning) that has occurred at a specific age, the finer the units used in recording the 'age', the more accurate will be the analyses based on that age data. So, if the timing of the event is recorded not in weeks but in months, the fact that a month spans over four weeks will mean, inevitably, that the data value will, for a substantial proportion of cases, differ from the precise truth by up to two weeks. It might therefore seem that the age at which a particular event occurred should always be asked in weeks. However, the advantage of asking 'in weeks' depends on the age being accurately known in weeks, and as noted in (i), after the first three or four months of life it is not usual to continue to quantify a baby's age (recall 'age at' a past event) in weeks. Therefore if asking about an event that occurs about midway through the child's first year of life, then if requiring an answer in weeks (as was the case for starting solids in BC2), it is likely the respondent will have to convert into weeks the recalled age in months.

iii. **Facility in converting units** Conversion from months to weeks will require some mental arithmetic, which itself might not be an easy matter. A further concern is that even among the arithmetically adept, the relationship between months and weeks is very often misunderstood. This arises because most people assume four weeks per month, by which rule three months is converted to 3x4=12 weeks, whereas it is in fact 13 weeks, and six months to 6x4= 24 weeks, whereas it is 26 weeks. So if a respondent who recalls the age at some event of interest in months, is asked to report it in weeks, he/she will have to convert, and as shown above this is likely to give a figure that is biased down, by two weeks at around six months. This bias will be exacerbated by the tendency described in (i), to think of a child as, say, 'six months old' only when the baby is fully six months old. So, if solids are introduced a week before the six-month 'birthday', when the parent thinks of the child still as 'five months old', then if in a subsequent interview the age at introduction of solids is asked about, the respondent could well convert to 5x4=20 weeks, rather than the 25 weeks that was the baby's exact age.

iv. **Flexibility in units that can be reported** Duration of breastfeeding (at all, or exclusive), could be reported at interview in days, weeks or months, reflecting the fact that breastfeeding duration might be anything between a few days and over a year. Therefore the need for conversion by the respondent was avoided, and the recalled 'age' can be recorded exactly as stated.

### Comparing BC1 and BC2 regarding age at starting solids

Age at starting solid food was recorded in BC1 in months, but in BC2 in weeks, so the only way to compare ages between cohorts is to convert one variable into the same units as the other (weeks into months, given the guidance hinges around six months). The question is what algorithm should be used for valid analysis? This is of considerable concern because in a data set of this size even a small difference, such as might arise largely by bias, could show as statistically significantly. Two conversion algorithms were used, as shown in the chapter. In the first case, for the coding to be x months, the age in weeks must be at least equivalent to x months (as per the usual quantification of a baby's age, considered in 1(i) above). So, for example, given the infant becomes 'four months old' at 17 weeks, the only values coded as 'four months old' are reported ages of 17 to 20 weeks. The second ('mid') algorithm takes a more 'centred' view of age, and considers the four or so weeks around the 'anniversary' date to define the age under consideration. So four months would be the conversion for weeks 15 to 18, those which are around the exact 'anniversary' – 17 weeks. The difference between the two algorithms is a shift of two weeks, and the 'mid' version would be more comparable if in BC2 respondents, their recall of age in months at starting solids is being converted mentally to weeks during the interview, via a simple multiplication by four (as discussed in 1(iii) above).

### Manipulation of variables

i. **Creating a binary '6 weeks or older' variable** In 1(iv) above it has been noted that flexibility with respect to units is likely to have an advantage in terms of 'accuracy' of recorded breastfeeding durations, but this does create some uncertainty in terms of creating a variable to indicate the fact of having continued at least to the '6 week' threshold (as per one breastfeeding statistic in common use, as mentioned in the background (4.1)). There was no problem if the age was stated in weeks, obviously, nor if stated in days (>= 42 days being unequivocally >= six weeks). However, if the age was stated in months, there was some uncertainty if the age was given as 'one month'. Arithmetically, one month is <six weeks, and so such responses have been recoded to not >= six weeks. However such a response is possible even if breastfeeding did continue for six weeks, if for example the baby received its last breastfeed at 43 days old, and this event has been remembered as having been at 'one month old' (as per 1(i) above, since the baby was not yet fully two months old). However, while there is a theoretical possibility that some babies who did complete six weeks breastfeeding have been coded as not having done so, the potential numbers are very small.

ii. **Creating a binary '6 months or older' variable** The guidance for parents states that babies need no other feeding than breastfeeding (or formula) until six months of age. If wishing to create a variable to indicate the fact of having continued at least to the 'six months' threshold (as per current guidance for age at starting solids) then there are concerns for BC2, since in this cohort the age was assessed in weeks, and hence the concerns of 1(i) and 1(iii) above apply. With regard to any comparison between BC1 and BC2, the concerns of 2 above also apply.

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ISBN 978-1-78256-361-7 (web only)

APS Group Scotland
DPPAS13846 (02/13)