TACKLING INEQUALITIES IN THE EARLY YEARS:
Key messages from 10 years of the Growing Up in Scotland study
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The Scottish Government, Edinburgh 2015
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Introduction

Growing Up in Scotland (GUS) is a Scottish Government funded longitudinal study that is currently tracking the lives of two cohorts of children from across Scotland. Children in the older cohort (known as Birth Cohort 1 or BC1) were born in 2004/05 and at time of publication will be around age 11. Children in the younger cohort (known as Birth Cohort 2 or BC2) were born in 2010/11 and at time of publication will be around age five. The children in each cohort were selected at random from Child Benefit records and are representative of all children of these ages in Scotland. Across these two cohorts GUS is tracking the lives of approximately 10,000 children.

In October 2015, it will be 10 years since the launch of the study. This report draws together findings from 10 years of analysis of the GUS data to highlight how the study has contributed to the evidence base on children and families in Scotland, in particular on the extent of and how to reduce inequalities in outcomes in the early years. This theme was selected to coincide with the ‘Fairer Scotland’ discussion. This was launched in June 2015 to engage with the public on what a fairer Scotland should look like and to strengthen the participation of marginalised communities within this debate. Evidence from GUS has already been used in the discussion paper¹ to highlight inequalities in the early years but there is more evidence in this paper that can reveal how we realise our aspiration to live in a country in which, where you are born, where you live or who you are does not stop you having the opportunity to reach your full potential.

The first section of the report draws on the cross-sectional data collected from both cohorts (from 2005 to 2013) to provide an overview of a range of inequalities in outcomes and experiences for children aged 10 months to eight years. Inequality in GUS is defined as the unequal socio-economic patterning of outcomes and risk factors that disadvantage less affluent children. GUS uses various measures of socio-economic status including: equivalised household income; area deprivation; parental level of education; and maternal age at the time of the child’s birth. The study has revealed that inequalities exist across all of these measures but to keep this report concise, the focus here is on inequalities experienced by children in different income groups. Comparisons are drawn between those in the highest and lowest fifth of earners (top and bottom quintiles).

The second section of the report compares data collected from each cohort at the same age. Ten years after GUS was launched, there are now two points of comparison between BC1 and BC2: at age 10 months and shortly before the children’s third birthdays. The comparisons at 10 months are between outcomes/experience in 2005/06 and 2011 and the comparisons around the age of three are between those in 2007/08 and 2013. By comparing circumstances and experiences at these two ages it is possible to explore not only whether there has been any progress in improving outcomes for children in Scotland across these years, but also whether there is any evidence that inequality in experiences and outcomes have widened or narrowed in the recent years.

¹ http://fairer.scot/discussionpaper/
The final section draws on the longitudinal data, collected from the oldest cohort, about the relationship between early experiences and later outcomes. It highlights some key messages about how to improve prospects for all children, but particularly those living in disadvantaged circumstances and, in doing so, reduce the gap between the least and most socio-economically advantaged children in Scotland.

All changes highlighted in this report are statistically significant².

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² Which means they are very unlikely to have occurred by chance.
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At a glance summary
GUS has highlighted that, even in the early years of a child’s life, there are consistent inequalities, not only in outcomes, but particularly in risk behaviours that we know have longer-term consequences for health and development.

Comparing children in the highest (£££££) and lowest (£) income quintiles...

<table>
<thead>
<tr>
<th>Risk Behaviour</th>
<th>Highest Income</th>
<th>Lowest Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother smoked in pregnancy</td>
<td>8%</td>
<td>49%</td>
</tr>
<tr>
<td>Mother drank alcohol in pregnancy</td>
<td>34%</td>
<td>11%</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>6%</td>
<td>9%</td>
</tr>
<tr>
<td>Not breastfed</td>
<td>19%</td>
<td>55%</td>
</tr>
<tr>
<td>Condition</td>
<td>Below Average</td>
<td>High Social, Emotional or Behavioural Difficulty</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Longstanding illness/Disability by age 3</td>
<td>14%</td>
<td>19%</td>
</tr>
<tr>
<td>Less than good health during first 4 years</td>
<td>12%</td>
<td>26%</td>
</tr>
<tr>
<td>Poor diet at age 5</td>
<td>13%</td>
<td>39%</td>
</tr>
<tr>
<td>Below average vocabulary ability at age 5</td>
<td>20%</td>
<td>54%</td>
</tr>
<tr>
<td>Below average Problem-solving ability at age 5</td>
<td>29%</td>
<td>53%</td>
</tr>
<tr>
<td>High social, emotional or behavioural difficulty at age 8</td>
<td>3%</td>
<td>18%</td>
</tr>
<tr>
<td>Lowest level of life satisfaction at age 8</td>
<td>19%</td>
<td>29%</td>
</tr>
</tbody>
</table>
Comparing mothers in the highest (£££££) and lowest (£) income quintiles...

<table>
<thead>
<tr>
<th></th>
<th>Highest Income</th>
<th>Lowest Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking 5 or more units of alcohol* when child aged 10 months</td>
<td>20%</td>
<td>45%</td>
</tr>
<tr>
<td>*(on typical drinking day)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longstanding illness/Disability during their child’s first 4 years</td>
<td>26%</td>
<td>47%</td>
</tr>
<tr>
<td>Poor mental health during their child’s first 4 years</td>
<td>6%</td>
<td>24%</td>
</tr>
<tr>
<td>Smoking when child aged 8</td>
<td>7%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Comparisons between the two GUS cohorts, up to age three, have revealed some overall improvements for children born in 2010/11 (BC2) compared with those born in 2004/05 (BC1).

<table>
<thead>
<tr>
<th></th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers abstaining from alcohol in pregnancy</td>
<td>74%</td>
<td>80%</td>
</tr>
<tr>
<td>Engaging with books when child aged 10 months</td>
<td>66%</td>
<td>69%</td>
</tr>
<tr>
<td>Mothers smoking when child aged 3</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td>Mean vocabulary scores at age 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental wellbeing scores among main carers when child aged 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comparisons have also revealed that some health outcomes appear to have deteriorated overall across the cohorts, though this may be a result of more effective and/or earlier diagnosis.

<table>
<thead>
<tr>
<th></th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longstanding illness/disability at age 3</td>
<td>14%</td>
<td>17%</td>
</tr>
<tr>
<td>Excellent health among mothers when child aged 3</td>
<td>21%</td>
<td>17%</td>
</tr>
</tbody>
</table>

And that overall breastfeeding rates have remained static.

<table>
<thead>
<tr>
<th></th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding for 6 weeks or more</td>
<td>42%</td>
<td>42%</td>
</tr>
</tbody>
</table>
With regard to the socio-economic gap, GUS has shown that some inequalities have narrowed over recent years.

<table>
<thead>
<tr>
<th>Breastfeeding rates</th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>37%</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td>81%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vocabulary scores at age 3</th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>43.2</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>46.7</td>
<td>53</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem-solving scores at age 3</th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>42.2</td>
<td>49.1</td>
</tr>
<tr>
<td></td>
<td>44.4</td>
<td>47.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mothers' mental wellbeing scores</th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>46.4</td>
<td>51.9</td>
</tr>
<tr>
<td></td>
<td>49.1</td>
<td>52</td>
</tr>
</tbody>
</table>

Although the socio-economic gap has widened for alcohol consumption in pregnancy, this is due to a larger increase in rates of abstinence among the most economically disadvantaged than the most advantaged.

<table>
<thead>
<tr>
<th>Abstinence from alcohol in pregnancy</th>
<th>BC1</th>
<th>BC2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63%</td>
<td>81%</td>
</tr>
<tr>
<td></td>
<td>66%</td>
<td>89%</td>
</tr>
</tbody>
</table>
While it is difficult to counter the very powerful socio-economic influences on children’s lives, GUS has highlighted that there are some factors that seem to promote positive outcomes or build resilience, in the face of socio-economic disadvantage.

GUS has also provided other clues about how to support parents and improve outcomes for children.
PART ONE: INEQUALITIES IN THE EARLY YEARS

GUS has highlighted that, even in the early years of a child’s life, there are consistent inequalities, not only in outcomes, but particularly in risk behaviours that we believe have longer-term consequences for health and development.

Risk behaviours in pregnancy
In BC2, 8% of mothers in the highest income households smoked during pregnancy compared with 49% of those in the lowest income group.

However, the social pattern in alcohol use in pregnancy is very different, with mothers living in the most advantaged circumstances being more likely to say they consumed alcohol during pregnancy. In BC2, 34% of those in the highest income quintile consumed alcohol while they were pregnant compared with 11% of mothers in the lowest income quintile.

Low birth weight
In BC1, 5% of children in the highest income quintile were born with a low birth weight (defined as less than 2.5 kilos). This increased to 9% among those in the lowest income quintile.

Breastfeeding
In BC2, while 81% of children in the highest income quintile were breastfed (even if just for a few days), this proportion dropped to only 45% among those in the lowest income quintile.

Home learning activities
In BC2, 80% of parents in the highest income quintile looked at books or read stories to their child at age 10 months. This proportion dropped to 62% among parents in the lowest income quintile.

Illness and long-term health problems
In BC2, by age three, 14% of children in the highest income quintile had a longstanding illness or disability, compared with 19% of those living in the lowest income quintile.

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4 It must be noted that the vast majority of those who consumed alcohol in pregnancy, did so less than once a month and we are not able to use the GUS data to identify whether this was before or after the mother discovered she was pregnant.
5 New data published here for the first time.
6 Bromley et al. 2010.
7 New data published here for the first time.
8 Bradshaw et al. 2013.
9 Bradshaw et al. 2015.
In BC1, during the first four years of their lives, 12% of children in the highest income quintile were assessed by their main carer as having fair, bad or very bad health. The same was true of 26% of those in the lowest income quintile.10

**Diet**

Data collected from BC1 at age five shows that 13% of children in the highest income quintile were classified as having a relatively poor diet. This proportion increased to 39% in the lowest income group.11 Poor diet was defined as eating a small variety or no vegetables or fruit and frequent consumption of crisps, sweets and soft drinks.

**Cognitive development**

GUS has measured cognitive ability at ages three and five using an assessment of expressive vocabulary and non-verbal reasoning. The data has revealed that the cognitive ability gap is already apparent by both of these ages. With regard to vocabulary ability at age five, 20% of children in the highest income quintile had below average ability, compared to 54% in the lowest income quintile. For problem-solving ability, the equivalent proportions are 29% and 53%.12

The assessment data can also be used to express the gap in developmental age. At age five, compared with children in the lowest income quintile, those in the highest income quintile were around 13 months ahead in their knowledge of vocabulary and 10 months ahead in their problem-solving ability.13

**Social, emotional and behavioural development**

At entry to primary school, children in the lowest income group were around twice as likely (or more, depending on which measure was used) than those in the highest income group to exhibit borderline or abnormal social, emotional or behavioural health. For example, 19% of children in the highest income group had scores in the borderline or abnormal ranges for conduct problems compared with 43% of children in the lowest income group. With regard to emotional problems, the figures were 6% and 16% respectively and for hyperactivity they were 12% and 30% respectively.14

Social, emotional and behavioural development was measured again in GUS shortly before the child’s eighth birthday. At this stage, the proportion of children classified as having high levels of social, emotional and behavioural difficulties was 3% among those living in households in the highest income quintile but 18% among those in lowest income quintiles.15

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10 Bromley et al. 2010.
12 New data published here for the first time.
13 Bradshaw et al. 2011.
14 Bradshaw et al. 2010.
15 Parkes et al. 2014.
Life satisfaction
In BC1 at age eight, 25% of children in the whole sample were classed as having low life satisfaction, relative to the remaining 75%. However, a lower proportion of children in households in the highest income quintile (19%) reported low life satisfaction, compared to the lowest income quintile (29%)\(^{16}\).

GUS has also highlighted the considerable inequality that mothers face in the early years. Socio-economically disadvantaged households appear to face a double burden of inequality with the child and the main carer at greater risk of negative health outcomes.

Alcohol consumption
In BC2, when their children were aged 10 months, main carers in the highest income quintile were more likely to drink alcohol than those in the lowest income quintile. However, parents in the lowest income quintile were over twice as likely to drink five or more units on a typical drinking day compared with those in the highest income quintile (45% compared with 20% respectively)\(^{17}\).

Smoking
In BC2, when their child was aged three, smoking among main carers was 7% in the highest income quintile but 40% in the lowest quintile\(^{18}\).

In BC1, when their child was aged around eight, smoking among main carers was 7% in the highest income quintile and 44% in the lowest income quintile\(^{19}\).

Physical health
In BC1, 26% of mothers in the highest income quintile reported having a long-standing health problem or disability at some point during their child’s first four years. This proportion increased to 47% among those in the lowest income quintile\(^{20}\).

Mental health
In BC1, 6% of mothers in the highest income group had poor mental health\(^{21}\) at two or more of the annual sweeps of data collection over the first four years of their child’s life. This proportion increased to 24% among those in the lowest income quintile\(^{22}\).

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16 Parkes et al. 2014.
17 Bradshaw et al. 2013.
18 Bradshaw et al. 2015.
19 New data published here for the first time.
20 Bromley et al. 2010.
21 Maternal mental health was measured using the SF12 Mental Health Component Score and the Depression, Anxiety and Stress Scale (DASS10).
22 Marryat et al. 2010.
PART TWO: CHANGES IN OUTCOMES AND INEQUALITY ACROSS THE TWO COHORTS

Comparisons between the two GUS cohorts, up to age three, have revealed some overall improvements for children born in 2010/11 compared with those born in 2004/05:

- An increase in the proportion of mothers who abstained from alcohol during pregnancy, from 74% of mothers in BC1 to 80% in BC2.

- A decline in the proportion of mothers who smoked when their children were aged three from 28% in BC1 to 24% in BC2.

- An increase in the proportion of parents who looked at books or read stories with their 10 month old child either every day or most days. This increased from 66% in BC1 to 69% in BC2.

- A small but statistically significant increase in mean vocabulary scores at age three.

- A small but statistically significant increase in mental wellbeing scores among main carers when their children were aged three.

Comparisons have also revealed that some health outcomes appear to have deteriorated overall across the cohorts. It is possible, however, that this is due to earlier or more effective diagnosis of conditions:

- An increase in the proportion of age three children with a long-standing illness or disability, from 14% in BC1 to 17% in BC2.

- A decrease in self-reported levels of excellent health amongst mothers, around the time of their child’s third birthday, from 21% in BC1 to 17% in BC2.

And that overall breastfeeding rates have remained static:

- There was no statistically significant change in the proportion of children who were breastfed for at least six weeks across BC1 and BC2.

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23 New data published here for the first time.
24 Bradshaw et al. 2015.
26 Bradshaw et al. 2015.
27 The mental wellbeing score measures recent mood and energy levels as well as the extent to which emotional problems limit the main carer's ability to accomplish things.
28 Bradshaw et al. 2015.
29 Bradshaw et al. 2015.
30 Bradshaw et al. 2015.
With regard to the socio-economic gap, GUS has shown that some inequalities have narrowed over recent years.

**Breastfeeding**

In BC1 there was a 43 percentage-point difference in the proportion of mothers who breastfed (even if just for a few days) in the lowest and highest income quintile: 37% breastfed in the former and 80% in the latter group. In BC2 this gap had reduced to 36 percentage-points (45% in the lowest income and 81% in the highest income group)\(^{31}\). This narrowing of the gap was driven by an increase in the prevalence of breastfeeding among mothers in the lowest income quintile\(^{32}\).

Analysis of the GUS data on breastfeeding duration has also revealed that among mothers who did breastfeed, those who gave birth in 2010/11 managed to breastfeed for longer than mothers who gave birth in 2004/05. Closer analysis of the data has shown that this change was driven by an increase in breastfeeding duration among mothers from more disadvantaged social circumstances. While there was very little change among mothers educated to degree level, in 2010/11 mothers with no educational qualifications were one and a half times more likely to breastfeed for between six and 10 months than similar mothers who gave birth in 2004/05\(^{33}\).

**Cognitive development**

In BC1, at age three, there was a 7.8 point gap in the average vocabulary scores of children in the lowest and highest income quintiles. In BC2 this gap had reduced slightly to a 6.3 point gap. The narrowing of the gap was due to a slightly greater improvement in vocabulary score at age three in the lowest income group than the highest.

Overall, there was no change in problem-solving ability at age three across the two cohorts. However, there was a narrowing of the gap in ability across the income groups. In BC1 there was a 6.7 point gap in the average scores of children in the lowest and highest income quintiles. In BC2 this gap had reduced to a 3.4 point gap. The narrowing of the gap was due to an improvement among those in the lowest income group as well as a decline among those in the two highest income groups\(^{34}\).

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31 New data published here for the first time.
32 Skafida 2014.
33 Skafida 2014.
34 Bradshaw et al. 2015.
Mental wellbeing among main carers
Although the increase in mental wellbeing scores among main carers, when their child was aged three, was seen across all socio-economic groups, there was a slight (and statistically significant) narrowing of the gap between the lowest and highest household income quintiles. In BC1 there was a 5.5 point difference in mental wellbeing scores in the highest and lowest income quintiles. In BC2 this gap had reduced to 2.9 points. The narrowing of the gap was due to a greater improvement among those in the lowest income group compared with those in the highest.

Although the socio-economic gap has widened for alcohol consumption in pregnancy, this is due to a larger increase in rates of abstinence among the most economically disadvantaged than the most advantaged.

Alcohol consumption in pregnancy
In BC1 there was an 18 percentage-point difference in the proportion of women in the highest and lowest income quintile who stated that they abstained from alcohol during pregnancy (63% and 81% respectively). In BC2 this gap had widened to 23 percentage points (66% and 89%)\(^{37}\). This means that, although abstinence rates have increased at both ends of the income quintiles, in 2010, compared with six years earlier, those in the lowest income groups were even less likely to have consumed alcohol in pregnancy than those in the highest.\(^{38}\)

\(^{35}\) Bradshaw et al. 2015.
\(^{36}\) Bradshaw et al. 2015.
\(^{37}\) New data published here for the first time.
\(^{38}\) It must be noted that the vast majority of those who did consume alcohol in pregnancy, did so less than once a month and we are not able to use the GUS data to identify whether this was before or after the mother discovered she was pregnant.
PART THREE: REDUCING INEQUALITIES IN OUTCOMES IN THE EARLY YEARS

While it is difficult to counter the very powerful socio-economic influences on children’s lives, GUS has highlighted that there are some factors that seem to promote positive outcomes or build resilience, in the face of socio-economic disadvantage.

• A rich home learning environment can improve cognitive development for all children, regardless of their socio-economic background.

The protective impact of the home learning environment is a recurring theme in the evidence from Growing Up in Scotland.

GUS has repeatedly demonstrated that better cognitive ability is linked to home learning activities: being read to frequently; playing educational games at home (those that involve recognising words, number or shapes); and visiting a range of places/events. GUS has also demonstrated that better cognitive scores are associated with socio-economic advantage. The first set of analysis from GUS that tried to disentangle the impact of socio-economic background and home learning activities used data collected at age three. Using multivariate analysis\(^39\), this revealed that being read to every day at 10 months, being actively involved in daily home learning activities at 22 months and visiting a wide range of places at 22 months were all significantly related to vocabulary ability even after taking account of socio-economic backgrounds. This means that what parents do with their children is important for developing cognitive ability. Furthermore, these last two activity measures were still significant even when the analysis focused only on children from disadvantaged backgrounds, suggesting that all children can benefit from home learning activities regardless of their socio-economic background\(^40\).

Later analysis from GUS focused on factors most strongly related to improvement in cognitive ability. GUS has shown that the biggest gap in cognitive ability in the pre-school years is between children whose parents have the highest and lowest education attainment. GUS therefore used regression analysis to identify which factors (over and above parental educational attainment) are most strongly related to improvement in cognitive development between the ages of 3 and 5. This analysis highlighted the significance of parent-child attachment and home learning activities for all children but particularly so for children whose parents had lower educational qualifications\(^41\).

These findings suggest that home learning activities have a significant impact on cognitive development that can moderate – though by no means eradicate – the effects of socio-economic disadvantage. It is also worth noting that most of these activities have few or no monetary costs. This suggests that policies that encourage active parenting can help promote children’s cognitive development (including that of children from disadvantaged backgrounds).

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39 A technique for testing if there is an independent relationship between two variables (e.g. vocabulary ability and home learning) even after taking account of or ‘controlling for’ other factors (such as parental educational levels).

40 Bromley 2009.

41 Bradshaw 2011.
• High quality early learning and childcare can help to reduce inequalities in cognitive development.

Changes in vocabulary ability in the pre-school years are more strongly related to aspects of the child’s home learning environment than external influences such as early learning and childcare. That said, GUS has shown that early learning and childcare provided to children from the age of around three, does have an impact. High quality pre-school provision is significantly associated with cognitive development in the pre-school years. GUS has found that children who attended providers with a high ‘care and support’ grade as assessed by the Care Inspectorate were more likely to show improvement in vocabulary skills by age five, irrespective of their social background and other pre-school characteristics.

GUS data shows that the vast majority of children (92% of four-year-olds in 2008/09) take up their statutory pre-school entitlement. More recent data from the Early Learning and Childcare Census, suggests that this is now even higher (98.5% for three and four year olds) in 2014. Importantly GUS has also shown that children from more and less deprived areas and from higher and lower income households are equally as likely to take up their entitlement and that children from disadvantaged backgrounds are no less likely, than those from advantaged backgrounds, to attend the highest quality pre-school provision. High quality pre-school provision therefore has the potential to reduce socio-economic inequalities in cognitive development by the start of primary school.

GUS has also explored the relationship between various aspects of non-parental childcare, up to age three, and cognitive development in the pre-school years. Non-parental childcare (including informal as well as formal) of between 17 and 40 hours per week at age three was found to have a significant impact on vocabulary among girls, even after controlling for socio-economic characteristics. What is also reassuring is that the analysis found that the ‘fragmentation’ of childcare typical to many families (defined as exposure to multiple childcare providers, including formal as well as informal), does not have a detrimental impact on cognitive development in the early years.

It is worth noting, however, that analysis from GUS has revealed that 40 hours or more of non-parental childcare per week at age three is detrimental to children’s behavioural outcomes at age five, especially for girls.

42 Bradshaw et al. 2011.
43 Bradshaw et al. 2014.
44 http://www.gov.scot/Topics/Statistics/Browse/Children/Pubs-Pre-SchoolEducation/ELCAAdditionalTables2014 (Table 2)
45 Bradshaw et al. 2014.
46 Bradshaw et al. 2009.
47 Bradshaw et al. 2009.
• Being born to an older mother makes children more resilient to a range of negative outcomes.

GUS has confirmed the significant socio-economic disadvantage faced by younger mothers. Mothers under the age of 24, and particularly under the age of 20, tend to have lower educational qualifications, lower employment levels, lower income, more unstable partner relationships, poorer health behaviours and health outcomes and lower levels of engagement with formal parenting support.\(^{48}\)

GUS has also shown that being born to mothers aged 35 or over makes children living in disadvantaged circumstances more resilient to a range of negative outcomes. The analysis focused specifically on children who came from a deprived area, a low-income household or from a family classified as having a routine or semi-routine occupation, but who were not also from the most advantaged category of any other of these measures. The researchers added up the number of the negative outcomes experienced by these children in the first four years of their lives. This included a mixture of physical health measures as well as cognitive, and social, emotional and behavioural outcomes. Using logistic regression analysis they then explored the correlation between the number of negative outcomes that the children experienced and a range of potential resilience factors. They found that children were less likely to experience negative outcomes if their mother was aged 35 or older at the time of their birth.\(^{49}\)

• Improving the physical and mental health of mothers is likely to have a positive effect on the health and development of their children.

GUS has found that children are less likely to experience negative health and development outcomes by age four if their mother has not experienced a long-term health problem or disability herself since the child’s birth. As above, the analysis focused specifically on children who were born into the most disadvantaged backgrounds and used regression analysis to explore the correlation between the number of negative outcomes that the children experienced and a range of potential resilience factors. Having a physically healthy mother throughout a child’s earliest years was found to be a significant resilience factor.\(^{50}\)

The emotional health of mothers is also important to their children’s development. GUS has shown that children whose mothers were emotionally well during their first four years had better social, emotional and behavioural development than those whose mothers had brief mental health problems, and they in turn, had better development than those whose mothers had repeated mental health problems. These relationships remained significant after taking account of family characteristics and socio-economic factors.\(^{51}\) This relationship between poor maternal physical health and children experiencing social, emotional and behavioural difficulties was also evident at age seven.\(^{52}\)

\(^{48}\) Bradshaw et al. 2014.
\(^{49}\) Bromley et al. 2010.
\(^{50}\) Bromley et al. 2010.
\(^{51}\) Marryat et al. 2010.
\(^{52}\) Parkes et al. 2014.
Understanding the possible causal relationship between maternal mental health and the child’s development is not straightforward. Problems with a child’s social, emotional or behavioural development may be a factor in a parent’s mental health (as well as vice versa). However there is consistent evidence from elsewhere that mothers experiencing depression are less responsive than mentally well mothers to their child’s efforts to engage them and that this affects attachment.

**GUS has also provided other clues about how to support parents and improve outcomes for children.**

- **Supporting parenting skills can help protect against the impact of adversity and disadvantage.**

As we might expect, day-to-day parenting skills are important for health and health behaviours in the early years of children’s lives. GUS data has shown that the risk of poor health and of health risk behaviours (e.g. low physical activity and poor diet) is greatest for children experiencing the lowest level of parenting skills. Low parenting skills are defined as low levels of parent-child connection, low levels of control of the child’s behaviour and high levels of parent-child conflict.

However, GUS data has also shown that good parenting skills can help protect against the impact of adversity and disadvantage. GUS has shown that adversity and disadvantage increase the risk of poor health in childhood but has also demonstrated that good parenting skills can help to reduce this association – and do so quite substantially for: poor general health; social, emotional and behavioural difficulties; limiting long-term illness; and poor dental health\(^{53}\). This suggests that, if the development of parenting skills can be supported, particularly among those in the most disadvantaged circumstances, child outcomes can be improved – even if material circumstances remain unchanged.

- **The role of the health visitor, in providing one-to-one advice and support to parents, should be central in the efforts to tackle inequalities in the early years.**

GUS has revealed that mothers experiencing disadvantage are less likely than their more advantaged peers to attend antenatal classes, parenting classes and parent and baby/toddler groups. GUS has also found that younger parents, lone parents and parents with lower levels of income and education are generally less comfortable engaging with formal support services, more likely to believe that there is a stigma attached to this\(^{54}\) and that parents in lower income groups are less likely to seek help from written sources (books, leaflet and the internet)\(^{55}\).

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\(^{53}\) Parkes et al. 2010.

\(^{54}\) Bradshaw et al. 2013.

\(^{55}\) Research Findings No.3 2008.
Unfortunately, the parents who are most reluctant to engage with formal services are also those in most need of support. GUS has found that ‘reluctant’ service users are not only those whose children have the most challenging experiences and outcomes in the early years\textsuperscript{56} but are also those who express less confidence in themselves as parents\textsuperscript{57}.

With the exception of younger mothers, reluctant service users also tend to have lower levels of informal support from family and friends. Data collected from BC1 at age two revealed that mothers with no qualifications and with lower household incomes had weaker informal support networks\textsuperscript{58}.

However, GUS does provide some insights about how engagement with formal support services might be strengthened. Parents who say they are uncomfortable engaging with formal support services are more likely to say that they dislike the group format in which some of these are delivered and that they would prefer to receive information, advice and support on a one-to-one basis. GUS has also revealed that satisfaction with health visitors is very high – 83% of mothers of children born in 2010/11 stated that their health visitor was very or fairly good at providing helpful advice and 91% stated that they are very or fairly good at listening to them. This is especially true of parents living in the most deprived areas. In the most deprived areas\textsuperscript{59}, 67% of mothers thought their health visitor was very good at listening to them compared with 61% of those in the least deprived areas\textsuperscript{60}.

With this expressed preference for one-to-one support and such a high level of satisfaction with health visitors, the enhanced health visitor service\textsuperscript{61} that is being introduced across Scotland in the near future has the potential to make an important contribution to tackling inequalities in the early years.

- It is important to ensure that messages about positive parenting practices are understood by grandparents as well as parents.

Grandparents play an important role in the lives of children. In the first few years of a child’s life, almost all GUS families (around 95%) receive some type of help or support from the child’s grandparents and many (around a third) were receiving a full range of support including regular childcare, taking the child on outings and providing financial and material support\textsuperscript{62}.

\begin{footnotesize}
\begin{itemize}
\item [56] Bradshaw et al. 2013.
\item [57] Mabelis et al. 2011.
\item [58] Research Findings No. 4 2008.
\item [59] SIMD quintiles.
\item [60] Bradshaw et al. 2013.
\item [61] An increase in the number of health visitor visits from pre-birth to age five.
\end{itemize}
\end{footnotesize}
GUS has also shown that grandparents play a particularly important role in the lives of lone parents and younger mothers – those who face particular challenges and who are less likely to seek advice from formal sources of support. Even up to the age of six, the proportion of grandparents with very frequent ‘hands on’ interaction is higher for children in lower income groups and those born to teenage mothers. For example, at age six, 64% of children whose mothers were under 20 at the time of their birth, stayed overnight with their maternal grandparents at least once a month, compared with 31% of other children.

Comparison across the cohorts has also suggested that the use of grandparents for childcare is increasing – 42% of parents in BC2 were using the child’s grandparents for regular childcare at age three, compared with 38% in BC1.

GUS has suggested that grandparents are playing an increasingly important role in the lives of children, and a role that is particularly important among those for whom outcomes need to improve if we are to tackle inequalities in the early years. It might therefore be worth considering whether messages about positive parenting (such as those included in the ‘Play Talk Read’ and breastfeeding campaigns) should be targeted at grandparents, as well as parents, so that habits and behaviours can be supported and reinforced across the child’s full care environment.

CONCLUSION

This short overview of findings has highlighted that GUS is a valuable resource for measuring inequalities in outcomes and risk behaviours in the early years and how they have changed across time. However, perhaps the most important and unique contribution that a longitudinal study like GUS can make is in identifying how earlier life experiences impact on later outcomes for children and young people. This in turn should provide some important messages about how to reduce inequalities and make Scotland a fairer place to grow up.

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63 Research Findings No. 4 2007.
64 Jamieson et al. 2012.
65 New data published here for the first time.
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