Chapter 4: Child and Maternal Health

Policy Context and Research

The Scottish Government is committed to making Scotland the best place to grow up for all babies, children, mothers, fathers and families and they set up an Early Years Taskforce in 2011 to develop the strategic direction and to link the policy to public sector spending. The Early Years Collaborative (2012) is a quality improvement programme involving all 32 Community Planning Partnerships to improve outcomes for children and families. The National Parenting Strategy acknowledges that parents are ‘the strongest influence on a child’s life’ and key to improving outcomes for children.

The Refreshed Framework for Maternity Care in Scotland outlines the key priorities for maternity care practice around prevention, early intervention and partnership working. The Scottish Government has set a HEAT Target to improve access to maternity services for all pregnant women to ensure that there is a strong focus on early prevention and intervention, health promotion, and support for vulnerable women.

NHS Greater Glasgow and Clyde (NHSGGC) takes into account the national strategies and frameworks in developing both maternity and children’s services through the Healthy Children and the Healthy Mums, Healthy Babies programmes.

The Growing Up in Scotland Study (GUS) is a longitudinal research project tracking families and children across Scotland from early years, childhood, teenage years and beyond. Where relevant, this chapter makes reference to the GUS study as a comparison with local data from NHSGGC.
Pregnancy

During 2012-2013, a total of 17,983 pregnancies and 13,777 live births were recorded on the national Scottish Morbidity Record Maternity Discharge (SMR02) dataset for NHSGGC. The local NHSGGC Pregnancy and Newborn Screening System recorded 14,074 attendances at a first antenatal booking appointment during that year.

Maternal Age at Booking

Within NHSGGC, a higher proportion of affluent women were aged 30 years or more at their booking appointment (48.4%: n = 6,807) and resided in Scottish Index of Multiple Deprivation (SIMD) quintiles 3, 4 and 5 (Figure 4.1). However, for women in the more deprived quintiles (1 and 2), the most common age range at booking was 20-29 years. A social gradient existed with regards young maternal age at booking, with approximately one in ten bookers (9.2%) in the most deprived quintile being aged less than 20 years compared to one in a hundred (0.9%) from the most affluent quintile.

Figure 4.1: Percentage of women within each SIMD Quintile by age group at time of booking (total = 14,074)
(Source: Pregnancy and Newborn Screening (PNBS) (October 2013))
Note: The women represented in this graph were booking with first or subsequent pregnancies. Those included in the >30 years figure may have had previous children when younger.

**Teenage Pregnancy**

NHSGGC reflects a Scottish and UK wide picture of decreasing numbers of teenage pregnancies. In NHSGGC during 2012-2013, 6% (n=834) of women who attended an antenatal booking appointment were under 20 years of age.

Pregnancy and Newborn Screening System figures indicate that Inverclyde had the lowest number of pregnant women of all ages recorded at the first antenatal booking appointment (n=777) compared to other NHSGGC sectors but the highest proportion of teenage mothers within it at 8% (n=65). Glasgow South had the highest number of teenage mothers at booking appointment (n=190).

A social gradient was evident with regard to teenage pregnancy outcome with more than three quarters of teenage pregnancies in the most affluent quintile (76%) resulting in miscarriage or termination compared to just over a third in the most deprived quintile (35%) as can be seen in Table 4.1. The highest proportion of babies born to pregnant women was for SIMD 1 (n=583; 65%) compared to SIMD 5 (n=28; 24%).

Growing Up in Scotland findings suggest that teenage mothers are more likely to smoke and tend to drink less often but consume more units during pregnancy than older mothers. They tend to have lower educational qualifications and lower employment and income levels with implications for child poverty. However, younger mothers that provide protective factors such as a stable environment have similar chances of raising children that have positive outcomes.
Table 4.1: Teenage pregnancy figures - females aged 0-19 at conception
(Source: SMR02 (July 2014))

<table>
<thead>
<tr>
<th>Year (Discharge) 2012-2013</th>
<th>SIMD Quintile 2012</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>NHSGGC</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of known pregnancies</td>
<td>896</td>
<td>261</td>
<td>151</td>
<td>144</td>
<td>118</td>
<td>1,570</td>
</tr>
<tr>
<td>No. of terminations /</td>
<td>313</td>
<td>105</td>
<td>69</td>
<td>79</td>
<td>90</td>
<td>656</td>
</tr>
<tr>
<td>miscarriages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% termination/miscarriage</td>
<td>34.9%</td>
<td>40.2%</td>
<td>45.7%</td>
<td>54.9%</td>
<td>76.3%</td>
<td>41.8%</td>
</tr>
<tr>
<td>No. of deliveries to under</td>
<td>583</td>
<td>156</td>
<td>82</td>
<td>65</td>
<td>28</td>
<td>914</td>
</tr>
<tr>
<td>19s</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teenage Pregnancy: What are we doing?

Pregnant women who are under 20 years of age are eligible for care through the Special Needs in Pregnancy Service (SNIPS) where they receive a range of support and may be eligible for care from the Family Nurse Partnership (FNP). The FNP has been piloted in a number of localities within some Scottish health board areas. Initial findings suggest positive impact and the Scottish Government have agreed to fund a further roll out of the initiative.

As part of the Young Scot report on teenage pregnancy, young women identified childcare as a barrier to returning to school. Smithycroft High School in Glasgow has instituted dedicated on-site nursery provision to encourage local teenage mothers back into education.

A Scottish Government consultation on pregnancy and parenthood in young people is currently active in Scotland. This is designed to inform a national strategy to increase choices and support potential in young people.

Chapter 4: Child and Maternal Health
Ancestry of Pregnant Women

In the year 2012-2013, the origin of expectant mothers in NHSGGC was gathered for 93% of women who attended a booking appointment (n=13,071) as shown in Figure 4.2.

The vast majority of expectant mothers were noted as white: British (79%, n=10,326) with approximately 8% (n = 1,032) being of Indian, Pakistani or Bangladeshi origin and a further 4% (n=547) of Mediterranean/Eastern European origin.

The lowest number of women were of North African, South American, Middle Eastern or any other non-European origin (n=205).

Figure 4.2: Ancestry of pregnant women (total = 13,071)
(Source: Family Origin Questionnaire (2013))

The majority of pregnant women were of UK origin (n=10,326; 79%) and of these 42% (n=4342) were from SIMD 1 and 1623 (16%) from SIMD 5 (Figure 4.3).
The distribution across SIMD quintiles was more evenly spread for women of Indian, Pakistani or Bangladeshi or ‘other European’ origin, than all other groups including white British. Women of Afro Caribbean origin were more likely to live in the most deprived SIMD quintiles.

**Figure 4.3: Percentage of women within each ethnic group by SIMD quintile**
(Source: Family Origin Questionnaire (2013))
Pregnancy Screening

The NHSGGC pregnancy screening programme offers a number of tests during pregnancy and childhood. This enables abnormalities to be identified and pregnant women and children supported within defined services.

Screening can identify parents at risk of having a child with haemoglobinopathy and during 2012-2013 the uptake was 93%. The blood test screens women for sickle cell, thalassaemia and other haemoglobin variants.

Testing is also offered to all pregnant women for HIV, hepatitis B, syphilis infection and immunity to rubella. The uptake for these tests was greater than 99% in 2012-2013.

Screening for Down’s syndrome uses two methods based on gestational age using blood test and ultrasound to derive an overall risk of a baby with Down’s syndrome. Thirty eight percent of samples (n=3,765) were taken in the first trimester and 62% (n=6,146) in the second trimester. A total of 43 cases of Down’s syndrome were reported for 2011-2012 and of these 60% (n=26) were live born, 30% terminated (n=13), 7% spontaneously aborted (n=3) and 2% were stillborn (n=1).

Of the 10,847 fetal anomaly scans performed, 149 anomalies were identified and of these 44 were considered to be of clinical relevance at birth.

Obesity in Pregnancy

The levels of obesity in Scotland continue to rise. According to the Scottish Health Survey in 2012, nearly two thirds (64.3%) of adults were overweight or obese and just over a quarter (27.1%) of the overall population were obese. The rise of obesity in the general population is mirrored in the pregnant population with an increasing number of women being overweight or obese at the start of pregnancy.11
Being overweight or obese during pregnancy increases the risk of maternal morbidity and mortality attributed to pregnancy-related complications and also poses risks for the baby.\(^\text{12}\)

Table 4.2 shows that in NHSGGC 28\% of all pregnant women were overweight and 20\% of all women were obese, including severely obese, at booking for the year 2012-2013. Weight ranges are based on BMI as follows: BMI $<18.5$=underweight; $\geq 18.5 < 25$=normal; $\geq 25 < 30$=overweight; $\geq 30 < 35$=obese; $\geq 35$=severely obese.

**Table 4.2: Overweight category at booking appointment by Health and Social Care Partnership (HSCP)**
(Source: PNBS (December 2013))

<table>
<thead>
<tr>
<th>HSCP</th>
<th>No. overweight at booking</th>
<th>% overweight</th>
<th>No. obese and severely obese</th>
<th>% obese or severely obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Dunbartonshire</td>
<td>287</td>
<td>29%</td>
<td>161</td>
<td>17%</td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td>220</td>
<td>25%</td>
<td>136</td>
<td>16%</td>
</tr>
<tr>
<td>Glasgow North East</td>
<td>592</td>
<td>27%</td>
<td>442</td>
<td>20%</td>
</tr>
<tr>
<td>Glasgow North West</td>
<td>641</td>
<td>27%</td>
<td>444</td>
<td>19%</td>
</tr>
<tr>
<td>Glasgow South</td>
<td>877</td>
<td>29%</td>
<td>604</td>
<td>20%</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>233</td>
<td>30%</td>
<td>198</td>
<td>25%</td>
</tr>
<tr>
<td>Renfrewshire</td>
<td>573</td>
<td>30%</td>
<td>411</td>
<td>21%</td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td>296</td>
<td>29%</td>
<td>257</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>3,719</td>
<td>28%</td>
<td>2,653</td>
<td>20%</td>
</tr>
</tbody>
</table>
Gestational Diabetes

Women who are overweight in pregnancy are at increased risk of gestational diabetes.

There has been a more than a fourfold increase in the number of women diagnosed with gestational diabetes in NHSGGC between 2009 (73) and 2012 (338) as shown in Figure 4.4. Gestational diabetes affects up to 5% of all pregnancies.\textsuperscript{13} The lifetime risk of developing Type 2 diabetes after gestational diabetes is at least 7%.

Figure 4.4: Gestational diabetes in NHSGGC from 1997-2012
(Source: NHSGGC Hospitals Maternity Admission SMR02, SCI-DC (June 2013))

Due to the higher risks of developing complications, the cost of obesity in pregnancy places a substantial financial burden on the NHS. Obese women stay on average nearly five days longer in hospital than women in the healthy BMI category and their care cost is estimated at five times higher.\textsuperscript{14} The costs associated with newborns are also increased as babies born to obese mothers have a three and a half-fold increased risk of admission to the neonatal intensive care unit.\textsuperscript{15}
Pregnant women are often unaware of how obesity complicates pregnancy for both mother and baby and there is a need for interventions to prevent or manage these complications effectively.\textsuperscript{16} In addition, healthcare professionals further face difficulties when managing the care of women in pregnancy as obesity is often perceived as an emotive and stigmatising topic.

Women identified as at risk of gestational diabetes are routinely referred to specialist diabetic services. This pathway varies across NHSGGC and is currently being revised to ensure a more equitable standard for all women. It will include additional glucose testing and scans to ensure that women with diabetes in pregnancy are identified early and directed to the most appropriate and effective care.

**Obesity in Pregnancy: What are we doing?**

Women in the Clyde area who have a BMI $>35$ at their booking appointment are offered an opportunity to engage with one to one dietician sessions, the Live Active exercise referral scheme and prenatal physiotherapy classes. This pathway began as a pilot in November 2014 and by the end June 2015, 112 women, representing almost half of those with a BMI $>35$, had been referred by midwives. Of these referrals, 35 women have successfully engaged with services. A total of 59 patients were referred to dietetic and Live Active services respectively and 23 to Physiotherapy. The Live Active service is now available to all pregnant women across NHSGGC.

**Smoking in Pregnancy**

The Growing Up in Scotland Study reported that 27\% of their sample smoked during pregnancy with younger women from more deprived areas and those with lower educational qualifications more likely to do so. Only 8\% of mothers from the more affluent household smoked compared to 49\% from the lowest income group.\textsuperscript{17}
During 2012-2013, within NHSGGC, 12,214 (93%) of women agreed to carbon monoxide (CO) breath testing and had their smoking status recorded at the antenatal booking visit. Of those, the highest proportion of active smokers was in Inverclyde (25%: n=184) with the lowest proportion in East Renfrewshire (8%: n=63) as shown in Figures 4.5 and 4.6. At booking, the prevalence of self-reported smoking in NHSGGC was lower than that in the GUS study. The highest numbers of smokers were in the 20-24 and 25-29 years age ranges (27%: n=637 and 16%: n=574 respectively) but the highest rate was for those under 20 years old (34%: n=264).

**Figure 4.5: Active Smokers: proportion by sector (data provided for 2,022 women)**

(Source: NHSGGC Residents: First Antenatal Appointment 1st April 2012-31st March 2013: CO Testing Consented Smoking Status by HSCP and SIMD Quintile (2012))
In NHSGGC there was a marked social gradient with women in the most deprived group being most likely to describe themselves as smoking: 27% (n=1,467) of those reported within SIMD 1. Those in the more affluent group were least likely to smoke: 3% (n=58) of those reported within SIMD 5.

**Smoking in Pregnancy: What are we doing?**

The specialist Smokefree Pregnancy Service (SPS) supports a number of women to quit during pregnancy each year. The service offers a one-to-one appointment with follow-up telephone support to four weeks post cessation. Referrals and engagement have been supported by universal carbon monoxide testing at booking and automatic referral of women who smoke to the SPS but currently only just over a third of those eligible attend an appointment.
Whilst partners may also attend this service, it appears few currently do and it is likely we are missing the chance to support them to quit at time of change and increased motivation in their lives.

**Birth Outcomes**

During 2012-2013 there were 13,777 live births (77%); 52 stillbirths (0.2%) and 4,154 losses before 24 weeks of gestation (23%) recorded in NHSGGC. The distribution of still births shows only minimal difference across SIMD quintiles. There was a small increase in pregnancy losses among those in areas of higher deprivation (quintiles 1 and 2).

Compared to vaginal birth, delivery by caesarean section (C-section) is accompanied by risks including an increased chance of admission to an intensive care unit (ICU). Since 2010, the NHSGGC figure for caesarean figure has remained consistently above 30%. In 2012-2013 the figure for all caesarean sections was 32% (n=4,403), 46% of which were elective. This placed NHSGGC among the highest figures in the UK. Rates varied with maternal age, the highest numbers, were recorded for women aged over 40 years (55%: n=2,417), and those aged 30-39 years (38%: n=1,660). Only in the most affluent areas (SIMD 5), was elective higher than emergency caesarean.

Previous history of having a caesarean delivery is still a reason for caesarean in some cases. However, a recent literature review suggests that it is safe for most women to have a vaginal birth after a previous caesarean section (VBAC) in around 70% of cases. Advice from health professionals influences women’s beliefs on this issue and their decision to opt for caesarean. There is potential to influence women in this decision by full discussion at an early stage.
Pre-term Delivery

The definition of a 'premature' or 'preterm' baby is one that is born before 37 weeks. There are different levels of prematurity, each carrying their own risks. Very premature babies, born before week 26, are at greatest risk and have a stronger association with infant mortality or neuro-disability. A baby born at 37 weeks or more is known as a 'term' baby.

In 2012-2013 the number of premature births in NHSGGC was 833 (6%). Renfrewshire had a slightly higher proportion of births at less than 37 weeks. A social gradient can be seen with 7% premature babies born to women resident in SIMD 1 areas falling to 5% to women from SIMD 5.

Birth Weight

Low birth weight is associated with reporting of poor health and is a risk factor for having a long-term condition or illness that has been present since birth (or expected to last for more than one year). It is defined as being below 2.5kg (five and a half pounds). In 2012-2013, 765 (6%) of births to NHSGGC residents were of low birth weight.

The highest proportion of low weight babies (7%: n=121) were born to mothers in Renfrewshire and the lowest proportion (3%: n=29) in East Dunbartonshire. While a social gradient was evident, the incremental differences between quintiles were small. There was 7% (n=402) low birth babies born in the most deprived quintile compared to 4% (n=71) in the most affluent quintile across NHSGGC.

Large babies (classified as those weighing 4 kg or more) can be a consequence of gestational diabetes. The factors that influence infant growth are many and varied but some research suggests that birth weight and infant growth in the first two years can be factors in risk for later child obesity. In 2012-2013, 13% (n=1,725 babies) were in the large baby category. Of those babies, 12% (n=681) were from the most deprived quintile and 15% (n=270) from the least deprived.
Child Health

Within NHSGGC, approximately one fifth (22%) of the population is under 20 years of age (n=265,892) and of those, 78% (n =206,431) are between 0-15 years old as can be seen in Table 4.3. East Renfrewshire has the highest proportion of children and young people aged 0-19 years (25%, n =22,242) whilst Glasgow North West sector has the lowest (19%, n =38,214).

Table 4.3: NHSGGC Population by Selected Age Groups 0-19 Years and HSCP, 2012
(Source: Small Area Population Estimates (2012))

<table>
<thead>
<tr>
<th>HSCP</th>
<th>Total population</th>
<th>0-15</th>
<th>%</th>
<th>16-19</th>
<th>%</th>
<th>0-19</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Dunbartonshire</td>
<td>105,880</td>
<td>18,486</td>
<td>17.5</td>
<td>5,459</td>
<td>5.2</td>
<td>23,945</td>
<td>22.6</td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td>89,145</td>
<td>17,494</td>
<td>19.6</td>
<td>4,748</td>
<td>5.3</td>
<td>22,242</td>
<td>25.0</td>
</tr>
<tr>
<td>Glasgow North East</td>
<td>177,489</td>
<td>29,099</td>
<td>16.4</td>
<td>9,643</td>
<td>5.4</td>
<td>38,742</td>
<td>21.8</td>
</tr>
<tr>
<td>Glasgow North West</td>
<td>197,375</td>
<td>28,633</td>
<td>14.5</td>
<td>9,581</td>
<td>4.9</td>
<td>38,214</td>
<td>19.4</td>
</tr>
<tr>
<td>Glasgow South</td>
<td>220,216</td>
<td>38,531</td>
<td>17.5</td>
<td>9,791</td>
<td>4.4</td>
<td>48,322</td>
<td>21.9</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>80,680</td>
<td>13,403</td>
<td>16.6</td>
<td>3,914</td>
<td>4.9</td>
<td>17,317</td>
<td>21.5</td>
</tr>
<tr>
<td>North Lanarkshire</td>
<td>20,052</td>
<td>4,046</td>
<td>20.2</td>
<td>893</td>
<td>4.5</td>
<td>4,939</td>
<td>24.6</td>
</tr>
<tr>
<td>Renfrewshire</td>
<td>174,310</td>
<td>30,400</td>
<td>17.4</td>
<td>8,324</td>
<td>4.8</td>
<td>38,724</td>
<td>22.2</td>
</tr>
<tr>
<td>South Lanarkshire</td>
<td>58,486</td>
<td>10,426</td>
<td>17.8</td>
<td>2,614</td>
<td>4.5</td>
<td>13,040</td>
<td>22.3</td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td>90,340</td>
<td>15,913</td>
<td>17.6</td>
<td>4,494</td>
<td>5.0</td>
<td>20,407</td>
<td>22.6</td>
</tr>
<tr>
<td>Glasgow City</td>
<td>595,080</td>
<td>96,263</td>
<td>16.2</td>
<td>29,015</td>
<td>4.9</td>
<td>125,278</td>
<td>21.1</td>
</tr>
<tr>
<td>NHSGGC</td>
<td>1,213,973</td>
<td>206,43</td>
<td>17.0</td>
<td>59,461</td>
<td>4.9</td>
<td>265,892</td>
<td>21.9</td>
</tr>
</tbody>
</table>
Within each SIMD quintile the proportion of children aged 0-19 is relatively constant. However, approximately twice as many children live in the most deprived quintile than in any one other (Figures 4.7 and 4.8).

**Figure 4.7: NHSGGC Child Population, 0-4yrs, by SIMD Quintile**
(Source: Small Area Population Estimates (2012))
Infant Feeding

Growing Up in Scotland reported a drop off rate of 42% (63%) from those who initiated breastfeeding. Breastfeeding exclusively beyond six weeks is strongly associated with a range of factors including higher educational qualifications, couple parenthood, minority ethnic group, lower deprivation and maternal age of 20 years or older.\textsuperscript{18} It is also associated with better health outcomes for both babies and mums including reduced hospitalisation in childhood.\textsuperscript{19}

During 2012-2013, the exclusive breastfeeding rate at birth ranged from 36% in Glasgow North East to 60% in East Renfrewshire as seen in Table 4.4. By the time of discharge from hospital, the rate dropped across most localities, with the largest drop off in Renfrewshire (15%). Overall, the average rate across NHSGGC at birth for exclusive breastfeeding was 47% and this dropped to 23% at the 6-8 weeks child health review.
Table 4.4: Breastfeeding by HSCP  
(Source: Child Health Surveillance Programme – ATOS origin (August 2014))

<table>
<thead>
<tr>
<th>HSCP</th>
<th>Breast feeding - exclusive at birth</th>
<th>Breast feeding exclusive at discharge</th>
<th>Breast feeding exclusive - HV 1st Visit</th>
<th>Breast feeding exclusive - 6-8 weeks</th>
<th>Breast feeding - breast and mixed - 6-8 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>North East Glasgow</td>
<td>36.0%</td>
<td>26.1%</td>
<td>21.3%</td>
<td>15.5%</td>
<td>26.2%</td>
</tr>
<tr>
<td>North West Glasgow</td>
<td>51.4%</td>
<td>42.2%</td>
<td>36.2%</td>
<td>29.6%</td>
<td>44.1%</td>
</tr>
<tr>
<td>South Glasgow</td>
<td>51.3%</td>
<td>38.7%</td>
<td>33.6%</td>
<td>26.8%</td>
<td>40.1%</td>
</tr>
<tr>
<td>Glasgow City</td>
<td>46.8%</td>
<td>36.1%</td>
<td>30.8%</td>
<td>24.4%</td>
<td>37.3%</td>
</tr>
<tr>
<td>East Dunbartonshire</td>
<td>58.4%</td>
<td>47.6%</td>
<td>39.9%</td>
<td>31.6%</td>
<td>43.8%</td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td>60.2%</td>
<td>47.5%</td>
<td>42.0%</td>
<td>32.9%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>36.8%</td>
<td>25.4%</td>
<td>18.7%</td>
<td>12.8%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Renfrewshire</td>
<td>47.1%</td>
<td>32.5%</td>
<td>23.9%</td>
<td>19.1%</td>
<td>28.0%</td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td>39.0%</td>
<td>28.4%</td>
<td>20.9%</td>
<td>14.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>NHSGGC</td>
<td>47.4%</td>
<td>35.8%</td>
<td>29.6%</td>
<td>22.9%</td>
<td>33.8%</td>
</tr>
</tbody>
</table>

Infant Feeding: What are we doing?

A Maternal and Infant Nutrition Framework group oversees the implementation of breastfeeding initiatives in NHSGGC. To help increase initiation and sustained breastfeeding, this group funded a support project in the Southern General (Maternity) Hospital in 2012-2013. Women were provided with dedicated breastfeeding advice and information in the antenatal period with ongoing support on entry to the postnatal wards after birth and throughout their hospital stay. The impact of the project was found to be minimal.

Various evidence based approaches have been adopted in recent years but no consistent significant improvement in breastfeeding rates has been seen. To aid investigation of drop off in breastfeeding rates from birth to hospital discharge, a review of the questions asked and recorded in Pregnancy and Newborn Bloodspot Screening (PNBS) is currently in progress.
Childhood Screening

Newborn bloodspot screening can identify cases of abnormality which can lead to problems with growth and development. 13,680 babies (98%) were screened for phenylketonuria; congenital hypothyroidism; cystic fibrosis; sickle cell haemoglobinopathy and medium chain acyl-CoA hydogenase deficiency. The results showed eight babies with congenital hypothyroidism, five with cystic fibrosis, four positive for sickle cell and 88 babies identified as potential carriers for haemoglobinopathies.

Newborn hearing screening is designed to identify children with profound hearing loss. The uptake for screening was 14,475 (97%) in 2012-2013 and of these 31 babies (0.2%) were confirmed with a hearing loss.

Assessment at 27-30 months

In July 2013, NHSGGC began to deliver a new national universal child health assessment. The aim of the assessment was to establish health visitor contact with all children aged 27-30 months and to assess achievement on nine developmental outcomes. In line with national guidance, there was a focus on behaviour and language and communication.

Uptake was high with approximately 88% of children receiving an assessment. Using a standard assessment tool to support health visitor judgement, approximately one in ten children were found to have a likely behavioural problem.\(^{20}\) Being able to say 32 words from a given list was set as a threshold for children in relation to language skills: 23% could say less than 32 words.\(^{21}\) One in 20 children lacked comprehension or stammered or stuttered over words. For children that require additional support following the assessment; pathways have been developed into parenting interventions, communication support and in some cases request for an early nursery place. A full report of the assessment findings for NHSGGC is available.
Heights and Weights of Primary School Children

The Growing Up in Scotland Study states that at age six years, 22% of children were overweight or obese. However, half of children who had been obese at age four were no longer obese but most were overweight by age six.\textsuperscript{22}

Heights and weights are collected with parental consent at entry to primary school, between age four and five years of age. Overall the highest proportion of primary school entrants being overweight was in Inverclyde (13\%: n=108) and the lowest level in Glasgow South (10\%: n=229). The highest proportion of obesity was in Glasgow North East (12\%: n=198) and the lowest in East Dunbartonshire (7\%: n=63).

Children Living in Poverty

Childhood poverty is measured as the proportion of children living in families in receipt of out-of-work (means-tested) benefits or in receipt of tax credits where their reported income is less than 60\% of the UK median income. Childhood poverty can influence adult and health outcomes such as obesity and unintentional injuries. It can also have an impact on social, emotional and behavioural difficulties.\textsuperscript{23} In 2012, NHSGGC had the highest proportion of children living in poverty across all Scottish health boards (approximately 20\%). The overall proportion in Glasgow City (26\%) was considerably above the Scottish average (15\%): broken down by smaller areas, North Barlanark, Easterhouse and South Glasgow had the highest proportion of children living in poverty in Scotland at 55\% in each case.\textsuperscript{24}

The number of children taking free school meals has been used as a proxy measure for family poverty. This is now a less reliable measure because of policy changes which make free meals available to all school children in Primary 1-3. However this measure still provides an indication across the school population as can be seen in Figure 4.9.
Child Poverty: What are we doing?

In response to such figures, in 2014 one local authority area within NHSGGC established a group to investigate child poverty in their area. In doing so, Renfrewshire’s Tackling Poverty Commission became the first of its kind in Scotland. The Commission’s report (2015) urges the UK to rethink its benefit reforms and sets out 24 recommendations aimed at lifting families ‘off the breadline’. The report highlights the role of primary health care as ‘a gateway from which services can be accessed’ and cites the success of co-located health and financial advice services in projects such as Healthier, Wealthier Children which ‘link financial advice with health visiting for new mothers’. A similar financial inclusion project was established to serve families of children attending the children’s hospital. A recent evaluation showed this to be valued by staff and users with key positive factor being its location.
within the hospital and the quality of advice that is tailored to suit families caring for sick children.

**Looked After Children**

Within the board area, the highest number of looked after children (LAC) and young people was in Glasgow City (68%, \(n=3,674\)) and the lowest in East Dunbartonshire (3%, \(n=154\)) (Table 4.5). Irrespective of local authority area, there are higher proportion of males looked after when compared with females. West Dunbartonshire and Inverclyde have the highest proportion of looked after children under 5 years of age (25%).

**Table 4.5: Children looked after by local authority, gender and age group, July 2013**
*(Source: Scottish Government, Children’s Social Work Statistics (2012-2013))*

<table>
<thead>
<tr>
<th>Local authority area</th>
<th>Gender of looked after children</th>
<th>Children under 5</th>
<th>Children 16 or Over</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
</tr>
<tr>
<td>East Dunbartonshire</td>
<td>90</td>
<td>64</td>
<td>154</td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td>101</td>
<td>86</td>
<td>187</td>
</tr>
<tr>
<td>Glasgow City</td>
<td>1,932</td>
<td>1,742</td>
<td>3,674</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>148</td>
<td>128</td>
<td>276</td>
</tr>
<tr>
<td>Renfrewshire</td>
<td>404</td>
<td>375</td>
<td>779</td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td>188</td>
<td>166</td>
<td>354</td>
</tr>
<tr>
<td>NHSGGC</td>
<td>2,863</td>
<td>2,561</td>
<td>5,424</td>
</tr>
</tbody>
</table>

When these figures are expressed as percentages of the 0-17 year old population of looked after children in NHSGGC, the rate for Glasgow City was 3% followed by 2% for Renfrewshire. Glasgow City also had the highest number of looked after children from an ethnic minority group (6%, \(n=220\)) and Inverclyde had the highest percentage of children with additional support needs (23%, \(n=63\)).
In the Scottish Government Report looked after children tend to have lower levels of educational attainment than non-looked after children for the academic year 2012-2013. Of the LAC, 85% left school aged 16 or under compared to 30% of all school leavers and scored 86 in the average tariff score compared to 407 for other children. They were also more like to be excluded from school: 209 per 1000 compared to 33 per 1000 of all school leavers.

**Unintentional Injury**

Growing Up in Scotland reported that children living in deprived areas were more likely than those living in more affluent areas to experience two or more accidents requiring treatment during their first four years. Twenty six percent of those living in the most deprived areas of Scotland experienced an accident, compared with 17% in the least deprived areas.

Preventing injury is an important priority as it is a major cause of illness, hospital attendance and admission in children. Unintentional injury resulted in 2,088 hospital admissions for children and young people aged 0-14, resident in NHSGGC during 2012-2013. The largest grouping were ‘home’ injuries, 805 (39%), followed by ‘unknown’, 773 (35%), then ‘other’, 340 (16%) and lastly injuries due to Road Traffic Accidents, 170 (8%).

**Unintentional Injury: What are we doing?**

Each year the A&E department at Yorkhill treats approximately 450 children for burn or scald injuries. In June 2014 the STOP burns and scalds public health campaign was instigated in NHSGGC to provide parents with vital advice on effective first aid should their child sustain a burn or scald.
During 2010-2011, the Royal Hospital for Sick Children at Yorkhill A&E treated 18 children as a result of a liquitab ingestion and nine children had to be admitted for treatment. In a bid to tackle this, NHSGGC launched the awareness campaign ‘Liquitabs: Not for play…keep them away’ in August 2013 and offered cupboard catch packs to families. Since the campaign there has been only one reported admission of a child due to ingesting a liquitab within NHSGGC (correct at August 2015).

**Dental extraction admissions**

NHSGGC figures for dental extraction admissions have been analysed in 3-year rolling periods starting from 2001-2004 until 2011-2014. Over this period there has been a consistent decline in dental extractions in the 0-4yrs group, from 41 to 18 per 1,000 across NHSGGC and a clear social gradient showing lower levels of admissions for children resident in the most affluent areas.

**Figure 4.10: Dental extraction admission rate per 1,000 population: 0-4yrs age group**
(Source: NHSGGC Residents dental extraction admission rate per 100 population by SIMD Quintile 2012 by rolling three year. SMR01 (October 2015))
Among the 5-9yrs group, the decline is less consistent and less marked. Across most SIMD areas there was a temporary rise in admissions for this age group in the period 2003-2007. A social gradient is also evident in this age group.

**Figure 4.11: Dental Extraction Admission Rate per 1,000 population: 5-9yrs age group**

(Source: NHSGGC Residents dental extraction admission rate per 100 population by SIMD Quintile 2012 by rolling three year. SMR01 (October 2015))

Looking at localities, there has been a steady and considerable downward trend in dental extraction admissions across NHSGGC among children aged 0-4 years old. This decline is less steep for 5-9 year olds. In Inverclyde between the periods 2001-2004 and 2011-2014, the figure rose from 33 to 46 per 1,000 for children aged 5-9 years old between the periods 2001-2004 and 2011-2014. All other areas showed an overall decline.

As part of the national Childsmile programme every child is provided with a Dental Pack containing a toothbrush and a tube of 1000ppm fluoride toothpaste on at least six occasions by the age of 5. Children attending nursery have daily toothbrushing time supervised by nursery staff who receive Childsmile training.
The Childsmile programme was first piloted in some areas, including NHSGGC and Clyde in 2008 with a full rollout in 2011. Since October 2011, it has been integrated into the Statement of Dental Remuneration (SDR) and all practices delivering NHS care to children are expected to deliver Childsmile interventions.
Summary points

- 17% of women are smokers at booking. Of these, 68% of the smokers live in the most deprived area and 3% in the least deprived areas.

- 28% of women are overweight at booking and 20% are obese or severely obese. Being overweight or obese increases the mother’s risk of gestational diabetes and increases the risk of complications for mother and baby.

- Overall across NHSGGC, breastfeeding rates fall sharply between day 1 and 6 weeks from 47% to 23%. The rates are higher in affluent areas but still fall steeply as in other areas by 6 weeks.

- 1 in 5 of all children in NHSGGC lives in poverty. It is 1 in 4 in Glasgow City and more than half of the children in some areas of the city. Childhood poverty can impact on social, emotional, behavioural difficulties and is linked to poor adult health.
References: Child and Maternal Health

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5. The Scottish Government, A Refreshed Framework for Maternity Care in Scotland, Part 5. February 2011. Available at:


20. NHSGGC health visitors used the Strengths and Difficulties Questionnaire (SDQ) to support their judgement in identifying likely behavioural problems.

21. The Sure Start Language Measure –Revised (SSLM-R) was used as the assessment tool to support health visitor judgement in relation to language & communication.


25. ‘As schools and colleges in Scotland offer different types of qualifications which are not directly comparable, a system of Tariff Scores is used to measure attainment. Each grade in each type of qualification is assigned a number of points – from 120 points for a grade A at an Advanced Higher, to 1 point for an Access 2 unit. The tariff score for a young person is the sum of points for each of the qualifications they hold. The higher the tariff score, the higher the overall level of qualification.’ (p.5) Scottish Government. Education outcomes for Scotland’s looked after 2012-2013. June 2104. Available at: http://www.gov.scot/Resource/0045/00453088.pdf [Accessed 25 September 2015]

Acknowledgements:

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<thead>
<tr>
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<th>Position</th>
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<td>Paul Burton</td>
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