



Children's Health in Northern Ireland

**A statistical profile of births using data drawn from the
Northern Ireland Child Health System,
Northern Ireland Maternity System and
Northern Ireland Statistics and Research Agency**

**Public Health Intelligence Unit
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Executive Summary

- There were 24,158 registered births to Northern Ireland residents in 2016 with a birth rate of 12.9 per thousand (2015=13.1, 2014=13.3, 2013=13.3). [Page 11] The live birth rate (crude) (12.9) is the highest across the four UK countries, but is lower than the equivalent rate for Republic of Ireland (2016=13.7). [Page 10] There were 82 registered still births to Northern Ireland residents in 2016. [Page 11]
- The number of births in Northern Ireland to non-NI resident mothers continued to decrease. In 2016, there were 186 such births – the lowest number in the last ten years. [Page 11]
- In the next twenty years, the number of registered resident births in Northern Ireland is projected to decrease from 24,158 in 2016 to 22,691 in 2036 (-6.1%). The Western Trust area is projected to have the largest decrease (-12.6%), with the Southern Trust showing an increase (+4.1%). All other Trusts are expected to show a decrease in the next twenty years (BHSCT = -8.0%, NHSCT = -10.6%, SEHSCT = -5.0%). [Page 14]
- Of the four regions of the United Kingdom, Northern Ireland had the highest total period fertility rate (1.95 in 2016). Scotland had the lowest at 1.52. [Page 15]
- The number of births to teenage mothers has shown substantial reductions between 2010/11 and 2014/15, however in the last few years there have been small increases. In 2016/17, there were 760 infants born to mothers aged less than twenty years (2015/16 = 720, 2014/15 = 712). [Page 21]
- In 2016/17, over 93% of births are less than 15 weeks gestation at the time of booking. [Page 35] There were 364 (1.5%) infants born to women who were estimated to be 28 weeks or more gestation at booking. This proportion has been falling year on year since 2011/12. [Page 35]
- Over the last six years there has been little variation in the proportion of infants born pre-term (<37 weeks gestation). (2016/17 = 7.9%). [Page 38] The figures differ considerably by type of birth: 7.7% of live births, 57.6% of still births. The same can be seen for multiple births (62.4%) compared to singleton births (6.2%). [Page 39]
- In 2016/17, 13.3% of mothers smoked (2010/11 = 15.5%) and 7.6% of mothers had diabetes (2010/11 = 1.8%). [Page 43]
- In 2016/17, over half (52.2%) of all mothers at the time of booking, are considered pre-obese or obese. [Page 51]
- In 2016/17, 30.5% of infants were delivered by Caesarian section. [Page 55]
- In 2016/17, 6.2% of all births were measured as low birth weight i.e. less than 2,500g (6.0% of live and 55.2% of still births). 13.6% of live infants were born with a higher birth weight of 4,000g+ and 2.0% with a birth weight of 4,500g+. [Page 60]
- In 2016/17, almost 47% of live infants were breastfed (total/partial feeding) at discharge. [Page 69]. Of mothers who delivered in 2015/16, the proportion breastfeeding gradually decreased with time e.g. only 8.1% of mothers were still breastfeeding 12 months after the baby was born. [Page 74].
- Of those children measured in Primary 1 in 2016/17, 21.1% were considered overweight or obese, a slight decrease on the previous year. [Page 77]. The equivalent figure for children in Year 8 was 28.5%. [Page 81]

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Introduction

The **Child Health System (CHS)** is a patient centred community based operational system comprising seven modules:

- Module 1 – Child Register
- Module 2 – Preschool Vaccination and Immunisation
- Module 3 – Preschool Developmental Surveillance
- Module 4 – School Health
- Module 5 – Special Needs
- Module 6 – New-born Hearing
- Module 7 – Influenza

This report draws on the information in Modules 1 and 4 and is supplemented with information from the Registrar General's birth registrations and Northern Ireland Maternity System (NIMATS) to provide a statistical profile.

The **General Register Office for Northern Ireland (GRONI)** is the part of the Northern Ireland Statistics and Research Agency (NISRA) that administers civil registration e.g. the registration of births, deaths, marriages through District Registration Offices. The Registrar General has additional statutory duties relating to the production and publication of vital statistics. Demography and Methodology Branch within NISRA manage these duties in partnership with GRONI.

(Source: Registrar General Northern Ireland Annual Report 2011)

The **Northern Ireland Maternity System (NIMATs)** contains a range of demographic and clinical information on mothers and infants. It captures data relating to the current complete maternity process, but also contains details about the mother's past medical and obstetric history. It is a key source for data on birth numbers, interventions, maternal risk factors, birth weights, maternal smoking, BMI and breastfeeding on discharge. NIMATs is available in all five Trust areas and is available through the data warehouse. As a result of ongoing work, data coverage and completeness on NIMATs has improved in recent years.

Note:

1. Births are presented using all of the above sources, and therefore may not agree. For example, births provided by NISRA are based on the number of births registered with a District Registrar in any year. It is likely that some births occurring in a year may not be registered until the following year and therefore the reason for any differences.
2. In November 2017, NISRA released updated Northern Ireland Multiple Deprivation Measures (NIMDM 2017). Data presented by deprivation quintile is now shown using the previous deprivation measures (NIMDM 2010) and NIMDM 2017.

Further information: <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

“State of Child Health” Report, 2017

This report, published in February 2017, by the Royal College of Paediatrics and Child Health¹, aims to provide an insight into the state of child health across the United Kingdom. Although the health and wellbeing of children has improved over the last century, there are still improvements to be made. The report suggests a number of recommendations, which if implemented, could improve child wellbeing and reduce health inequalities.

The report was used also as a means of trying to standardise data on children’s health across the UK, to develop an indicator framework, to be used as a tool to further improve outcomes for children.

The report provides a snapshot of the health of infants, children and young people across the four countries of the UK. However, for some areas of children’s health, it was not possible to include all indicators, as data was not available or considered comparable for all four nations.

The following provides a brief summary of the key messages contained in the report, as it relates to Northern Ireland.

Mortality

Infant mortality (under one year old):

- Although infant mortality is falling, figures for 2014 show that NI had the highest mortality rate (4.8 per 1,000 live births) of the four UK nations. UK rate = 3.9, England and Wales = 3.9, Scotland = 3.6.
- Though rates have fluctuated in recent years, the neonatal mortality rate (deaths in the first four weeks of life) for NI is higher when compared to other UK countries.

Mortality in children (10 – 19 years):

- Mortality in children of this age group is higher in NI compared to other UK countries. In 2014, the rate in NI was 26.2, compared to 17.3 in UK. However the rate has been falling in recent years.
(It should be noted that childhood deaths in Northern Ireland may be more subject to variation due to small numbers)

Conception, pregnancy and infancy

Breastfeeding

- Data for 2014/15 shows that NI has the lowest level of breastfeeding (at 6-8 week review) when compared to other UK nations (where data was available). 31% of mothers in NI were breastfeeding at this stage, compared to 38% in Scotland and 44% in England.

Immunisation

- NI has higher levels of uptake when compared to the rest of the UK, especially relating to the 5-in-1 vaccination². There are some differences in how the data is reported e.g. some countries have provided financial year, others have provided calendar year. However, looking at the data shown, the NI uptake was 97.3% (compared to 93.6% in England, 96.6% in Wales and 97.2% in Scotland).
- MMR2³ uptake was higher across NI in 2014 (93.0%). The figures for other UK nations ranged from 88.6% in England to 92.9% in Scotland. Again there are differences in how the data is reported as above.

Early Years

Healthy teeth and gums

- Although data for the proportion of five year olds in Northern Ireland with no obvious tooth decay is not the highest in the UK (England 69%, Scotland 68%, NI 60%, Wales 59%), Northern Ireland has shown good improvement in the last ten years – an increase of 21% between 2003 and 2013.

¹ Royal College of Paediatrics and Child Health, State of Child Health Report, 2017 <http://www.rcpch.ac.uk/state-of-child-health>

² 5-in-1 vaccination: Diphtheria, Tetanus, Pertussis (whooping cough), Polio and Hib – refers to children who have received three doses (completed) before their first birthday

³ MMR2: Measles, Mumps and Rubella – refers to children who have received two doses by the age of five (on or after their first birthday and before their fifth birthday).

School age/adolescence

Suicide (aged 15-19 years)

- The suicide rate in 2014 was highest in Northern Ireland (122.9 per million). This is considerably higher than England (43.9), Scotland (54.7) and Wales (69.0). Rates in Northern Ireland have varied, however they have been consistently higher here than in other UK countries since 2006.

Road traffic injuries (aged 17-19 years)

- In 2015, Northern Ireland had the highest rate of young people aged 17 to 19 years who were either seriously injured or killed as a driver or passenger in road traffic accidents (at 78 per 100,000 population). In England, the equivalent rate was 33, Scotland 41, Wales 62. Although the NI rate has fallen in the last ten years, figures show that NI had a consistently higher rate when compared to the rest of the UK.

Family and social environment

Child poverty

- In 2014/15, around 19% of children across the United Kingdom were living in relative⁴ poverty (before housing costs). Using this measure, Northern Ireland had the highest level of children living in poverty. The report points to higher levels of unemployment in Northern Ireland as contributing to these increased figures.

⁴ Relative poverty: Relative measures of poverty compare the incomes of households with the average income in a country. In the UK, this is set at 60% of the current median (middle) income. This measure is often displayed in two ways: (1) before housing costs; and (2) after (i.e. including) housing costs. Data presented define a child as an individual under 16 years of age or an unmarried or non-cohabiting 16- to 19-year-old in full-time non-advanced education.

Comparative data (United Kingdom and Republic of Ireland)

		Year/Currency	England	Wales	Scotland	NI	RoI
1	Live Births ¹	2016 (n)	663,157	32,936	54,488	24,076	63,897
		2015 (n)	664,399	33,279	55,098	24,215	65,909
		2014 (n)	661,496	33,544	56,725	24,394	67,462
2	Still births numbers and rates per 1,000 live and still births ²	2016 (n)	2,895	165	236	82	227 ^P
		2015 (n)	2,952	158	211	76	262
		2014 (n)	3,047	177	228	81	286
		2016 (rate)	4.3	5.0	4.3	3.4	3.5 ^P
		2015 (rate)	4.4	4.7	3.8	3.1	4.0
		2014 (rate)	4.6	5.2	4.0	3.3	4.2
3	Infant mortality (deaths in first year) – numbers and rates per 1,000 live births ³	2016 (n)	2,587	101	181	112	208
		2015 (n)	2,575	123	175	124	205
		2014 (n)	2,548	123	207	118	249
		2016 (rate)	3.9	3.1	3.3	4.6	3.3
		2015 (rate)	3.9	3.7	3.2	5.1	3.1
		2014 (rate)	3.9	3.7	3.6	4.8	3.7
4	Fertility rate (TPFR) ⁴	2016 (rate)	1.81	1.74	1.52	1.95	N/A
		2015 (rate)	1.82	1.77	1.56	1.96	1.94
		2014 (rate)	1.83	1.78	1.62	1.97	1.94
5	Live births to teenage mothers under twenty years ⁵	2016 (n)	20,963	1,495	1,974	791	1,098
		2015 (n)	22,420	1,529	2,126	760	1,187
		2014 (n)	24,246	1,727	2,446	839	1,253
		2016 (rate/1,000 aged 15-19 years)	13.55	16.93	13.52	13.78	7.8
		2015 (rate/1,000 aged 15-19 years)	14.34	16.96	14.34	12.99	8.7
		2014 (rate/1,000 aged 15-19 years)	15.42	18.90	16.28	14.16	9.3
6	Multiple birth maternities (% of all maternities) ⁶	2016	1.59		1.56 ^P	1.57	1.9 ^P
		2015	1.61		1.50	1.46	1.9
		2014	1.60		1.56	1.46	1.9
7	Risk factors ⁷	% mothers who smoked at booking	2016 /17 10.5 (at delivery)	N/A	14.8 ^P	13.3	N/A
		2015 /16 10.6 (at delivery)	N/A	15.5	14.1	N/A	
		2014 /15 11.4 (at delivery)	N/A	17.3	14.5	N/A	
8	Caesarean Sections (% of deliveries / births) ⁸	2016/17	27.8 (deliveries)	N/A	32.4 (live births, 2016)	30.5 (births)	32.7 ^P (live births, 2016)
		2015/16	26.7 (deliveries)	25.6 (deliveries)	31.2 (live births, 2015)	29.7 (births)	31.4 (live births, 2015)
		2014/15	26.1 (deliveries)	26.3 (deliveries)	30.2 (live births, 2014)	28.9 (births)	30.4 (live births, 2014)
9	Low Birth weight ⁹	% total births less than 2,500g	2016 7.2	7.2	7.2 (2016/17)	6.3	5.7 ^P (live births)
		2015 7.3	7.1	7.0 (2015/16)	6.5	5.7 (live births)	
		2014 7.3	7.0	6.8 (2014/15)	6.5	5.6 (live births)	
10	Breastfeeding - % infants breastfed at discharge / breastfeeding initiated ¹⁰	2016/17	74.6 (initiation, maternities)	55.3 (2016)	50.5 (first visit ~ 10 days old)	46.9	59.9 ^P (2016)
		2015/16	74.1 (initiation, maternities)	48.7 (2015)	49.3 (first visit ~ 10 days old)	46.0	57.9 (2015)
		2014/15	74.3 (initiation, maternities)	45.1 (2014)	48.3 (first visit ~ 10 days old)	46.0	56.9 (2014)

^P: provisional

N/A: not available

For references see over

References

¹ United Kingdom home countries: Office for National Statistics (ONS), Vital Statistics: Population and Health Reference Tables, November 2017 <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/vitalstatisticspopulationandhealthreference-tables>

For the years shown, figures for Scotland represent country of occurrence. Figures for England, Wales and Northern Ireland represent the area of usual residence of the mother. Rates have been calculated using the most up-to-date population estimates when the statistics were published.

Republic of Ireland: Central Statistics Office, Vital Statistics Annual Reports/Yearly Summaries <http://www.cso.ie/en/statistics/birthsdeathsandmarriages/>

² Stillbirth rate is the number of stillbirths per 1,000 total births (live and still)

Sources as ¹

Republic of Ireland: National Perinatal Reporting System, Annual Reports, Healthcare Pricing Office <http://www.hpo.ie/> and ad hoc request to HPO

Still birth numbers cited by CSO vary substantially from those in NPRS. The CSO 2012 annual report on Vital Statistics for 2012 <http://www.cso.ie/en/media/csoie/releasespublications/documents/vitalstats/2012/annualreport2012.pdf> says 'In recent years, the numbers of stillbirths according to NPRS reports have been higher than the numbers published in these reports. This suggests that there is some non-registration of stillbirths and that caution should be taken in interpreting the statistics on stillbirths in these reports'. CSO data shows a still birth rate in 2012 of 2.6 per 1,000 while NPRS shows 3.9 per 1,000. For this reason the NPRS data is shown.

³ Infant mortality – death within the first year of life expressed as numbers registered in a specific year and as rate per 1000 live births that year.

United Kingdom home countries: Sources as ¹

The infant mortality rates for Northern Ireland represent the rate per 1,000 live births including non-Northern Ireland resident births.

Republic of Ireland: Central Statistics Office, Vital Statistics Annual Reports/Yearly Summaries <http://www.cso.ie/en/statistics/birthsdeathsandmarriages/>

⁴ Total Period Fertility rate is defined as:

UK: Total Fertility Rate (TFR) is the average number of live children that a group of women would bear if they experienced the age-specific fertility rates of the calendar year in question throughout their childbearing lifespan.

RoI: Total Period Fertility Rate (TPFR) gives the theoretical average number of children who would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year.

Sources as ¹

Republic of Ireland: NPRS – as ²

⁵ England: ONS

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthsbyareaofusualresidenceofmotheruk>

Wales: National Community Child Health Database, Welsh Government <http://gov.wales/statistics-and-research/births-national-community-child-health-database/?lang=en>

Scotland: National Records of Scotland <http://nationalrecords.scotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/births>

Northern Ireland: Northern Ireland Statistics and Research Agency <https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrars-general-annual-report>

Republic of Ireland: Central Statistics Office, Vital Statistics Annual Reports/Yearly Summaries <http://www.cso.ie/en/statistics/birthsdeathsandmarriages/>

Population Estimates (all UK countries): ONS

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwales/scotlandandnorthernireland>

⁶ England and Wales: ONS

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthcharacteristicsinenglandandwales>

Scotland: As ¹

Northern Ireland: Northern Ireland Statistics and Research Agency, Registrar General Annual Reports <https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrars-general-annual-report>

Republic of Ireland: NPRS – as ²

Population Estimates (all UK countries): ONS

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwales/scotlandandnorthernireland>

⁷ England: NHS Digital, Statistics on Women's Smoking Status at Time of Delivery <https://digital.nhs.uk/catalogue/PUB24222>

Scotland: Information Services Division (ISD Scotland) <http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Publications/data-tables.asp> Data excludes women delivering at home or in non-NHS hospitals

Northern Ireland: CHS data as per this document – see Section 6

⁸ Caesarean rates can be quoted using deliveries (i.e. mothers who delivered) or births. The impact is marginal but given that multiple births are more likely to be delivered by caesarean the percentage rate for births will be slightly higher than that for deliveries. The method used for each region is shown in the table. Within the UK, these rates are derived from hospital activity systems.

England: NHS Digital, NHS Maternity Statistics, England <https://digital.nhs.uk/catalogue/PUB30137>

Scotland: Information Services Division (ISD Scotland) <http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Publications/data-tables.asp>

Wales, 2013/14 and 2014/15: StatWales <https://stats.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Primary-and-Community-Activity/Maternity> and Welsh Government, Maternity Statistics (experimental, 2015/16) <http://gov.wales/statistics-and-research/maternity-statistics/?lang=en>

Northern Ireland: CHS data as per this document – see Section 8

Republic of Ireland: NPRS – as ²

⁹ England and Wales: ONS

2013: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/characteristicsofbirth1englandandwales>

2014, 2015 and 2016: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthcharacteristicsinenglandandwales>

Scotland: as ⁷ and ad hoc request to Information Services Division (ISD Scotland) <http://www.isdscotland.org/>

Northern Ireland: CHS data via PHA Health Intelligence

Republic of Ireland: NPRS – as ²

¹⁰ England: NHS England, <https://www.england.nhs.uk/statistics/statistical-work-areas/maternity-and-breastfeeding/>

Wales: National Community Child Health Database, <http://gov.wales/statistics-and-research/births-national-community-child-health-database/?lang=en>

Scotland: Information Services Division (ISD Scotland) <http://www.isdscotland.org/Health-Topics/Child-Health/Infant-feeding/> Data refer to feeding status at First Visit review (which takes place at around 10 days of age)

Northern Ireland: CHS data as per this document – see Section 10

Republic of Ireland: NPRS – as ² Data is based on live births only and excludes early neonatal deaths.

Section 1: Trends in Births

Key Points

- There were 24,158 registered births to Northern Ireland residents in 2016 with a birth rate of 12.9 per thousand (2015=13.1, 2014=13.3, 2013=13.3). *[Page 11]* The live birth rate (crude) (12.9) is the highest across the four UK countries, but is lower than the equivalent rate for Republic of Ireland (2016=13.7). *[Page 10]*
- There were 82 registered still births to Northern Ireland residents in 2016. *[Page 11]*
- The number of births in Northern Ireland to non-NI resident mothers continued to decrease. In 2016, there were 186 such births – the lowest number in the last ten years. *[Page 11]*
- In 2016, the highest number of registered births was recorded to residents in the Northern Trust area (5,764), with the lowest number in the Western Trust (3,955). *[Page 12]*
- The percentage change in the number of births in the last ten years (2007 to 2016) has not been consistent across Northern Ireland, with a 4.0% increase in Belfast Trust, and a 6.4% decrease in South Eastern Trust (NI = -1.6%). *[Page 12]*
- In 2016, the percentage of live births to mothers whose country of birth was not Northern Ireland was 17.4%. This has increased from 16.9% in 2007 (ten years ago). *[Page 11]* This is consistent with increasing numbers of people overall whose country of birth is not Northern Ireland as shown in the 2011 Census.
- In the next twenty years, the number of registered resident births in Northern Ireland is projected to decrease from 24,158 in 2016 to 22,691 in 2036 (-6.1%). The Western Trust area is projected to have the largest decrease (-12.6%), with the Southern Trust showing an increase (+4.1%). All other Trusts are expected to show a decrease in the next twenty years (BHSCT = -8.0%, NHSCT = -10.6%, SEHSCT = -5.0%). *[Page 14]*

Table 1.1: Trends in live births/birth rate across the United Kingdom and Republic of Ireland, 1976 - 2016

Year	Number of Live Births						Crude Birth Rate (Live Births per 1,000 population)					
	Northern Ireland	England	Scotland	Wales	United Kingdom	Republic of Ireland	Northern Ireland	England	Scotland	Wales	United Kingdom	Republic of Ireland
2016	24,076	663,157	54,488	32,936	774,835	63,897	12.9	12.0	10.1	10.6	11.8	13.7
2011	25,273	688,120	58,590	35,598	807,776	74,650	13.9	13.0	11.1	11.6	12.8	16.3
2006	23,272	635,748	55,690	33,628	748,563	64,237	13.4	12.5	10.8	11.3	12.3	15.2
2001	21,962	563,744	52,527	30,616	669,123	57,882	13.0	11.4	10.4	10.5	11.3	15.0
1996	24,382	614,184	59,296	34,894	733,163	50,390	14.7	12.7	11.6	12.1	12.6	13.9
1991	26,028	660,806	67,024	38,079	792,269	52,690	16.2	13.8	13.2	13.3	13.8	15.0
1986	27,975	623,609	65,812	37,038	754,805	61,620	17.8	13.2	12.9	13.2	13.3	17.4
1981	27,166	598,163	69,054	35,842	730,712	72,158	17.6	12.8	13.3	12.7	13.0	21.0
1976	26,361	550,383	34,895	33,378	675,526	67,718	17.3	11.8	12.4	11.9	12.0	21.0

Source:

For United Kingdom: Office for National Statistics, Vital Statistics: Population and Health Reference Tables, November 2017

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/vitalstatisticspopulationandhealthreferencetables>

For the years shown, figures for Scotland represent country of occurrence. Figures for England, Wales and Northern Ireland represent the area of usual residence of the mother.

Live birth figures from 1981 for Northern Ireland represent resident births only.

Rates have been calculated using the most up-to-date population estimates when the statistics were published

For Republic of Ireland: Central Statistics Office, Vital Statistics Annual Reports/Yearly Summaries/StatBank <http://www.cso.ie/en/statistics/birthsdeathsandmarriages/>

Table 1.2: Trends in births (live and still) registered in Northern Ireland, 2007 - 2016

		Year of birth (registered)									
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total resident births (live and still)		24,553	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158
Total resident birth rate / 1,000 population		13.9	14.4	13.9	14.0	13.9	13.9	13.3	13.3	13.1	12.9
Birth status (NI maternal residents)	Live	24,451	25,631	24,910	25,315	25,273	25,269	24,277	24,394	24,215	24,076
	Still	102	115	119	105	91	106	110	81	76	82
	All infants	24,553	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158
Born to NI-resident / non-resident mothers	Resident	24,553	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158
	Non-resident	523	623	577	455	461	354	261	221	210	186
	All infants	25,076	26,369	25,606	25,875	25,825	25,729	24,648	24,696	24,501	24,344
Country of birth of mother (live births only)	NI	20,325	21,095	20,539	20,805	20,808	20,819	19,937	20,129	19,968	19,882
	Other UK	1,456	1,410	1,364	1,323	1,296	1,293	1,271	1,170	1,186	1,052
	Rol	723	779	689	714	692	698	626	626	635	618
	A8 countries	775	1,080	1,113	1,235	1,210	1,201	1,257	1,258	1,205	1,184
	All other countries	1,170	1,267	1,205	1,238	1,267	1,258	1,186	1,211	1,221	1,340
	Not stated	2	0	0	0	0	0	0	0	0	0
	All infants	24,451	25,631	24,910	25,315	25,273	25,269	24,277	24,394	24,215	24,076
Place of birth (live births only)	Altnagelvin	2,528	2,672	2,676	2,623	2,830	2,741	2,554	2,695	2,675	2,588
	Antrim	3,064	3,078	2,790	2,770	2,671	2,640	2,638	2,820	2,953	2,970
	Causeway	1,328	1,447	1,373	1,412	1,432	1,413	1,362	1,204	1,086	1,033
	Craigavon	3,670	3,805	3,812	4,000	3,975	4,170	3,993	4,015	4,040	4,150
	Daisy Hill	1,797	1,875	1,842	1,840	1,765	1,814	1,701	1,806	1,794	1,760
	Downe	-	-	-	40	72	97	86	57	81	42
	Erne	1,240	1,331	1,266	1,307	1,206	624	4	2	5	0
	Lagan Valley	1,190	1,196	1,069	979	334	213	206	178	193	170
	Mater	1,159	1,272	1,119	1,204	1,219	1,194	437	191	196	237
	Royal	5,459	5,437	5,467	5,473	5,555	5,584	5,927	5,995	5,748	5,630
	SWAH	-	-	-	-	-	602	1,213	1,231	1,215	1,252
	Ulster	2,908	3,416	3,398	3,553	4,120	4,086	4,036	4,119	4,131	4,140
	Other hospitals	7	3	3	2	5	1	-	1	5	6
	Home	79	83	91	95	73	72	105	67	75	82
	Other locations	22	16	4	17	16	18	15	13	18	16
	All places of birth	24,451	25,631	24,910	25,315	25,273	25,269	24,277	24,394	24,215	24,076

Table 1.2 continued: Trends in births (live and still) registered in Northern Ireland, 2007 – 2016

		Year of birth (registered)										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Total resident births (live and still)		24,553	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158	
Local Government District (2014) of residence of mother	Antrim and Newtownabbey		2,062	1,925	1,927	1,914	1,895	1,744	1,779	1,799	1,767	
	Ards and North Down		1,946	1,790	1,812	1,889	1,796	1,739	1,748	1,756	1,657	
	Armagh City, Banbridge and Craigavon		3,076	3,053	3,156	3,061	3,138	2,884	2,931	2,990	2,947	
	Belfast		4,727	4,668	4,773	4,846	4,926	4,743	4,641	4,601	4,612	
	Causeway Coast and Glens		1,810	1,666	1,755	1,777	1,767	1,771	1,712	1,726	1,663	
	Derry City and Strabane		2,227	2,257	2,128	2,242	2,155	2,066	2,104	2,067	2,009	
	Fermanagh and Omagh		1,603	1,541	1,623	1,557	1,544	1,461	1,513	1,418	1,517	
	Lisburn and Castlereagh		1,810	1,836	1,819	1,808	1,766	1,740	1,757	1,722	1,752	
	Mid and East Antrim		1,702	1,579	1,628	1,627	1,569	1,535	1,596	1,513	1,577	
	Mid Ulster		2,160	2,123	2,197	2,114	2,192	2,219	2,142	2,181	2,155	
	Newry, Mourne and Down		2,623	2,591	2,602	2,525	2,603	2,485	2,552	2,518	2,502	
	All infants			25,746	25,029	25,420	25,360	25,351	24,387	24,475	24,291	24,158
	Trust of residence of mother (NI resident mothers only)	Belfast	4,484	4,763	4,715	4,809	4,854	4,957	4,786	4,718	4,665	4,663
Northern		6,058	6,376	5,979	6,134	6,062	5,984	5,901	5,895	5,776	5,764	
South Eastern		4,539	4,697	4,554	4,539	4,615	4,542	4,374	4,338	4,333	4,249	
Southern		5,379	5,620	5,558	5,733	5,538	5,724	5,384	5,477	5,547	5,527	
Western		4,093	4,290	4,223	4,205	4,295	4,168	3,942	4,047	3,970	3,955	
All infants		24,553	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158	

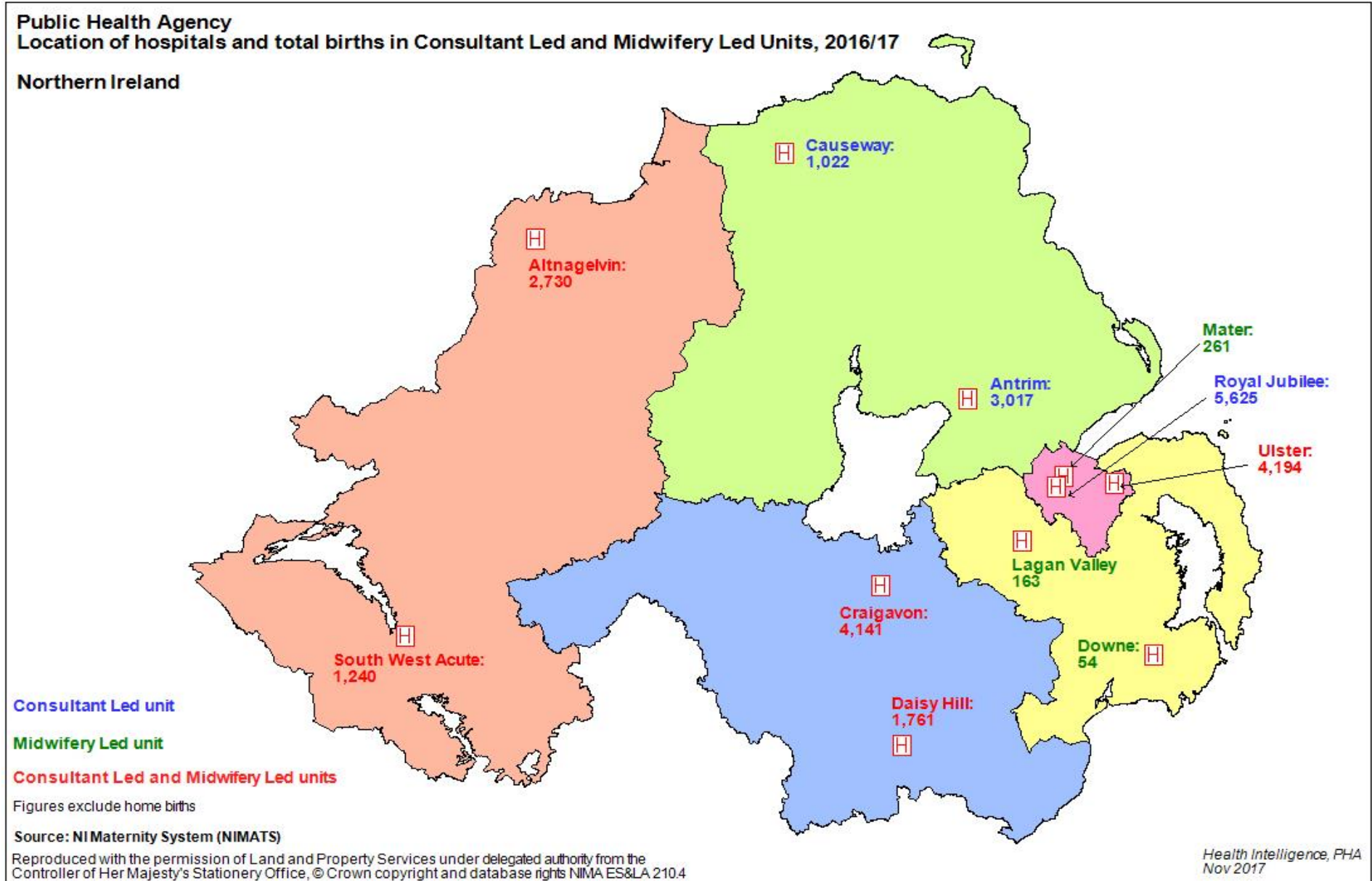
Source: NISRA <https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/births>

A8 countries are the eight central and eastern European countries that joined the EU in May 2004 - Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia

RoI = Republic of Ireland

Data at 2014 Local Government District is not available prior to 2008

Figure 1.1: Location of hospitals and number of births in Consultant Led Units/Midwifery Led Units, Northern Ireland, 2016/17



Projected births

Table 1.3: Resident registered births by Health Trust and 2014 Local Government District, 2014 - 2016 and projected to 2036

No. of resident births		Registered births			2014 based projections			
		2014	2015	2016	2021/22	2026/27	2031/32	2036/37
Northern Ireland		24,475	24,291	24,158	23,812	22,951	22,449	22,691
Health Trust of residence	Belfast	4,718	4,665	4,663	4,652	4,402	4,262	4,292
	Northern	5,895	5,776	5,764	5,564	5,323	5,150	5,153
	South Eastern	4,338	4,333	4,249	4,286	4,140	4,024	4,036
	Southern	5,477	5,547	5,527	5,518	5,480	5,534	5,755
	Western	4,047	3,970	3,955	3,792	3,606	3,479	3,455
	Northern Ireland	24,475	24,291	24,158	23,812	22,951	22,449	22,691
Local Government District (2014)	Antrim and Newtownabbey	1,779	1,799	1,767	1,693	1,609	1,556	1,556
	Ards and North Down	1,748	1,756	1,657	1,634	1,556	1,495	1,478
	Armagh City, Banbridge & Craigavon	2,931	2,990	2,947	2,996	2,970	2,994	3,114
	Belfast	4,641	4,601	4,612	4,596	4,338	4,200	4,231
	Causeway Coast and Glens	1,712	1,726	1,663	1,570	1,473	1,402	1,386
	Derry City and Strabane	2,104	2,067	2,009	1,972	1,862	1,785	1,764
	Fermanagh and Omagh	1,513	1,418	1,517	1,414	1,357	1,323	1,324
	Lisburn and Castlereagh	1,757	1,722	1,752	1,786	1,765	1,743	1,778
	Mid and East Antrim	1,596	1,513	1,577	1,514	1,466	1,415	1,403
	Mid Ulster	2,142	2,181	2,155	2,132	2,105	2,109	2,182
	Newry, Mourne and Down	2,552	2,518	2,502	2,505	2,450	2,427	2,475
	Northern Ireland	24,475	24,291	24,158	23,812	22,951	22,449	22,691

Source:

NISRA <https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/births>

NISRA (Components of Change) <https://www.nisra.gov.uk/publications/2014-based-population-projections-areas-within-northern-ireland>

Methodology Paper - Projections (NISRA): <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/SNPP14-Methodology.pdf>

Table 1.4: Resident births by place of birth, 2014 - 2016 and projected to 2036

No. of resident births		Births			2014 based projections			
		2014	2015	2016	2021/22	2026/27	2031/32	2036/37
Place of birth	Altnagelvin Hospital	2,693	2,711	2,602	2,530	2,395	2,299	2,275
	Antrim Hospital	2,835	2,959	3,011	2,846	2,754	2,689	2,707
	Craigavon Area Hospital	4,032	4,089	4,176	4,116	4,083	4,116	4,281
	Causeway Hospital	1,201	1,096	1,019	1,037	973	929	922
	Daisy Hill Hospital	1,826	1,799	1,774	1,759	1,734	1,738	1,791
	Downe Hospital	52	82	47	62	59	57	56
	Lagan Valley Hospital	176	197	175	187	184	181	185
	Mater Infirmorum	198	188	243	204	193	186	187
	Royal Jubilee Maternity Hospital	6,067	5,767	5,692	5,759	5,491	5,330	5,364
	South West Acute Hospital	1,234	1,223	1,269	1,185	1,141	1,116	1,120
	Ulster Hospital	4,147	4,208	4,152	4,103	3,921	3,786	3,781
	Home	12	30	32	24	23	22	23
	All locations	24,473	24,349	24,192	23,812	22,951	22,449	22,691

Source:

2014-2016 data: NIMATS (via Business Objects)

Projections: Calculated by PHA Health Intelligence based on:

NISRA <https://www.nisra.gov.uk/publications/2014-based-population-projections-areas-within-northern-ireland>

NIMATS (via Business Objects) data for births in 2014 - 2016

Data for births during 2014 - 2016 were extracted from NIMATS and analysed by place of birth and Local Government District (1992 boundaries) of residence of mother. The proportion of births in each hospital, from each LGD, was compared against projected births data from NISRA at LGD level to calculate projected births by hospital.

This assumes the current configuration of hospitals and flows of births remain.

Section 2: Fertility Rates

Key Points

- Total Period Fertility Rates (TPFR) show that fertility has not been at replacement level (2.10 children per “average woman”) since 1991. Replacement level is taken to be the level at which the population would replace itself, ignoring migration. In 2016 fertility levels were below replacement level at 1.95 children; however this is still higher than the record fertility low of 1.75 in 2000. *[Page 16]*
- Of the four regions of the United Kingdom, Northern Ireland had the highest total period fertility rate (1.95 in 2016). Scotland had the lowest at 1.52. *[Page 15]*
- Age specific fertility rates have remained fairly steady over the last ten years in most age groups with increases in the 30-34 and 35-39 age groups and overall decreases in the younger age groups (15-19, 20-24 and 25-29). *[Page 18]*. The shift to women having children later in life is clearly shown in Figure 2.4. *[Page 17]*
- Although data for 2016 revealed a slight increase in the teenage fertility rate, the overall decrease in actual numbers of teenage births (under 20 years) shown in Table 3.1, reflects less young women and a lower birth rate than in the 1980s and 1990s. The primary driver in this reduction in births is the decline in the fertility rate in this age group e.g. 29.2 per 1,000 population in 1990 to 13.8 in 2016. *[Page 18]*

Table 2.1: UK/Rol fertility rates 1992 - 2016, and projections 2021 - 2036

Total Fertility Rate										2016 based projections			
	1992	1997	2002	2007	2012	2013	2014	2015	2016	2021/22	2026/27	2031/32	2036/37
Northern Ireland	2.08	1.93	1.76	1.98	2.03	1.96	1.97	1.96	1.95	1.92	1.95	1.98	2.00
England	1.79	1.73	1.64	1.88	1.94	1.85	1.83	1.82	1.81	1.80	1.82	1.83	1.84
Wales	1.87	1.81	1.64	1.86	1.88	1.80	1.78	1.77	1.74	1.78	1.82	1.83	1.84
Scotland	1.67	1.58	1.47	1.70	1.67	1.61	1.62	1.56	1.52	1.54	1.58	1.61	1.63
UK	1.79	1.72	1.63	1.87	1.92	1.83	1.82	1.80	1.79	1.78	1.80	1.82	1.83
Total Period Fertility Rate													
Republic of Ireland	1.99	1.94	1.98	2.03	2.01	1.96	1.95	1.94	1.90	-	-	-	-

Source: Office for National Statistics and Central Statistics Office (RoI)

2016 based projections are fertility rates per 1,000 females (principal projection)

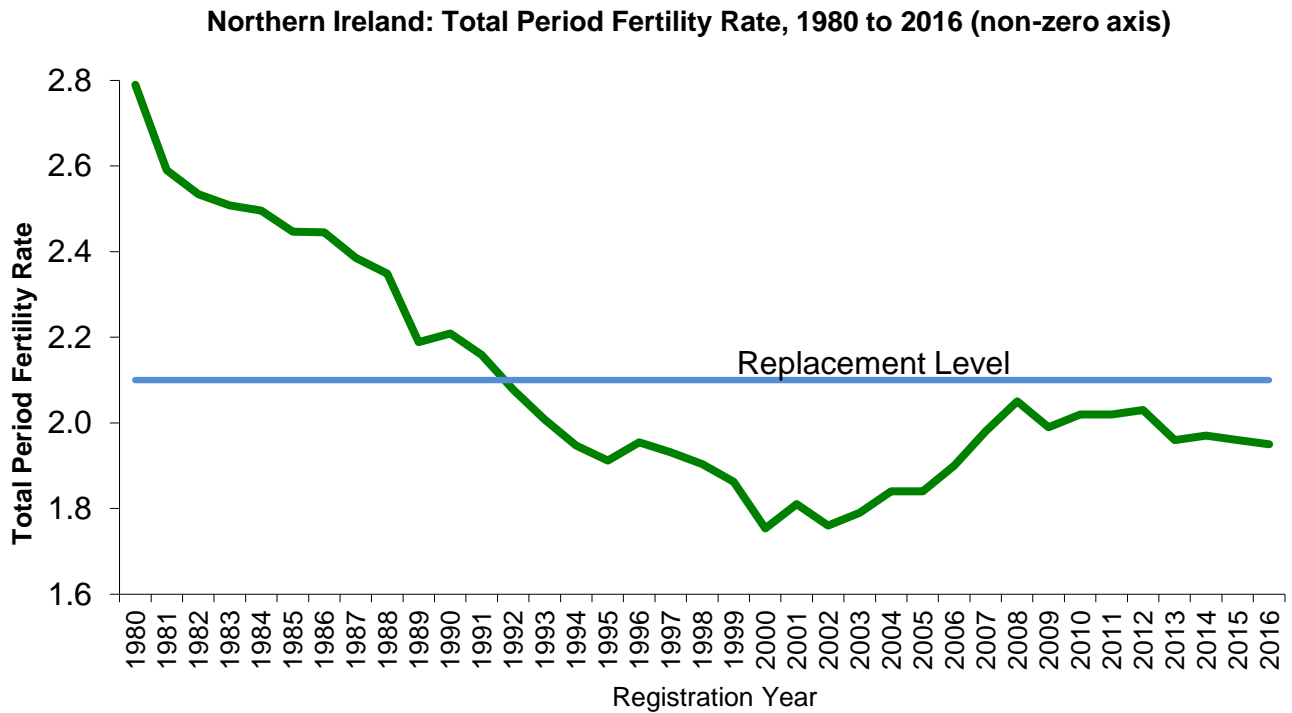
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/tablea11principalprojectionuksummary>

UK: Total Fertility Rate (TFR) is the average number of live children that a group of women would bear if they experienced the age-specific fertility rates of the calendar year in question throughout their childbearing lifespan

RoI: The Total Period Fertility Rate (TPFR) gives the theoretical average number of children who would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year.

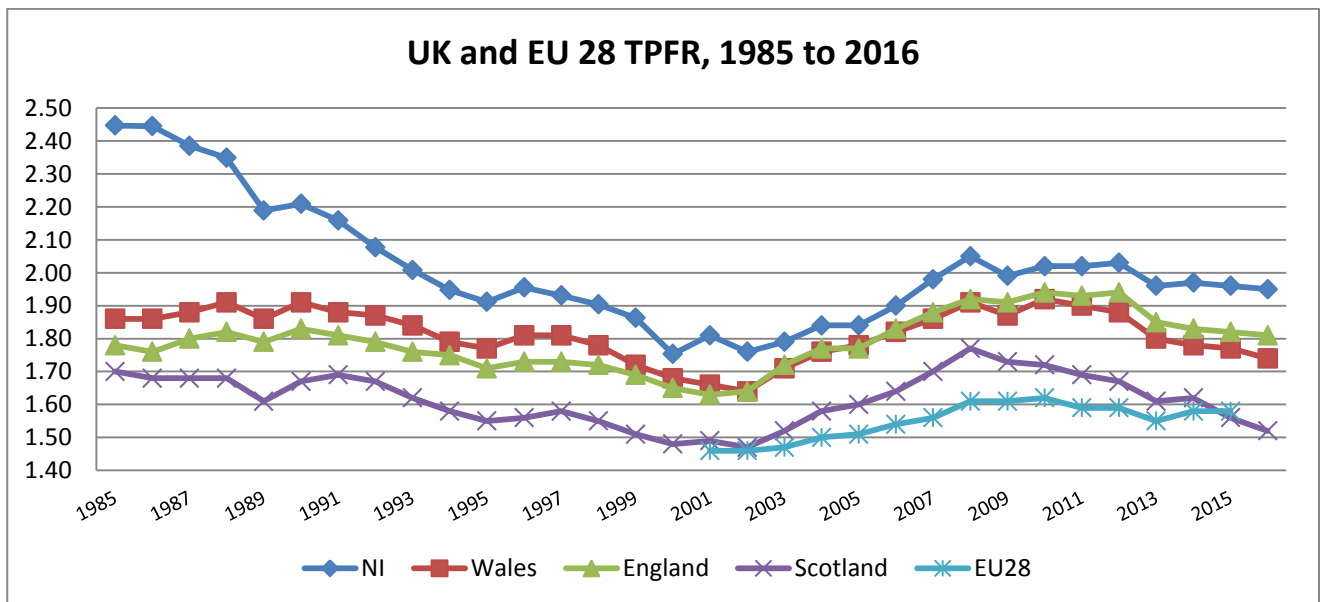
RoI projections data not produced

Figure 2.1: Total Period Fertility Rate (TPFR), Northern Ireland, 1980 - 2016



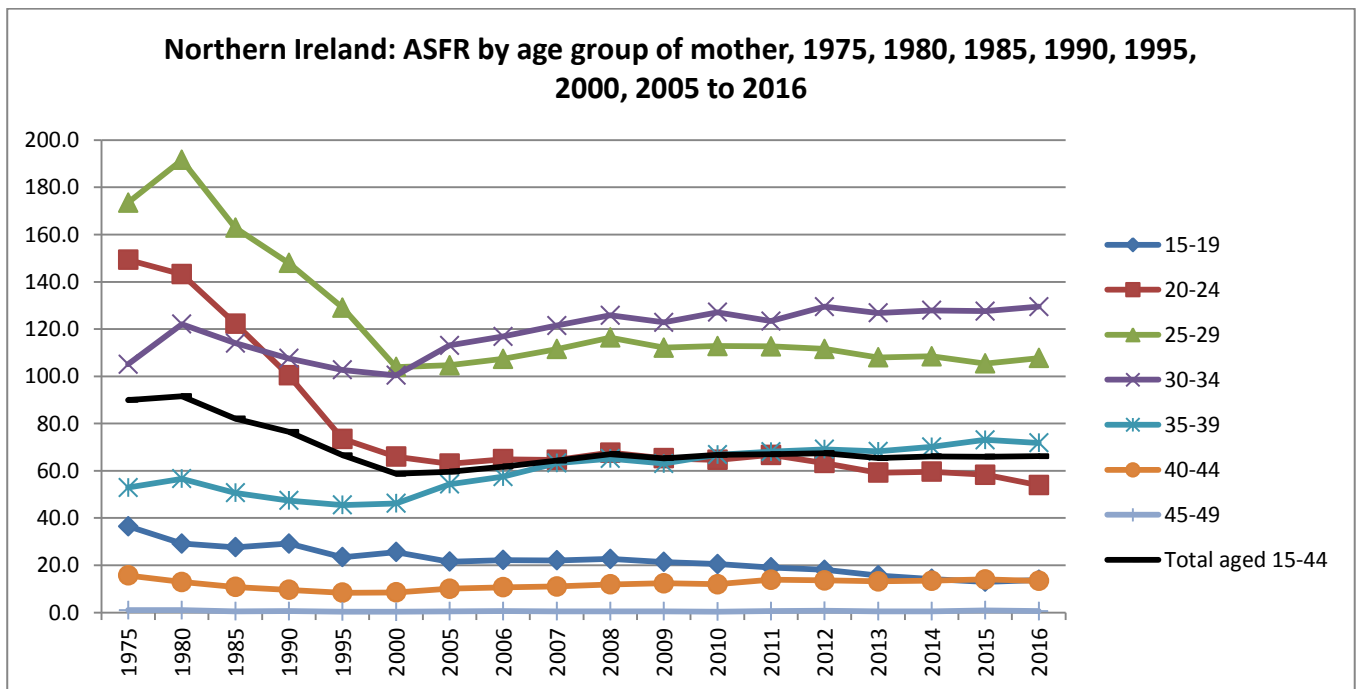
Source: NISRA <https://www.nisra.gov.uk/publications/registrars-general-annual-report-2016-births>
 The line at a TPFR of 2.1 represents the 'replacement level' which is the number of births that are required to maintain a steady Northern Ireland population taking account of this population's mortality rates but ignoring any outside effects of population movement.

Figure 2.2: UK and EU total period fertility rate, 1985 to 2016



Source: NISRA <https://www.nisra.gov.uk/publications/registrars-general-annual-report-2016-births>
 Office for National Statistics (ONS) - Birth Summary Tables <http://www.ons.gov.uk/ons/datasets-and-tables/index.html> AND
 National Records of Scotland <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/vital-events-reference-tables/2015/section-3-births>
 StatWales <https://stats.wales.gov.uk/Catalogue/Health-and-Social-Care/Births-Deaths-and-Conceptions/Births/totalfertilityrateandgeneralfertilityrate-by-year>, Welsh Government (2015 data) <http://gov.wales/statistics-and-research/health-statistics-wales/?lang=en> and Office for National Statistics, Vital Statistics: Population and Health Reference Tables, November 2017 (2016 data) <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/vitalstatisticspopulationandhealthreferencetables>
 Eurostat (European Commission) - <http://ec.europa.eu/eurostat/web/population-demography-migration-projections/births-fertility-data/main-tables> EU 28 refers to the 28 member states of the European Union at 2013. Data only available from 2001. Data for 2013 - 2015 is provisional. Rate refers to the mean number of children that would be born alive to a woman during her lifetime if she were to survive and pass through her childbearing years conforming to the fertility rates by age of a given year. Data is not available for 2016 yet.

Figure 2.3: Age-Specific Fertility Rates by age-group of mother, 1975, 1980, 1985, 1990, 1995, 2000 to 2016

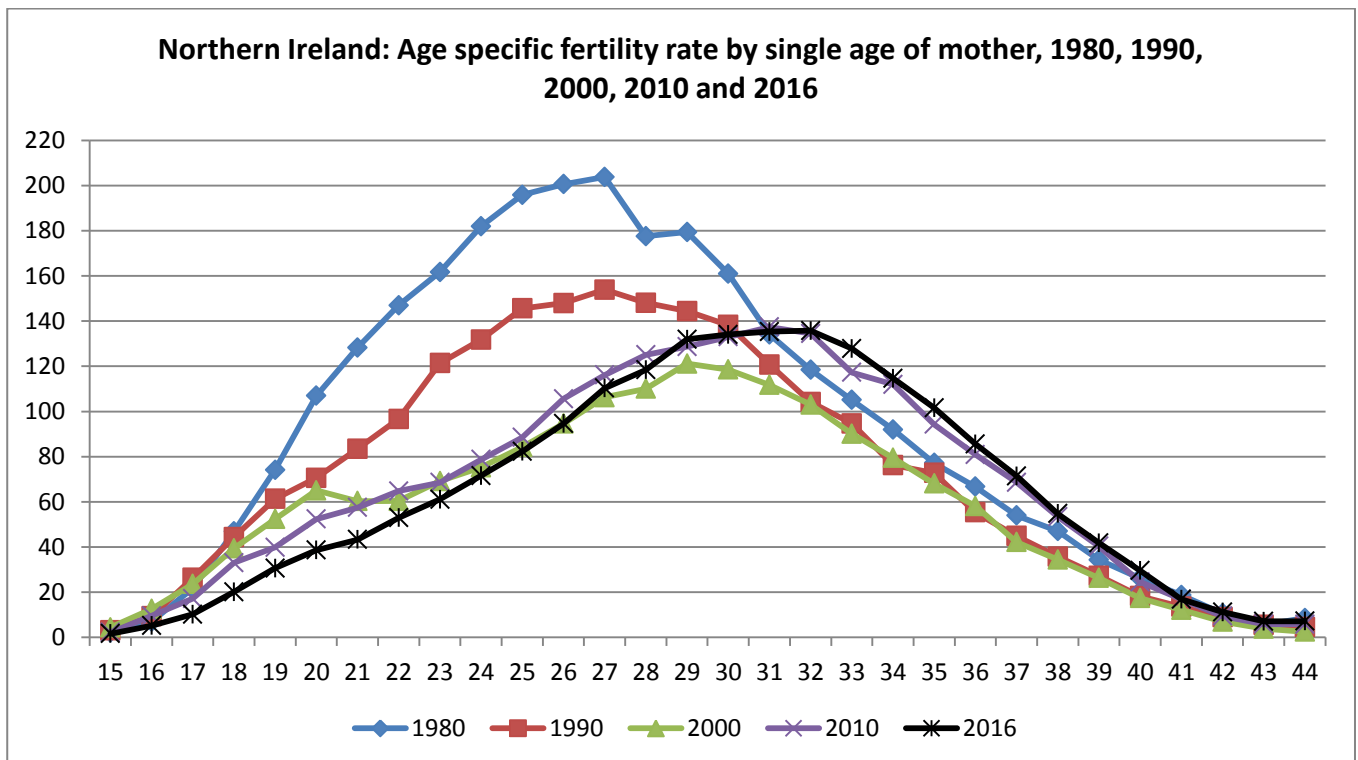


Source: NISRA <https://www.nisra.gov.uk/publications/registrars-general-annual-report-2016-births>

Age-specific fertility rate is the number of live births occurring to a particular woman of a particular age or age group per year, normally expressed per 1,000 women

Rate for 15-44 includes births for those aged under 15 and over 49

Figure 2.4: Fertility by age of mother 1980, 1990, 2000, 2010 and 2016



Source: NISRA <https://www.nisra.gov.uk/publications/registrars-general-annual-report-2016-births>

Age-specific fertility rate is the number of live births occurring to a particular woman of a particular age or age group per year, normally expressed per 1,000 women

Rate for 15-44 includes births for those aged under 15 and over 49

Table 2.2: Age-Specific Fertility Rates by age-group of mother, 1975, 1980, 1985, 1990, 1995, 2000, 2005 to 2016

Age Group of Mother	Registration Year																	
	1975	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
15-19	36.5	29.2	27.6	29.2	23.4	25.6	21.5	22.2	22.1	22.7	21.4	20.5	19.1	18.1	15.7	14.2	13.0	13.8
20-24	149.3	143.2	122.3	100.4	73.5	66.0	63.0	64.9	64.6	67.7	65.3	64.6	66.7	63.3	59.2	59.6	58.3	53.9
25-29	173.5	191.6	162.9	148.0	129.1	103.9	104.7	107.4	111.5	116.4	112.1	112.8	112.7	111.6	108.0	108.5	105.4	107.7
30-34	105.1	122.1	114.0	107.6	102.7	100.4	113.1	116.9	121.5	125.8	122.8	127.1	123.4	129.5	126.8	127.9	127.6	129.5
35-39	52.9	56.6	50.7	47.4	45.5	46.2	54.3	57.5	63.3	65.2	63.1	66.8	68.1	69.1	68.2	70.1	73.1	71.8
40-44	15.7	12.9	10.8	9.6	8.4	8.5	10.1	10.7	11.0	11.9	12.4	12.0	13.9	13.6	13.2	13.5	14.0	13.4
45-49	1.0	1.0	0.5	0.6	0.4	0.3	0.5	0.6	0.5	0.5	0.5	0.4	0.6	0.7	0.5	0.5	0.9	0.6
Total aged 15-44	90.0	91.6	82.1	76.5	66.6	58.7	59.6	61.8	64.3	67.1	65.3	66.7	67.0	67.5	65.4	66.1	66.0	66.2

Source: NISRA <https://www.nisra.gov.uk/publications/registrar-general-annual-report-2016-births>

Age-specific fertility rate is the number of live births occurring to a particular woman of a particular age or age group per year, normally expressed per 1,000 women

Rate for 15-44 includes births for those aged under 15 and over 49

Section 3: Age Profile of Mother

TEENAGERS

Why should we be concerned?

For some young people, teenage parenthood is planned and a positive experience. However, most commonly, pregnancies in women aged 16-19 years are unplanned, for example the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3) for Great Britain found that 45.2% [30.8-60.5, 95% CI] of women aged 16-19 with a pregnancy in the last year reported that it was unplanned.⁵

Unplanned pregnancy has been associated with negative social and psychological consequences for both young parents and their children^{6,7,8,9}. For young parents these include:

- Poor physical and mental health;
- Poverty - reliance on state benefits or part-time work (if at all), typically lower paid;
- Poorer quality housing;
- Poor educational achievement/career prospects e.g. education may be interrupted as a result of pregnancy or having to withdraw from education completely;
- Social isolation; and
- Further teenage pregnancies i.e. conceiving again relatively quickly.

While the children of teenage parents are at increased risk of:

- Premature birth and low birthweight,
- Stillbirth and mortality;
- Hospitalisation for accidental injury;
- Poverty; and
- Poor educational attainment and unemployment in later life.

What can be done?

In November 2008, the Department of Health published a “Sexual Health Promotion Strategy and Action Plan (2008-2013)” with an Addendum to the Strategy published in March 2014¹⁰. The Strategy states that “with proper information and knowledge, people are more likely to avoid risky behaviour, use contraception, know what local services are available and be more likely to use them”. The Strategy and Addendum include the following actions to help prevent unplanned teenage pregnancies:

- Promote opportunities to enable young people to make informed choices before engaging in sexual activity, empowering them to delay first intercourse until an appropriate time of their choosing;
- Improve parent - child communication about sexual health issues;
- Provide training to support teachers and schools in the delivery of Relationship and Sexuality Education (RSE); and
- Encourage partnerships between parents, schools and health services to promote and support a consistent approach to RSE.

Research suggests that receiving sex education mainly from a school-based source is associated with reduced likelihood of unplanned pregnancy and conceptions in young women under 18 years.^{11,12} RSE is a statutory component of the Northern Ireland curriculum.^{13,14} In Northern Ireland, findings from the Young Peoples’ Behaviour and Attitudes Survey shows that young people aged 14-16 years in post-primary schools most commonly report learning about sexual matters and relationships from lessons at school (72%).¹⁵

⁵ Wellings, Kaye et al. The prevalence of unplanned pregnancy and associated factors in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3) The Lancet, 2013 Volume 382, Issue 9907, 1807 – 1816 [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(13\)62071-1.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)62071-1.pdf)

⁶ Scottish Parliament Information Centre, “Teenage Pregnancy” briefing http://www.scottish.parliament.uk/ResearchBriefingsAndFactsheets/S4/SB_13-03.pdf

⁷ Whitaker R et al. Intervention Now to Eliminate Repeat Unintended Pregnancy in Teenagers (INTERUPT): a systematic review of intervention effectiveness and cost-effectiveness, and qualitative and realist synthesis of implementation factors and user engagement. Health Technology Assessment 2016;20(16) <https://njl-admin.nihr.ac.uk/document/download/2003397>

⁸ Public Health England (PHE). A framework for supporting teenage mothers and young fathers. London: PHE, 2016.

⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/524506/PHE_LGA_Framework_for_supporting_teenage_mothers_and_young_fathers.pdf

¹⁰ Teenage parents: who cares? A guide to commissioning and delivering maternity services for young parents

¹¹ <http://webarchive.nationalarchives.gov.uk/20130102182314/https://www.education.gov.uk/publications/eOrderingDownload/Teenage%20parents.pdf>

¹² Department of Health, “Sexual Health Promotion Strategy and Action Plan (2008 – 2013) and Addendum, <https://www.health-ni.gov.uk/publications/sexual-health-promotion-strategy-and-information>

¹³ As

¹⁴ Wellings, Kaye et al. Changes in conceptions in women younger than 18 years and the circumstances of young mothers in England in 2000–12: an observational study The Lancet 2016, Volume 388, Issue 10044, 586 - 595 [http://thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(16\)30449-4.pdf](http://thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)30449-4.pdf)

¹⁵ Relationships and Sexuality Education Guidance An Update for Primary Schools

http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/pdmu/rse/RSE_Guidance_Primary.pdf

¹⁶ Relationships and Sexuality Education Guidance An Update for Post-Primary Schools

http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/pdmu/rse/RSE_Guidance_PostPrimary.pdf

¹⁷ Central Survey Unit. Young Persons’ Behaviour and Attitudes Survey 2013. Belfast: Northern Ireland Statistics and Research Agency (NISRA), 2014.

OLDER MOTHERS

Why should we be concerned?

Fertility rates in Northern Ireland show that women are postponing having children until later in life (Section 2). This is partly due to advances in assisted conception technologies e.g. IVF which allows women of advanced age to conceive. Pregnancies in older women can be complicated by:

- Increased risk of miscarriage
- Greater risk of complications in pregnancy e.g. diabetes, hypertension, pre-eclampsia
- Higher rate of multiple births
- Increased risk of complications during labour/delivery e.g. need to deliver by Caesarean Section
- Congenital abnormalities are more common.

What can be done?

The Royal College of Obstetricians and Gynaecologists¹⁶ suggest that women be advised of the increased risk of delaying pregnancy and that infertility is more difficult to treat after the age of 40.

¹⁶ Royal College of Obstetricians and Gynaecologists, "Reproductive Ageing" (Scientific Impact Paper No. 24 January 2011)
https://www.rcog.org.uk/globalassets/documents/guidelines/scientific-impact-papers/sip_24.pdf

Key Points

- The number of births to teenage mothers has shown substantial reductions between 2010/11 and 2014/15, however in the last few years there have been small increases. In 2016/17, there were 760 infants born to mothers aged less than twenty years (2015/16 = 720, 2014/15 = 712). [Page 21]
- In 2016/17, births to teenage mothers represented 3.2% of all births, an increase on the previous two years, however in general there is a decrease over the years shown in this report (2010/11 = 4.7%). Following a continual year on year increase in the proportion of births to mothers aged 40 and over, the percentage has decreased to 3.8% in 2016/17. [Page 21]
- Whilst there is little difference in the proportion of teenage mothers from “white” and “non-white” ethnic groups (3.1% and 3.2% respectively) in 2016/17, there is a higher proportion of older mothers in “non-white” ethnic groups (7.2%), compared to “white” ethnic groups (3.7%). [Page 23]
- Based on the 2010 deprivation quintiles, the proportion of births to teenage mothers has fallen from 6.1% in the most deprived areas (2015/16 = 5.5%, 2014/15 = 5.0%) to 1.6% in the least deprived (2015/16 = 1.3%, 2014/15 = 1.3%). The opposite can be seen in the proportion of births to older mothers (40+), increasing from 2.2% in the most deprived areas (2015/16 = 2.5%, 2014/15 = 2.6%) to 5.7% in the least deprived areas (2015/16 = 7.1%, 2014/15 = 7.3%). [Page 24]
- Data for 2014/15–2016/17 at District Electoral Area reveals that Oldpark DEA (Belfast LGD) had the highest proportion of teenage mothers (6.5%) and Killultagh DEA (Lisburn & Castlereagh LGD) had the lowest at 0.4%. Balmoral DEA (Belfast LGD) had the highest proportion of older mothers (aged 40 and over) (7.7%), Larne Lough DEA (Mid & East Antrim LGD) had the lowest at 2.1%. *Note that when providing data at this geographic level, numbers of births can be small and so caution is advised.* [Page 25]

Table 3.1: Births to Northern Ireland residents, by age of mother, 2010/11 - 2016/17

Year of birth		Infants born by age of mother								Total	Infants born to teenage mothers
		≤ 17	18-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known		
2010/11	n	343	864	4,103	7,177	7,902	4,308	923	39	25,659	1,207
	%	1.3%	3.4%	16.0%	28.0%	30.8%	16.8%	3.6%	-	-	4.71%
2011/12	n	318	863	4,098	7,196	7,706	4,172	947	9	25,309	1,181
	%	1.3%	3.4%	16.2%	28.4%	30.5%	16.5%	3.7%	-	-	4.67%
2012/13	n	263	793	3,737	6,891	8,211	4,164	965	4	25,028	1,056
	%	1.1%	3.2%	14.9%	27.5%	32.8%	16.6%	3.9%	-	-	4.22%
2013/14	n	187	624	3,466	6,780	7,955	4,280	984	1	24,277	811
	%	0.8%	2.6%	14.3%	27.9%	32.8%	17.6%	4.1%	-	-	3.34%
2014/15	n	170	542	3,441	6,619	8,220	4,396	1,009	3	24,400	712
	%	0.7%	2.2%	14.1%	27.1%	33.7%	18.0%	4.1%	-	-	2.92%
2015/16	n	165	555	3,305	6,605	8,160	4,629	1,015	2	24,436	720
	%	0.7%	2.3%	13.5%	27.0%	33.4%	18.9%	4.2%	-	-	2.95%
2016/17	n	174	586	3,060	6,584	8,267	4,492	914	2	24,079	760
	%	0.7%	2.4%	12.7%	27.3%	34.3%	18.7%	3.8%	-	-	3.16%

Source: Child Health System

Teenage refers to those aged less than twenty years

This refers to live and still births to NI residents irrespective of place of birth. These numbers will vary slightly from the registered births shown in Table 1.2

Figure 3.1: % infants born to teenage/older mothers, Northern Ireland, 2010/11 - 2016/17

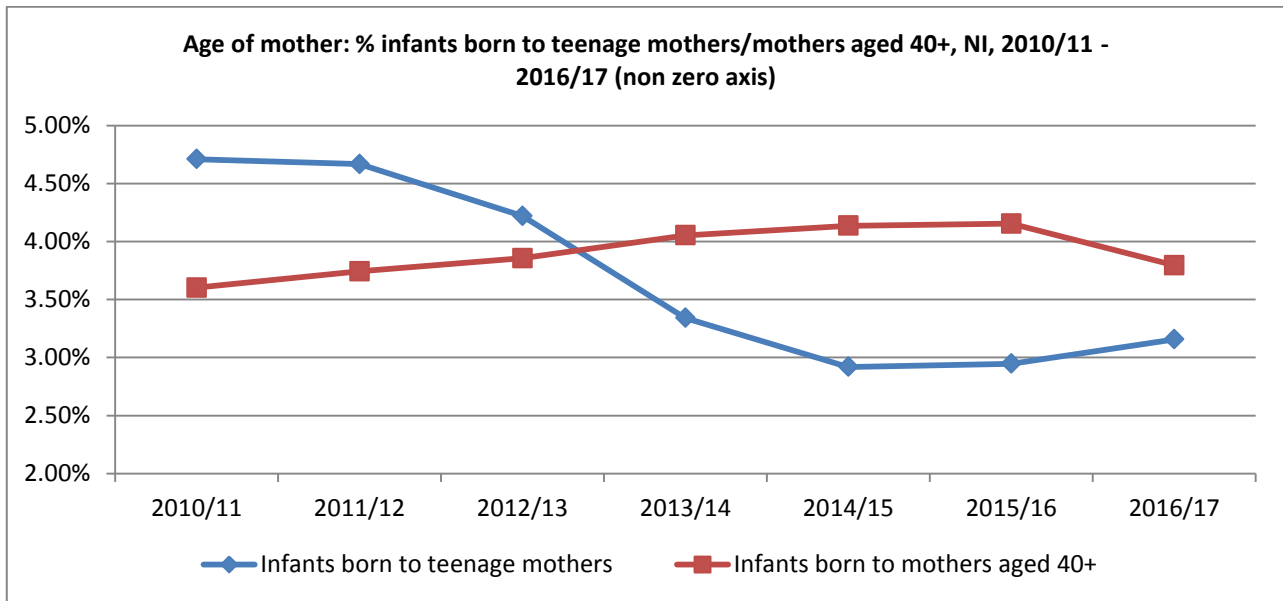


Table 3.2: Births to Northern Ireland residents, by age of mother, 2016/17

		Infants born by age of mother									% infants born to teenage mothers	% infants born to mothers aged 40+
		≤ 17	18-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	Total		
Multiple births	Single	174	582	2,990	6,430	8,002	4,287	860	2	23,327	3.2%	3.7%
	Multiple	0	4	70	154	265	205	54	0	752	0.5%	7.2%
	All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%	3.8%
Ethnic group of mother (NIMATS)	White	164	564	2,968	6,348	8,025	4,345	873	0	23,287	3.1%	3.7%
	Non-white	≤5	≤20	75	199	245	158	54	0	755	>3.1%	7.2%
	Not stated / Blank	≤5	≤5	1	18	14	5	1	0	41	>3.1%	2.4%
	All infants	169	585	3,044	6,565	8,284	4,508	928	0	24,083	3.1%	3.9%
Ethnic group of infant (CHS)	White	157	555	2,914	6,274	7,914	4,246	848	0	22,908	3.1%	3.7%
	Non-white	7	27	128	273	317	221	57	0	1,030	3.3%	5.5%
	Not stated / Blank	10	4	18	37	36	25	9	2	141	10.1%	6.5%
	All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%	3.8%
Place of birth	Altnagelvin	16	63	387	687	867	509	82	0	2,611	3.0%	3.1%
	Antrim	18	67	386	863	1,051	530	98	0	3,013	2.8%	3.3%
	Causeway	9	21	140	327	335	161	28	0	1,021	2.9%	2.7%
	Craigavon	25	66	445	1,160	1,498	790	142	0	4,126	2.2%	3.4%
	Daisy Hill	10	30	165	470	666	343	62	0	1,746	2.3%	3.6%
	Downe	0	0	≤10	16	26	≤5	0	0	56	0.0%	0.0%
	Lagan Valley	≤5	≤5	23	54	48	30	≤5	0	165	>3.2%	<3.8%
	Mater	≤5	8	53	89	76	≤30	≤5	0	262	>3.2%	<3.8%
	Royal	64	195	820	1,497	1,733	1,036	280	0	5,625	4.6%	5.0%
	SWAH	≤5	≤20	111	306	474	257	51	0	1,221	<3.2%	4.2%
	Ulster	23	111	518	1,109	1,476	792	164	0	4,193	3.2%	3.9%
	Home/Other	≤5	0	≤5	6	17	10	≤5	2	40	<3.2%	<3.8%
	All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%	3.8%
Trust of residence of mother	Belfast	56	168	696	1,266	1,479	837	193	1	4,696	4.8%	4.1%
	Northern	35	138	743	1,658	1,986	1,029	191	0	5,780	3.0%	3.3%
	South Eastern	30	104	556	1,134	1,454	802	187	1	4,268	3.1%	4.4%
	Southern	34	91	571	1,529	1,973	1,030	198	0	5,426	2.3%	3.6%
	Western	19	85	494	997	1,375	794	145	0	3,909	2.7%	3.7%
	All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%	3.8%

Table 3.2 continued: Births to Northern Ireland residents, by age of mother, 2016/17

		Infants born by age of mother									% infants born to teenage mothers	% infants born to mothers aged 40+
		≤ 17	18-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	Total		
Council area (2014)	Antrim and Newtownabbey	10	48	225	474	609	324	61	0	1,751	3.3%	3.5%
	Ards and North Down	10	38	216	442	580	309	80	0	1,675	2.9%	4.8%
	Armagh City, Banbridge and Craigavon	23	53	333	836	1,024	539	103	0	2,911	2.6%	3.5%
	Belfast	61	178	741	1,261	1,424	789	176	1	4,631	5.2%	3.8%
	Causeway Coast and Glens	11	36	233	507	538	293	56	0	1,674	2.8%	3.3%
	Derry City and Strabane	13	52	313	527	630	380	54	0	1,969	3.3%	2.7%
	Fermanagh and Omagh	≤5	≤25	121	362	589	335	75	0	1,506	<3.2%	5.0%
	Lisburn and Castlereagh	13	32	177	452	624	373	85	1	1,757	2.6%	4.8%
	Mid and East Antrim	≤10	≤60	232	449	521	266	48	0	1,576	>3.2%	3.0%
	Mid Ulster	11	31	218	615	817	398	76	0	2,166	1.9%	3.5%
	Newry, Mourne and Down	10	46	251	659	911	486	100	0	2,463	2.3%	4.1%
	All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%	3.8%
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	88	247	1,125	1,687	1,467	731	120	1	5,466	6.1%	2.2%
	2	29	126	749	1,478	1,701	921	173	0	5,177	3.0%	3.3%
	3	23	94	523	1,361	1,931	976	189	0	5,097	2.3%	3.7%
	4	19	74	424	1,213	1,730	934	219	0	4,613	2.0%	4.7%
	Least deprived	15	45	239	845	1,438	930	213	1	3,726	1.6%	5.7%
		All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	80	229	1,112	1,648	1,476	738	133	1	5,417	5.7%	2.5%
	2	31	145	708	1,461	1,687	937	164	0	5,133	3.4%	3.2%
	3	25	100	545	1,374	1,818	898	182	0	4,942	2.5%	3.7%
	4	24	71	464	1,247	1,731	954	219	0	4,710	2.0%	4.6%
	Least deprived	14	41	231	854	1,555	965	216	1	3,877	1.4%	5.6%
		All infants	174	586	3,060	6,584	8,267	4,492	914	2	24,079	3.2%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Teenage refers to those aged less than twenty years

Due to small numbers, it is not possible to show data by individual ethnic group

Disclosure controls have been applied to this table. As a result, for some places of birth, it is not possible to show the exact percentage values in the final two columns and so a comparison to the Northern Ireland value has been provided

Table 3.3: Births to Northern Ireland residents, by age of mother, District Electoral Area, 2014/15 to 2016/17

Council (2014)	District Electoral Area	Infants born by age of mother								% infants born to teenage mothers	% infants born to mothers aged 40+	Total births (all ages), by year		
		<20	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	Total			2014/15	2015/16	2016/17
Antrim and Newtownabbey	Airport	23	91	237	363	198	42	0	954	2.4%	4.4%	311	316	327
	Antrim	42	172	273	273	125	26	0	911	4.6%	2.9%	307	309	295
	Ballyclare	17	81	186	245	117	28	0	674	2.5%	4.2%	212	249	213
	Dunsilly	11	63	164	239	139	33	0	649	1.7%	5.1%	220	227	202
	Glengormley Urban	17	89	203	271	144	42	0	766	2.2%	5.5%	239	275	252
	Macedon	36	129	210	210	108	18	0	711	5.1%	2.5%	257	214	240
	Three Mile Water	22	99	178	195	112	29	0	635	3.5%	4.6%	199	214	222
	Total	168	724	1,451	1,796	943	218	0	5,300	3.2%	4.1%	1,745	1,804	1,751
Ards and North Down	Ards Peninsula	26	131	231	257	138	46	0	829	3.1%	5.5%	287	297	245
	Bangor Central	25	130	278	324	185	60	0	1,002	2.5%	6.0%	339	331	332
	Bangor East and Donaghadee	9	61	128	235	147	39	0	619	1.5%	6.3%	197	214	208
	Bangor West	9	84	148	211	143	31	0	626	1.4%	5.0%	216	202	208
	Comber	12	72	144	189	103	30	0	550	2.2%	5.5%	181	186	183
	Holywood and Clondeboye	9	54	99	206	166	42	0	576	1.6%	7.3%	190	190	196
	Newtownards	42	170	262	280	170	36	0	960	4.4%	3.8%	316	341	303
	Total	132	702	1,290	1,702	1,052	284	0	5,162	2.6%	5.5%	1,726	1,761	1,675
Armagh, Banbridge and Craigavon	Armagh	31	146	378	514	294	62	0	1,425	2.2%	4.4%	464	493	468
	Banbridge	34	151	346	489	258	49	0	1,327	2.6%	3.7%	428	445	454
	Craigavon	37	175	389	384	202	34	0	1,221	3.0%	2.8%	406	435	380
	Cusher	29	108	314	388	208	36	0	1,083	2.7%	3.3%	367	359	357
	Lagan River	13	78	284	343	186	41	0	945	1.4%	4.3%	328	312	305
	Lurgan	58	261	427	480	228	36	0	1,490	3.9%	2.4%	504	488	498
	Portadown	48	210	383	458	205	56	0	1,360	3.5%	4.1%	443	468	449
	Total	250	1,129	2,521	3,056	1,581	314	0	8,851	2.8%	3.5%	2,940	3,000	2,911

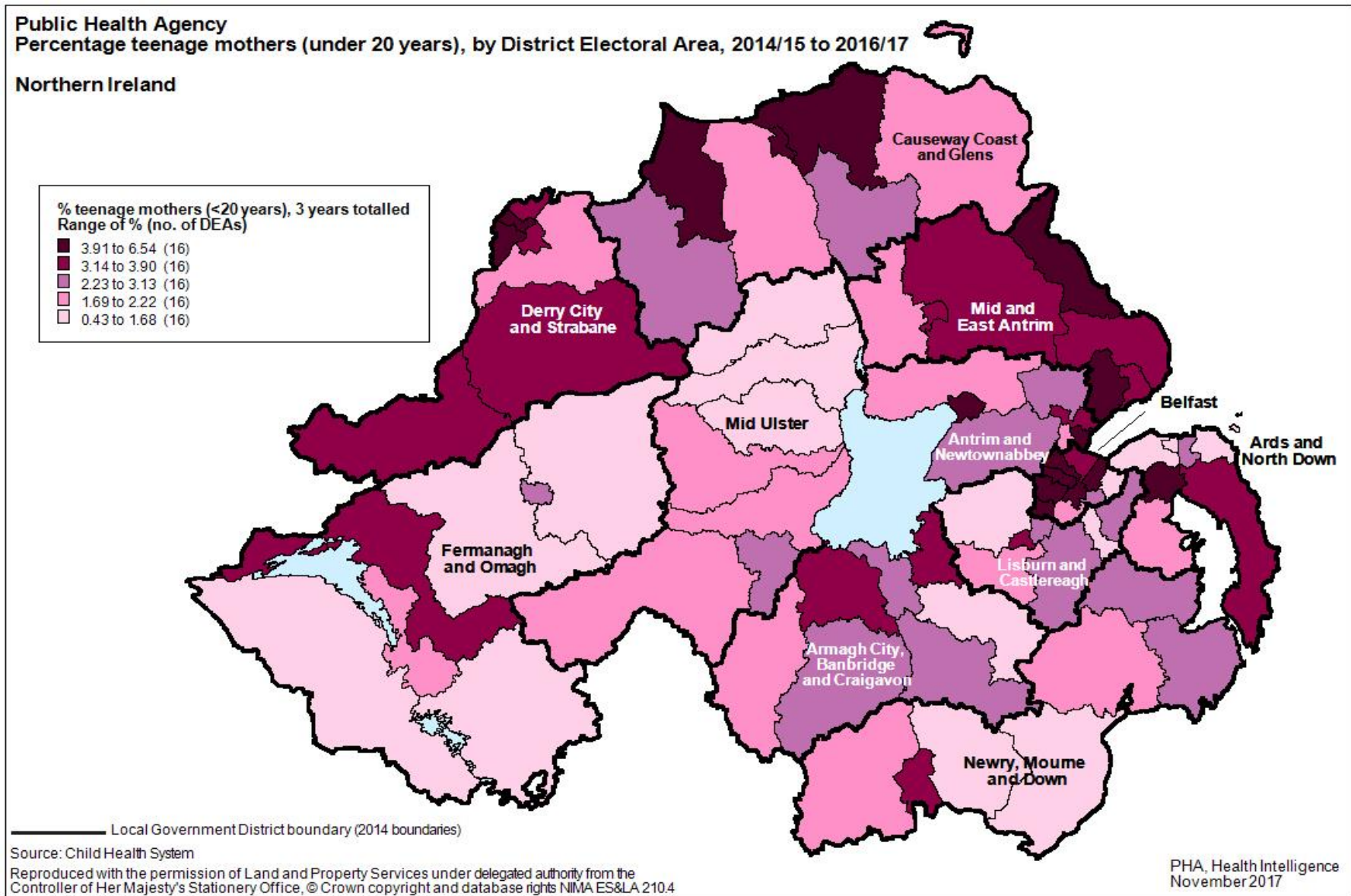
Council (2014)	District Electoral Area	Infants born by age of mother								% infants born to teenage mothers	% infants born to mothers aged 40+	Total births (all ages), by year		
		<20	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	Total			2014/15	2015/16	2016/17
Belfast	Balmoral	18	53	161	294	236	64	0	826	2.2%	7.7%	276	270	280
	Black Mountain	89	370	512	447	220	44	1	1,683	5.3%	2.6%	569	553	561
	Botanic	72	189	342	472	299	78	1	1,453	5.0%	5.4%	487	487	479
	Castle	46	240	313	403	226	57	0	1,285	3.6%	4.4%	445	421	419
	Collin	67	283	459	541	231	40	1	1,622	4.1%	2.5%	528	511	583
	Court	96	332	545	346	158	43	1	1,521	6.3%	2.8%	526	505	490
	Lisnasharragh	26	94	171	396	284	76	0	1,047	2.5%	7.3%	361	344	342
	Oldpark	104	366	479	394	205	43	0	1,591	6.5%	2.7%	531	516	544
	Ormiston	17	97	242	427	304	73	0	1,160	1.5%	6.3%	376	407	377
	Titanic	85	280	526	460	272	57	0	1,680	5.1%	3.4%	576	548	556
	Total	620	2,304	3,750	4,180	2,435	575	4	13,868	4.5%	4.1%	4,675	4,562	4,631
Causeway Coast and Glens	Ballymoney	23	127	286	289	144	30	0	899	2.6%	3.3%	308	292	299
	Bann	12	79	194	206	121	17	0	629	1.9%	2.7%	215	197	217
	Benbradagh	19	96	231	261	155	36	0	798	2.4%	4.5%	279	268	251
	Causeway	34	103	206	218	131	30	0	722	4.7%	4.2%	263	236	223
	Coleraine	46	200	294	220	121	25	0	906	5.1%	2.8%	316	311	279
	Limavady	23	99	159	173	82	18	0	554	4.2%	3.2%	184	189	181
	The Glens	12	90	177	192	105	19	0	595	2.0%	3.2%	193	178	224
		Total	169	794	1,547	1,559	859	175	0	5,103	3.3%	3.4%	1,758	1,671
Derry City and Strabane	Ballyarnett	41	230	290	341	181	36	0	1,119	3.7%	3.2%	361	389	369
	Derg	24	81	180	241	153	24	0	703	3.4%	3.4%	220	265	218
	Faughan	16	82	205	239	163	28	0	733	2.2%	3.8%	271	231	231
	Foyleside	28	127	191	240	108	20	0	714	3.9%	2.8%	238	260	216
	Sperrin	37	121	264	319	175	34	0	950	3.9%	3.6%	301	342	307
	The Moor	41	170	213	210	107	22	0	763	5.4%	2.9%	268	253	242
	Waterside	39	201	317	378	212	42	0	1,189	3.3%	3.5%	416	387	386
		Total	226	1,012	1,660	1,968	1,099	206	0	6,171	3.7%	3.3%	2,075	2,127
Fermanagh and Omagh	Enniskillen	13	71	180	207	125	34	0	630	2.1%	5.4%	205	220	205
	Erne East	8	55	163	284	142	29	0	681	1.2%	4.3%	236	214	231
	Erne North	18	54	117	214	119	32	0	554	3.2%	5.8%	165	196	193
	Erne West	7	30	143	234	130	27	0	571	1.2%	4.7%	186	197	188
	Mid Tyrone	4	42	147	289	165	28	0	675	0.6%	4.1%	228	205	242
	Omagh	16	106	185	241	148	22	0	718	2.2%	3.1%	234	235	249
	West Tyrone	7	37	154	264	158	36	0	656	1.1%	5.5%	226	232	198
		Total	73	395	1,089	1,733	987	208	0	4,485	1.6%	4.6%	1,480	1,499

Council (2014)	District Electoral Area	Infants born by age of mother								% infants born to teenage mothers	% infants born to mothers aged 40+	Total births (all ages), by year		
		<20	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	Total			2014/15	2015/16	2016/17
Lisburn and Castlereagh	Castlereagh East	17	79	193	250	108	31	0	678	2.5%	4.6%	206	235	237
	Castlereagh South	6	37	169	360	232	56	0	860	0.7%	6.5%	281	258	321
	Downshire East	15	51	112	209	118	41	0	546	2.7%	7.5%	205	165	176
	Downshire West	9	38	106	185	142	28	1	509	1.8%	5.5%	166	198	145
	Killultagh	4	60	233	375	207	46	1	926	0.4%	5.0%	316	302	308
	Lisburn North	18	112	196	273	161	39	1	800	2.3%	4.9%	264	273	263
	Lisburn South	31	161	250	304	150	33	0	929	3.3%	3.6%	312	310	307
	Total	100	538	1,259	1,956	1,118	274	3	5,248	1.9%	5.2%	1,750	1,741	1,757
Mid and East Antrim	Ballymena	35	162	315	293	128	27	0	960	3.6%	2.8%	315	300	345
	Bannside	13	71	181	272	101	24	0	662	2.0%	3.6%	220	217	225
	Braid	28	105	257	299	160	25	0	874	3.2%	2.9%	290	292	292
	Carrick Castle	18	93	163	155	101	16	0	546	3.3%	2.9%	184	185	177
	Coast Road	24	95	163	152	70	18	0	522	4.6%	3.4%	179	181	162
	Knockagh	27	109	148	161	93	18	0	556	4.9%	3.2%	178	192	186
	Larne Lough	21	90	155	184	109	12	0	571	3.7%	2.1%	201	181	189
	Total	166	725	1,382	1,516	762	140	0	4,691	3.5%	3.0%	1,567	1,548	1,576
Mid Ulster	Carntogher	10	67	214	295	136	29	0	751	1.3%	3.9%	256	234	261
	Clogher Valley	20	78	260	385	191	36	0	970	2.1%	3.7%	316	323	331
	Cookstown	23	132	293	375	182	34	0	1,039	2.2%	3.3%	356	340	343
	Dungannon	34	160	358	377	183	49	0	1,161	2.9%	4.2%	388	386	387
	Magherafelt	13	77	238	299	147	21	0	795	1.6%	2.6%	255	274	266
	Moyola	11	73	218	292	149	39	0	782	1.4%	5.0%	271	257	254
	Torrent	19	111	273	384	178	31	0	996	1.9%	3.1%	313	359	324
	Total	130	698	1,854	2,407	1,166	239	0	6,494	2.0%	3.7%	2,155	2,173	2,166
Newry, Mourne and Down	Crotlieve	17	70	255	454	282	49	0	1,127	1.5%	4.3%	353	375	399
	Downpatrick	19	123	219	258	146	37	0	802	2.4%	4.6%	258	288	256
	Newry	39	149	364	418	219	50	0	1,239	3.1%	4.0%	419	432	388
	Rowallane	22	100	216	244	132	46	0	760	2.9%	6.1%	253	251	256
	Slieve Croob	19	96	216	329	167	33	0	860	2.2%	3.8%	292	286	282
	Slieve Gullion	27	130	390	634	343	51	0	1,575	1.7%	3.2%	572	525	478
	The Mournes	15	117	345	437	226	39	0	1,179	1.3%	3.3%	382	393	404
	Total	158	785	2,005	2,774	1,515	305	0	7,542	2.1%	4.0%	2,529	2,550	2,463
Northern Ireland	All infants	2,192	9,806	19,808	24,647	13,517	2,938	7	72,915	3.0%	4.0%	24,400	24,436	24,079

Source: Child Health System

Teenage refers to those aged less than twenty years

Figure 3.2: Percentage teenage mothers (under 20 years), by District Electoral Area, Northern Ireland, 2014/15 to 2016/17



Section 4: Multiple Births

Why should we be concerned?

The incidence of multiple births (mainly twin births) has increased over the last 30 years from 1.0% of mothers in 1986 to 1.6% of mothers in 2016 having a multiple birth in Northern Ireland¹⁷. This may be due to the increased use of fertility treatments and the increase in the average age of a mother giving birth (older women are more likely to have a multiple pregnancy)¹⁸. However, having a multiple pregnancy increases the risk of:

- Maternal mortality
- Miscarriage
- Haemorrhage
- Anaemia
- Gestational diabetes
- Hypertensive disorders
- Pre-eclampsia
- Minor health problems e.g. morning sickness, heartburn, tiredness
- Preterm birth and
- Intervention during delivery e.g. forceps or Caesarean Section.

Infants are at risk of complications if the placenta is shared e.g. possible stillbirth. Other risks include low birth weight, congenital abnormalities and perinatal mortality^{19,20,21}

What can be done?

The higher risks faced by the mother and infant in a multiple pregnancy should be explained to women and births should take place in properly staffed hospitals.

Providers of infertility services such as IVF should follow Human Fertilisation and Embryology Authority (HFEA) and NICE guidance on embryo transfer strategies.

¹⁷ Northern Ireland Statistics and Research Agency, Registrar General Annual Reports, 2016 and 1986 <https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrar-general-annual-report>

¹⁸ Smith LK, Manktelow BN, Draper ES, et al. "Trends in the incidence and mortality of multiple births by socioeconomic deprivation and maternal age in England: population-based cohort study". *BMJ Open* 2014;4:e004514. doi:10.1136/bmjopen-2013-004514 <http://bmjopen.bmj.com/content/4/4/e004514.full.pdf+html>

¹⁹ National Institute for Health and Care Excellence (NICE) "Multiple pregnancy: twin and triplet pregnancies", Quality standard, September 2013 <http://www.nice.org.uk/guidance/qs46/resources/multiple-pregnancy-twin-and-triplet-pregnancies-2098670068933>

²⁰ National Institute for Health and Care Excellence (NICE) "Multiple pregnancy: antenatal care for twin and triplet pregnancies", Clinical guideline, September 2011 <https://www.nice.org.uk/guidance/cg129/resources/multiple-pregnancy-antenatal-care-for-twin-and-triplet-pregnancies-35109458300869>

²¹ Royal College of Obstetricians and Gynaecologists, "Multiple Pregnancy: having more than one baby", Nov 2016 <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-multiple-pregnancy.pdf>

Key Points

- The proportion of infants born within a multiple birth has remained fairly steady over the last five years (2016/17 = 3.1%). [Page 30]
- The incidence of multiple births increases with mother's age. In 2016/17, across Northern Ireland, less than 2% of births to mothers aged less than twenty-four years were multiple births, compared to 5.9% of births to mothers aged 40 and over. [Page 31]

Table 4.1: Births to Northern Ireland residents, by singleton/multiple births, 2010/11 - 2016/17

Year of birth		Infants born by singleton/multiple birth				Total	Infants born as multiples
		Single	Twin	Triplet			
2010/11	n	24,854	784	21	25,659	805	
	%	96.9%	3.1%	0.1%			-
2011/12	n	24,552	748	9	25,309	757	
	%	97.0%	3.0%	0.0%			-
2012/13	n	24,228	782	18	25,028	800	
	%	96.8%	3.1%	0.1%			-
2013/14	n	23,523	742	12	24,277	754	
	%	96.9%	3.1%	0.0%			-
2014/15	n	23,687	698	15	24,400	713	
	%	97.1%	2.9%	0.1%			-
2015/16	n	23,720	686	30	24,436	716	
	%	97.1%	2.8%	0.1%			-
2016/17	n	23,327	716	36	24,079	752	
	%	95.5%	2.9%	0.1%			-

Source: Child Health System

Figures for multiple births show the number of infants born

Figure 4.1: % infants born as multiples, Northern Ireland, 2010/11 – 2016/17

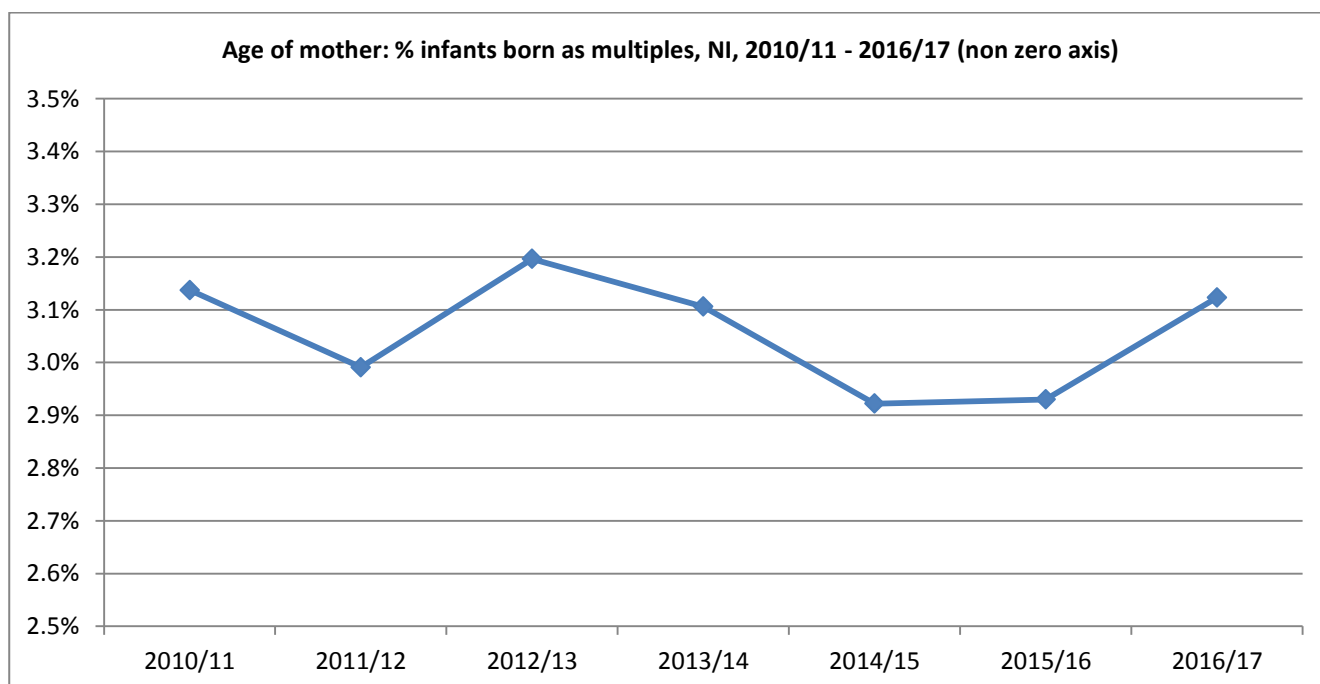


Table 4.2: Births to Northern Ireland residents, by singleton/multiple births, 2016/17

		Infants born by singleton/multiple birth			% infants born as multiples
		Single	Multiple	Total	
Birth status	Live	23,228	749	23,977	3.1%
	Still	99	3	102	2.9%
	All infants	23,327	752	24,079	3.1%
Age Group of mother	Under 24	3,746	74	3,820	1.9%
	25 - 29	6,430	154	6,584	2.3%
	30 - 34	8,002	265	8,267	3.2%
	35 - 39	4,287	205	4,492	4.6%
	40 +	860	54	914	5.9%
	Not known	2	0	2	0.0%
	All infants	23,327	752	24,079	3.1%
Ethnic group of mother (NIMATS)	White	22,567	720	23,287	3.1%
	Non-white	727	28	755	3.7%
	Not stated / Blank	41	0	41	0.0%
	All infants	23,335	748	24,083	3.1%
Ethnic group of infant (CHS)	White	22,194	714	22,908	3.1%
	Non-white	997	33	1,030	3.2%
	Not stated / Blank	136	5	141	3.5%
	All infants	23,327	752	24,079	3.1%
Place of birth	Altnagelvin	2,512	99	2,611	3.8%
	Antrim	2,922	91	3,013	3.0%
	Causeway	1,011	10	1,021	1.0%
	Craigavon	3,981	145	4,126	3.5%
	Daisy Hill	1,716	30	1,746	1.7%
	Downe	56	0	56	0.0%
	Lagan Valley	165	0	165	0.0%
	Mater	262	0	262	0.0%
	Royal	5,389	236	5,625	4.2%
	SWAH	1,195	26	1,221	2.1%
	Ulster	4,082	111	4,193	2.6%
	Home/Other	36	4	40	10.0%
	All infants	23,327	752	24,079	3.1%
Trust of residence of mother	Belfast	4,552	144	4,696	3.1%
	Northern	5,610	170	5,780	2.9%
	South Eastern	4,110	158	4,268	3.7%
	Southern	5,277	149	5,426	2.7%
	Western	3,778	131	3,909	3.4%
	All infants	23,327	752	24,079	3.1%
Council area (2014)	Antrim and Newtownabbey	1,690	61	1,751	3.5%
	Ards and North Down	1,621	54	1,675	3.2%
	Armagh City, Banbridge and Craigavon	2,821	90	2,911	3.1%
	Belfast	4,482	149	4,631	3.2%
	Causeway Coast and Glens	1,632	42	1,674	2.5%
	Derry City and Strabane	1,901	68	1,969	3.5%
	Fermanagh and Omagh	1,455	51	1,506	3.4%
	Lisburn and Castlereagh	1,689	68	1,757	3.9%
	Mid and East Antrim	1,529	47	1,576	3.0%
	Mid Ulster	2,110	56	2,166	2.6%
	Newry, Mourne and Down	2,397	66	2,463	2.7%
	All infants	23,327	752	24,079	3.1%

Table 4.2 continued: Births to Northern Ireland residents, by singleton/multiple births, 2016/17

		Infants born by singleton/multiple birth			% infants born as multiples
		Single	Multiple	Total	
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	5,293	173	5,466	3.2%
	2	5,040	137	5,177	2.6%
	3	4,962	135	5,097	2.6%
	4	4,458	155	4,613	3.4%
	Least deprived	3,574	152	3,726	4.1%
	All infants	23,327	752	24,079	3.1%
	Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	5,262	155	5,417
2		4,987	146	5,133	2.8%
3		4,802	140	4,942	2.8%
4		4,557	153	4,710	3.2%
Least deprived		3,719	158	3,877	4.1%
All infants		23,327	752	24,079	3.1%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010

<https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017

<https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Due to small numbers, it is not possible to show data by individual ethnic group

Section 5: Infant Gestation

AT BOOKING

Why should we be concerned?

Women are encouraged to attend for antenatal care (booking appointment) at 10 weeks gestation and certainly before 12 weeks^{22,23}. At these early stages, appropriate lifestyle advice can be given on healthy eating, physical activity etc. and help and support can be provided e.g. to help a mother stop smoking.

Although most women will have uncomplicated pregnancies, some women will experience difficulties perhaps as a result of risk factors e.g. smoking, obesity and diabetes (see Section 6). Early antenatal care ensures women are provided with the correct advice, support, screening and interventions to promote positive experiences and outcomes for both mother and baby. Late booking/inadequate antenatal care has been identified as a significant risk factor for maternal death²⁴.

It is recognised that the earlier a mother attends for antenatal care, the better the outcome for her and her baby. However there are some groups of women e.g. young mothers, women from a non-white ethnic group, and those living in more deprived areas who do not attend early in pregnancy (Table 5.2, page 36). A recent study²⁵ also associated late booking with those women who have had numerous prior births and those who were migrants to the UK or did not speak English well (if at all).

What can be done?

The current Maternity Strategy for Northern Ireland²⁶ outlines the type of care women should receive: “*When a woman becomes pregnant she will be facilitated to make early direct contact with a midwife*”. The Strategy emphasises that it “*is particularly important to make maternity services accessible to those groups of women who tend to book late, who often are the very women who would benefit most from earlier booking. Direct access to midwives as the first point of contact in the community is intended to increase the number of women making early contact with maternity services*”.

AT DELIVERY

Why should we be concerned?

This report shows that almost 8% of infants born in 2016/17 in Northern Ireland were pre-term i.e. less than 37 weeks gestation at birth (Table 5.3, page 38). NICE states that “*preterm birth is the single biggest cause of neonatal mortality and morbidity in the UK*”²⁷. The causes of premature birth are not always known, however there are recognised risk factors such as having had a previous premature birth, a previous late miscarriage, having a multiple birth and smoking^{28,29}. An infant born pre-term is at greater risk of neonatal death, neurological disorders e.g. cerebral palsy; infection, visual/hearing impairment, feeding problems and respiratory illness.

What can be done?

World Health Organisation guidelines³⁰ states: “*Infant death and morbidity following preterm birth can be reduced through interventions provided to the mother before or during pregnancy, and to the preterm infant after birth. Interventions can be directed at all women for primary prevention and reduction of the risk of preterm birth (e.g. smoking cessation programmes) or used to minimize the risk in pregnant women with known risk factors (e.g. progesterone agents, cervical cerclage). However, the most beneficial set of maternal interventions are those that could improve survival chances and health outcomes of preterm infants when preterm birth is inevitable. These interventions are provided to the mother shortly before or during the birth process with the aim of overcoming immediate and future health challenges of the preterm infant, such as lung immaturity, susceptibility to infection, and neurological complications. Essential and additional care of the preterm newborn to prevent or treat potential complications is also critical to newborn survival without disability*”.

²²National Institute for Health and Care Excellence (NICE) “Antenatal care”, Quality Standard, September 2012 <http://www.nice.org.uk/guidance/qs22/resources/antenatal-care-2098542418117>

²³ Department of Health “A Strategy for Maternity Care in Northern Ireland, 2012 – 2018 <https://www.health-ni.gov.uk/articles/maternity-strategy-northern-ireland-2012-2018>

²⁴ Nair M, Kurinczuk JJ, Brocklehurst P, Sellers S, Lewis G, Knight M. “Factors associated with maternal death from direct pregnancy complications: a UK national case-control study”. BJOG 2015;122:653–662, January 2015 <http://onlinelibrary.wiley.com/doi/10.1111/1471-0528.13279/full>

²⁵ Cresswell et al, BMC Pregnancy and Childbirth “Predictors of the timing of initiation of antenatal care in an ethnically diverse urban cohort in the UK”, 2012 <http://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-13-103>

²⁶ As

²⁷ National Institute for Health and Care Excellence (NICE) “Preterm labour and birth” (QS135), October 2016 <https://www.nice.org.uk/guidance/qs135/resources/preterm-labour-and-birth-75545420722117>

²⁸ Royal College of Obstetricians and Gynaecologists, “Premature labour”, 2014 <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-premature-labour.pdf>

²⁹ World Health Organisation, “Born too soon - The global action report on preterm birth”, 2012 http://www.who.int/maternal_child_adolescent/documents/born_too_soon/en/

³⁰ World Health Organisation, “WHO recommendations on interventions to improve preterm birth outcomes” 2015 http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/preterm-birth-guideline/en/

Key Points

- In 2016/17, over 93% of births are less than 15 weeks gestation at the time of booking. *[Page 35]*
- There were 364 (1.5%) infants born to women who were estimated to be 28 weeks or more gestation at booking. This proportion has been falling year on year since 2011/12. *[Page 35]*
- The proportion of infants born to mothers booking at 15 or more weeks varies by age of mother. In 2016/17, 19% of births to mothers aged less than twenty were booked at 15+ weeks (all births = 6.9%). This results in a larger proportion of births to mothers in this age group booked at later gestations e.g. 4.1% booked at 28+ weeks compared to 1.6% of infants born to mothers aged 40 and over (all infants = 1.5%). *[Page 36]*
- There are substantial differences in the timescales of when mothers book by ethnic group. 24.9% of births to mothers from a 'non-white' ethnic group booked at 15+ weeks, compared to 6.2% of those of a white ethnic group (all births = 6.9%). *[Page 36]*
- In 2016/17, and based on the 2010 deprivation quintiles, data revealed that fewer mothers booked at less than 15 weeks gestation in the most deprived areas of Northern Ireland (91.2% of births), compared to births to those mothers from least deprived areas (94.3%). *[Page 37]*
- Over the last six years there has been little variation in the proportion of infants born pre-term (<37 weeks gestation). (2016/17 = 7.9%) *[Page 38]* The figures differ considerably by type of birth: 7.7% of live births, 57.6% of still births. The same can be seen for multiple births (62.4%) compared to singleton births (6.2%). *[Page 39]*
- In 2016/17, a slightly higher proportion of infants were born pre-term to those mothers aged 40 and over (10.3%), compared to all infants born (7.9%). *[Page 39]*

GESTATION AT BOOKING

Table 5.1: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2011/12 - 2016/17

Year of birth		Infants born by gestation at booking							Total	Booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known		
2011/12	n	22,102	1,317	364	212	177	140	26	24,338	2,210
	%	90.9%	5.4%	1.5%	0.9%	0.7%	0.6%	-	-	9.1%
2012/13	n	23,045	1,049	325	200	159	138	20	24,936	1,871
	%	92.5%	4.2%	1.3%	0.8%	0.6%	0.6%	-	-	7.5%
2013/14	n	22,440	1,020	329	171	144	89	11	24,204	1,753
	%	92.8%	4.2%	1.4%	0.7%	0.6%	0.4%	-	-	7.2%
2014/15	n	22,584	1,001	316	197	160	58	5	24,321	1,732
	%	92.9%	4.1%	1.3%	0.8%	0.7%	0.2%	-	-	7.1%
2015/16	n	22,728	998	287	180	136	72	3	24,404	1,673
	%	93.1%	4.1%	1.2%	0.7%	0.6%	0.3%	-	-	6.9%
2016/17	n	22,425	1,014	280	156	141	67	0	24,083	1,658
	%	93.1%	4.2%	1.2%	0.6%	0.6%	0.3%	-	-	6.9%

Source: NIMATS

Figure 5.1: % births booked at ≥ 15 weeks gestation, Northern Ireland residents, 2011/12 – 2016/17

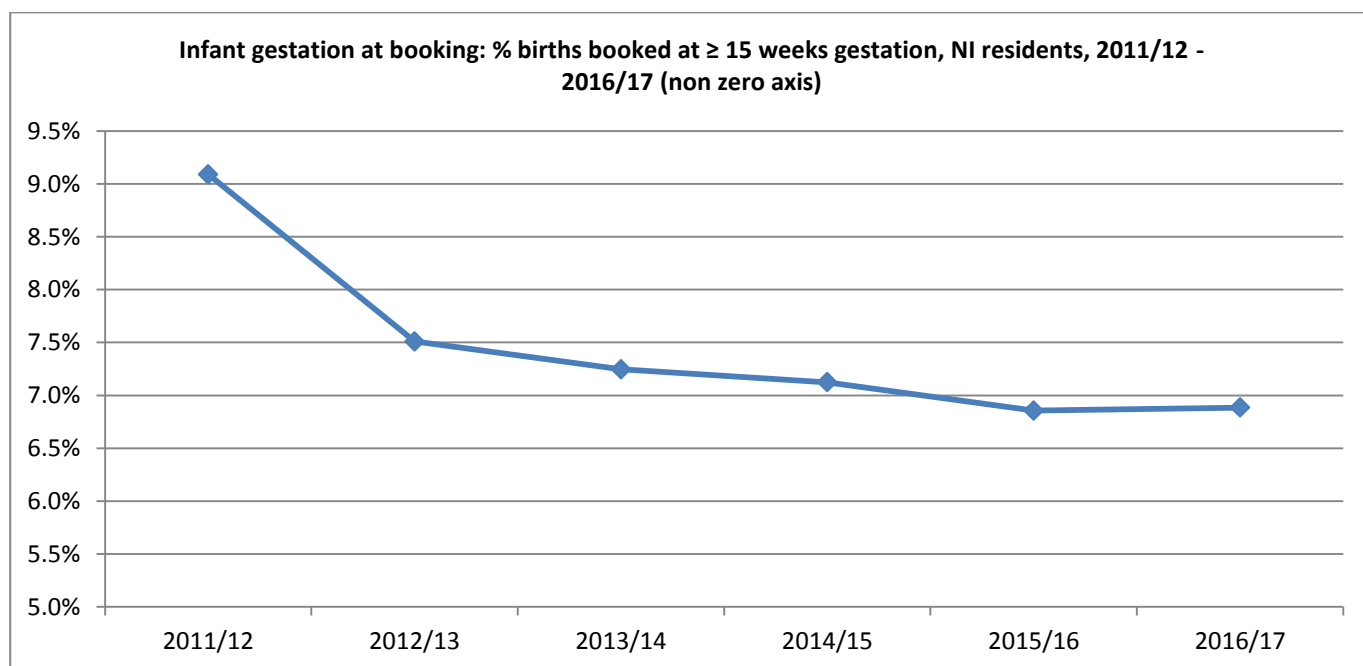


Table 5.2: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2016/17

		Infants born by gestation at booking							Total	% booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known		
Age Group of mother	Under 20	612	74	37	≤20	12	≤10	0	754	18.8%
	20 - 24	2,739	196	44	29	23	13	0	3,044	10.0%
	25 - 29	6,152	256	71	38	33	15	0	6,565	6.3%
	30 - 34	7,871	236	70	47	39	21	0	8,284	5.0%
	35 - 39	4,220	188	40	24	26	10	0	4,508	6.4%
	40 +	831	64	18	≤10	8	≤5	0	928	10.5%
	All infants	22,425	1,014	280	156	141	67	0	24,083	6.9%
Ethnic group of mother	White	21,833	914	230	135	118	57	0	23,287	6.2%
	Non-white	567	95	45	19	21	8	0	755	24.9%
	Not stated / Blank	25	5	5	2	2	2	0	41	39.0%
	All infants	22,425	1,014	280	156	141	67	0	24,083	6.9%
Place of birth	Altnagelvin	2,490	67	28	21	15	7	0	2,628	5.3%
	Antrim	2,816	141	27	16	≤20	≤5	0	3,016	6.6%
	Causeway	982	24	≤10	≤5	≤5	0	0	1,022	3.9%
	Craigavon	3,761	244	60	27	25	8	0	4,125	8.8%
	Daisy Hill	1,634	59	18	16	13	7	0	1,747	6.5%
	Downe	≤60	≤5	0	0	0	0	0	54	1.9%
	Lagan Valley	157	≤5	≤5	≤5	≤5	0	0	163	3.7%
	Mater	240	≤20	0	0	0	≤5	0	259	>6.9%
	Royal	5,164	279	84	38	38	16	0	5,619	8.1%
	SWAH	1,154	51	12	6	≤5	≤5	0	1,230	6.2%
	Ulster	3,945	125	43	26	28	19	0	4,186	5.8%
	Home/Other	≤30	≤5	0	0	≤5	≤5	0	34	14.7%
All infants	22,425	1,014	280	156	141	67	0	24,083	6.9%	
Trust of residence of mother	Belfast	4,319	244	76	35	30	15	0	4,719	8.5%
	Northern	5,422	229	50	31	24	6	0	5,762	5.9%
	South Eastern	3,994	133	36	26	33	22	0	4,244	5.9%
	Southern	4,996	273	74	36	33	14	0	5,426	7.9%
	Western	3,694	135	44	28	21	10	0	3,932	6.1%
	All infants	22,425	1,014	280	156	141	67	0	24,083	6.9%

Table 5.2 continued: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2016/17

		Infants born by gestation at booking							Total	% booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known		
Council area (2014)	Antrim and Newtownabbey	1,614	82	11	15	≤10	≤5	0	1,734	6.9%
	Ards and North Down	1,573	42	18	≤15	17	≤5	0	1,669	5.8%
	Armagh City, Banbridge and Craigavon	2,696	135	33	21	14	6	0	2,905	7.2%
	Belfast	4,257	250	72	34	31	14	0	4,658	8.6%
	Causeway Coast and Glens	1,603	41	13	9	9	0	0	1,675	4.3%
	Derry City and Strabane	1,891	48	20	16	11	6	0	1,992	5.1%
	Fermanagh and Omagh	1,391	79	19	9	≤10	≤5	0	1,510	7.9%
	Lisburn and Castlereagh	1,644	49	15	9	11	11	0	1,739	5.5%
	Mid and East Antrim	1,472	70	17	≤10	≤5	≤5	0	1,572	6.4%
	Mid Ulster	1,995	118	34	8	11	1	0	2,167	7.9%
	Newry, Mourne and Down	2,289	100	28	14	16	15	0	2,462	7.0%
		All infants	22,425	1,014	280	156	141	67	0	24,083
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	4,998	303	93	44	29	15	0	5,482	8.8%
	2	4,828	221	67	22	30	10	0	5,178	6.8%
	3	4,801	205	52	31	33	16	0	5,138	6.6%
	4	4,302	171	42	29	19	14	0	4,577	6.0%
	Least deprived	3,496	114	26	30	30	12	0	3,708	5.7%
		All infants	22,425	1,014	280	156	141	67	0	24,083
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	4,977	287	91	39	33	12	0	5,439	8.5%
	2	4,762	242	69	26	32	16	0	5,147	7.5%
	3	4,631	199	52	27	21	15	0	4,945	6.3%
	4	4,403	182	42	38	26	11	0	4,702	6.4%
	Least deprived	3,652	104	26	26	29	13	0	3,850	5.1%
		All infants	22,425	1,014	280	156	141	67	0	24,083

Source: NIMATS

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Due to small numbers, it is not possible to show data by individual ethnic group

Disclosure controls have been applied to this table. As a result, for some places of birth, it is not possible to show the exact percentage values in the final column and so a comparison to the Northern Ireland value has been provided

GESTATION AT DELIVERY

Table 5.3: Gestation at delivery, for births (live and still) to Northern Ireland residents, by completed weeks, 2011/12 - 2016/17

Year of birth		Infants born by gestation at delivery							Infants born pre-term (< 37 wks)
		< 28 weeks	28 - 31 weeks	32 - 36 weeks	37 - 38 weeks	39+ weeks	Not known	Total	
2011/12	n	118	192	1,470	4,492	18,064	2	24,338	1,780
	%	0.48%	0.79%	6.04%	18.46%	74.23%	-	-	7.31%
2012/13	n	116	203	1,591	4,568	18,457	1	24,936	1,910
	%	0.47%	0.81%	6.38%	18.32%	74.02%	-	-	7.66%
2013/14	n	105	212	1,551	4,472	17,864	0	24,204	1,868
	%	0.43%	0.88%	6.41%	18.48%	73.81%	-	-	7.72%
2014/15	n	101	226	1,517	4,658	17,819	0	24,321	1,844
	%	0.42%	0.93%	6.24%	19.15%	73.27%	-	-	7.58%
2015/16	n	106	186	1,612	4,985	17,514	1	24,404	1,904
	%	0.43%	0.76%	6.61%	20.43%	71.77%	-	-	7.80%
2016/17	n	124	192	1,598	5,409	16,760	0	24,083	1,914
	%	0.51%	0.79%	6.55%	22.17%	68.68%	-	-	7.95%

Source: NIMATS

Figure 5.2: % infants delivered pre-term (<37 weeks gestation), Northern Ireland, 2011/12 – 2016/17

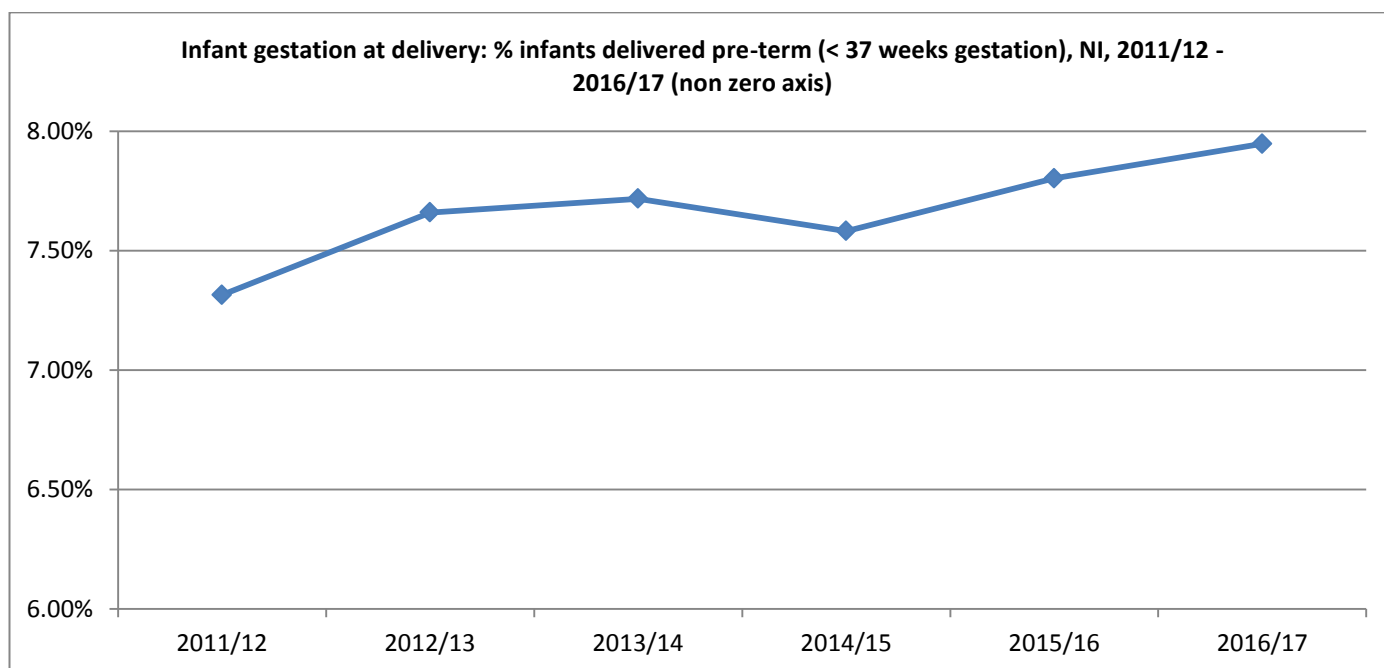


Table 5.4: Gestation at delivery for births to Northern Ireland residents by completed weeks, 2016/17

		Infants born by gestation at delivery						Total	% infants born pre-term (< 37 wks)
		< 28 weeks	28 - 31 weeks	32 - 36 weeks	37 - 38 weeks	39+ weeks	Not known		
Age Group of mother	Under 20	8	7	48	153	538	0	754	8.4%
	20 - 24	23	27	195	674	2,125	0	3,044	8.0%
	25 - 29	31	50	413	1,373	4,698	0	6,565	7.5%
	30 - 34	37	61	522	1,782	5,882	0	8,284	7.5%
	35 - 39	16	35	345	1,136	2,976	0	4,508	8.8%
	40 +	9	12	75	291	541	0	928	10.3%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Multiple births	Single	91	145	1,211	5,128	16,760	0	23,335	6.2%
	Multiple	33	47	387	281	0	0	748	62.4%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Birth status	Live	97	175	1,585	5,388	16,739	0	23,984	7.7%
	Still	27	17	13	21	21	0	99	57.6%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Ethnic group of mother	White	118	182	1,536	5,168	16,283	0	23,287	7.9%
	Non-white	6	9	60	227	453	0	755	9.9%
	Not stated / Blank	0	1	2	14	24	0	41	7.3%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Place of birth	Altnagelvin	10	28	200	448	1,942	0	2,628	9.1%
	Antrim	8	27	219	744	2,018	0	3,016	8.4%
	Causeway	≤5	≤5	17	183	815	0	1,022	2.3%
	Craigavon	12	34	387	1,006	2,686	0	4,125	10.5%
	Daisy Hill	≤5	≤5	87	284	1,370	0	1,747	5.3%
	Downe	0	0	0	8	46	0	54	0.0%
	Lagan Valley	0	0	0	13	150	0	163	0.0%
	Mater	0	0	0	28	231	0	259	0.0%
	Royal	75	61	356	1,394	3,733	0	5,619	8.8%
	SWAH	0	7	57	225	941	0	1,230	5.2%
	Ulster	14	27	275	1,074	2,796	0	4,186	7.5%
	Home/Other	0	0	0	2	32	0	34	0.0%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Trust of residence of mother	Belfast	35	32	321	1,146	3,185	0	4,719	8.2%
	Northern	28	44	368	1,293	4,029	0	5,762	7.6%
	South Eastern	31	41	273	1,045	2,854	0	4,244	8.1%
	Southern	19	33	389	1,211	3,774	0	5,426	8.1%
	Western	11	42	247	714	2,918	0	3,932	7.6%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Council area (2014)	Antrim and Newtownabbey	16	10	111	398	1,199	0	1,734	7.9%
	Ards and North Down	11	16	108	433	1,101	0	1,669	8.1%
	Armagh City, Banbridge and Craigavon	8	17	230	710	1,940	0	2,905	8.8%
	Belfast	35	38	307	1,114	3,164	0	4,658	8.2%
	Causeway Coast & Glens	7	23	101	323	1,221	0	1,675	7.8%
	Derry City and Strabane	7	19	128	337	1,501	0	1,992	7.7%
	Fermanagh and Omagh	≤5	≤20	96	303	1,089	0	1,510	7.8%
	Lisburn and Castlereagh	13	14	123	392	1,197	0	1,739	8.6%
	Mid and East Antrim	≤5	≤10	105	385	1,069	0	1,572	7.5%
	Mid Ulster	7	11	143	486	1,520	0	2,167	7.4%
	Newry, Mourne and Down	14	15	146	528	1,759	0	2,462	7.1%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%

Table 5.4 continued: Gestation at delivery for births to Northern Ireland residents by completed weeks, 2016/17

		Infants born by gestation at delivery						Total	% infants born pre-term (< 37 wks)
		< 28 weeks	28 - 31 weeks	32 - 36 weeks	37 - 38 weeks	39+ weeks	Not known		
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	39	53	374	1,313	3,703	0	5,482	8.5%
	2	16	45	326	1,190	3,601	0	5,178	7.5%
	3	24	51	306	1,055	3,702	0	5,138	7.4%
	4	25	24	344	1,039	3,145	0	4,577	8.6%
	Least deprived	20	19	248	812	2,609	0	3,708	7.7%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	37	55	367	1,307	3,673	0	5,439	8.4%
	2	17	43	315	1,134	3,638	0	5,147	7.3%
	3	22	47	312	1,087	3,477	0	4,945	7.7%
	4	24	29	341	1,062	3,246	0	4,702	8.4%
	Least deprived	24	18	263	819	2,726	0	3,850	7.9%
	All infants	124	192	1,598	5,409	16,760	0	24,083	7.9%

Source: NIMATS

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Due to small numbers, it is not possible to show data by individual ethnic group. Disclosure controls have been applied to the data.

Section 6: Maternal Risk Factors

SMOKING

Why should we be concerned?

Giving up smoking is one of the best things a mother-to-be can do to improve her own health and the health of her baby. Giving up at any stage of the pregnancy provides benefits. The Public Health Agency^{31 32} provides information on the effects of smoking while pregnant.

Smoking in pregnancy is linked to:

- Pregnancy complications e.g. three times more likely to have problems with the placenta
- Premature delivery, still birth (40% more likely to be still born), miscarriage (25% more likely to have a miscarriage)
- Low birth weight/small for gestational age – increased risk of infection, other health problems and neonatal death
- Higher carbon monoxide levels can reduce the amount of oxygen available to the infant, while nicotine from cigarettes can narrow the blood vessels, restricting the blood flow and reducing the supply of nutrients and oxygen to the infant.

An infant born to a mother who smoked is at greater risk of³³:

- Sudden or unexplained death (SIDS)
- Developing respiratory conditions such as asthma, chest infections
- Developing behavioural problems e.g. Attention Deficit Hyperactivity Disorder (ADHD).

What can be done?

From September 2016, all women across Northern Ireland, attending for their antenatal booking appointment, are screened for carbon monoxide levels in the body. Where levels indicate that the woman is being exposed to sources of carbon monoxide, either by smoking, or environmentally, then appropriate advice is given e.g. information on Stop Smoking services. Further information on interventions during pregnancy is available in guidance from NICE “Smoking: stopping in pregnancy and after childbirth”³⁴ and useful information, in general, on how to stop smoking is available from the Public Health Agency³⁵.

DIABETES

Why should we be concerned?

NICE guidelines describe the additional risk to mother and baby associated with Type 1 and Type 2 diabetes. Women with diabetes are more likely to give birth by Caesarean Section or deliver an infant that is large for gestational age. Women may also have an increased risk of pre-eclampsia or miscarriage³⁶. More minor health problems e.g. morning sickness can cause problems with blood sugar control. Infants born to mothers with diabetes are at greater risk of³⁷:

- Stillbirth / born pre-term (<37 weeks gestation)
- Neonatal death
- Congenital abnormality.

³¹ Public Health Agency, Want2Stop <http://www.want2stop.info/know-about-smoking/smoking-and-pregnancy>

³² Public Health Agency, “Give your baby a breather – help and advice on giving up smoking during pregnancy” http://www.publichealth.hscni.net/sites/default/files/Give%20your%20baby%20a%20breather%20booklet%2001_17.pdf

³³ Institute of Public Health, “A Tobacco-Free Future: An All-Island Report on Tobacco, Inequalities and Childhood”, 2013 <http://www.publichealth.ie/sites/default/files/A%20Tobacco-free%20Future.%20An%20All-island%20report%20on%20Tobacco%20Inequalities%20and%20Childhood%202013.pdf>

³⁴ National Institute for Health and Care Excellence (NICE) “Smoking: stopping in pregnancy and after childbirth”, public health guidance, June 2010 <http://www.nice.org.uk/guidance/ph26>

³⁵ As ³¹

³⁶ “Type 1 diabetes and pregnancy”, British Medical Journal 334 (7596). Sourced from: US National Library of Medicine (National Institutes of Health), 2007 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1847857/>

³⁷ Diabetes UK, Pregnancy and diabetes, <https://www.diabetes.org.uk/guide-to-diabetes/life-with-diabetes/pregnancy>

Gestational diabetes is becoming more prevalent in women of child bearing age, possibly due to increasing maternal age and obesity levels which brings additional risk to the mother and her baby. Pregnancy places a heavy demand on the body and some women are less able to produce enough insulin to overcome this resistance. Mothers with gestational diabetes are more likely to develop Type 2 diabetes in later life.

What can be done?

Type 1 diabetes cannot be prevented. Type 2 diabetes is becoming more common in women of child bearing age. Risk factors for developing gestational diabetes include³⁸:

- Being overweight or obese
- Coming from an Black or African-Caribbean, South Asian or Middle Eastern background
- Having a close relative e.g. parent, brother or sister with diabetes
- Having had gestational diabetes before
- Having had a very large baby in a previous pregnancy (≥ 4.5 kg)

In November 2016, the Department of Health published “A Diabetes Strategic Framework”³⁹ which sets out a plan to achieve improvement in outcomes for people living with diabetes. The Framework refers to pre-pregnancy and pregnant women:

“Unlike Type 1 diabetes, whose management largely resides within specialist diabetes teams, many women with Type 2 diabetes will be managed exclusively in the community prior to pregnancy. Ensuring those women who might become pregnant have the right education and support requires staff in primary and community settings to be well-trained and alert to the possibility of pregnancy occurring. Pre pregnancy counselling which can improve pregnancy outcomes and reduce the risk of congenital malformations is now available in all 5 HSC Trusts. The need for services for pregnant women living with diabetes to be coordinated is essential to improving outcomes for both mother and baby, including for example the role of the diabetes specialist nurse and dieticians within the context of joint antenatal diabetes clinics within each Health and Social Care Trust”.

The NICE⁴⁰ guidance “*Diabetes in pregnancy: management from preconception to the postnatal period*” focuses on the additional/different care that a woman with diabetes should be offered, providing advice on best practice for the care of the mother/baby.

Pre pregnancy clinics are available throughout Northern Ireland for women with a history of Type 1, Type 2 and a past history of Gestational Diabetes, who should attend early if they are planning pregnancy. An online resource “Women with Diabetes” is available at www.womenwithdiabetes.net

³⁸ Diabetes UK, <https://www.diabetes.org.uk/diabetes-the-basics/gestational-diabetes>

³⁹ Department of Health, November 2016 <https://www.health-ni.gov.uk/publications/diabetes-strategic-framework>

⁴⁰ National Institute for Health and Care Excellence (NICE) “Diabetes in pregnancy: management from preconception to the postnatal period”, February 2015 <http://www.nice.org.uk/guidance/ng3>

Key Points

- In 2016/17 [Page 43]:
 - 13.3% of mothers smoked (2010/11 = 15.5%)
 - 7.6% of mothers had diabetes (2010/11 = 1.8%)
- Smoking: the proportion of mothers who smoked (at booking) decreased with age, from 29.7% of those aged less than 20 years to 7.9% of those aged 40 and over. In the most deprived areas of NI (NIMDM 2010), 25.0% of mothers smoked, compared to 5.5% in the least deprived areas. [Page 45, 46]
- Diabetes: the percentage of mothers with diabetes increased with age, 3.7% of those aged less than 20 years, compared to 11.7% of mothers aged 40 and over. A considerably higher proportion of mothers from a non-white ethnic background had diabetes (15.1%), compared to all mothers (7.7%). [Page 45]
- At District Electoral Area level:
 - Smoking: proportion of mothers who smoked ranged from 4.4% (Bangor East & Donaghadee DEA, Ards & North Down LGD) to 34.2% (Court DEA, Belfast LGD). [Page 47]
 - Diabetes: proportion of mothers with diabetes ranged from 2.0% (Crotlieve DEA, Newry, Mourne & Down LGD) to 13.4% (Bann DEA, Causeway Coast & Glens LGD). [Page 47]

Table 6.1: Mothers resident in Northern Ireland, by maternal risk factor, 2010/11 - 2016/17

Year of birth		Maternal risk factor						
		Mothers giving birth	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Alcohol use	Antepartum haemorrhage
2010/11	n	25,253	3,923	444	1,136	940	22	563
	%	-	15.5%	1.8%	4.5%	3.7%	0.09%	2.2%
2011/12	n	24,929	4,087	575	1,199	863	27	743
	%	-	16.4%	2.3%	4.8%	3.5%	0.11%	3.0%
2012/13	n	24,625	3,959	890	1,138	1,069	26	719
	%	-	16.1%	3.6%	4.6%	4.3%	0.11%	2.9%
2013/14	n	23,898	3,544	1,230	1,207	989	21	682
	%	-	14.8%	5.1%	5.1%	4.1%	0.09%	2.9%
2014/15	n	24,041	3,497	1,361	1,034	787	19	623
	%	-	14.5%	5.7%	4.3%	3.3%	0.08%	2.6%
2015/16	n	24,073	3,389	1,517	1,063	850	20	574
	%	-	14.1%	6.3%	4.4%	3.5%	0.08%	2.4%
2016/17	n	23,697	3,194	1,822	1,029	780	12	514
	%	-	13.3%	7.6%	4.3%	3.2%	0.05%	2.1%

Source: Child Health System

There has been a concerted effort to identify diabetes risk factors in women and this may in part be reflected in the increased numbers

Figure 6.1: % mothers by selected risk factor, Northern Ireland residents, 2010/11 – 2016/17

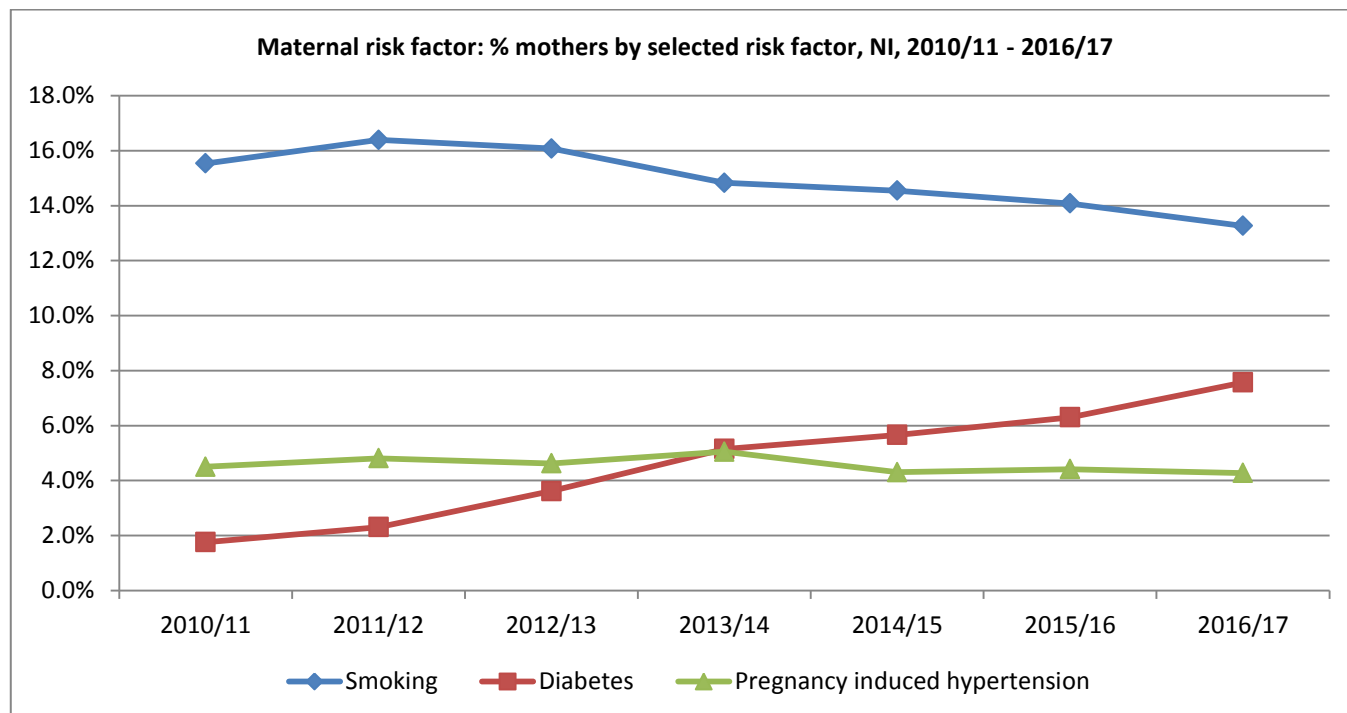


Table 6.2: Mothers resident in Northern Ireland, by maternal risk factor, 2016/17

		% mothers by risk factor						
		Total mothers	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Alcohol use	Antepartum haemorrhage
Age Group of mother	Under 20	758	29.68%	3.69%	5.15%	5.80%		1.72%
	20 - 24	3,025	27.57%	5.62%	4.26%	4.07%		2.18%
	25 - 29	6,506	16.25%	6.81%	4.73%	3.38%		2.04%
	30 - 34	8,133	8.40%	7.51%	3.92%	2.89%		2.10%
	35 - 39	4,387	7.41%	10.62%	4.38%	2.85%		2.33%
	40 +	886	7.90%	11.74%	4.74%	3.72%		3.27%
	Not known	2	0.00%	0.00%	0.00%	0.00%		0.00%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%
Multiple births	Single	23,327	13.48%	7.72%	4.30%	3.22%		2.15%
	Multiple	370	13.51%	5.68%	7.30%	7.57%		3.24%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%
First time mothers	First time mother	8,866	11.89%	7.26%	6.77%	2.45%		2.35%
	Not a first time mother	14,558	14.39%	8.08%	2.93%	3.85%		2.10%
	Not known	273	16.48%	0.37%	0.73%	1.10%		0.37%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%
Ethnic group of mother (NIMATS)	White	22,921	13.86%	7.50%	4.37%	3.14%		2.34%
	Non-white	741	6.07%	15.11%	0.27%	4.18%		3.51%
	Not stated / Blank	41	7.32%	12.20%	97.56%	9.76%		0.00%
	All mothers	23,703	13.60%	7.74%	4.40%	3.19%		2.38%
Place of birth	Altnagelvin	2,561	14.84%	9.53%	3.59%	4.53%		2.23%
	Antrim	2,967	13.89%	12.40%	2.56%	2.43%		2.09%
	Causeway	1,016	15.35%	2.36%	3.74%	3.35%		1.87%
	Craigavon	4,052	10.49%	6.89%	4.74%	2.69%		1.26%
	Daisy Hill	1,731	9.30%	0.00%	2.60%	4.22%		1.62%
	Downe	56	12.50%	0.00%	0.00%	1.79%		1.79%
	Lagan Valley	165	12.12%	0.00%	0.00%	2.42%		0.61%
	Mater	262	14.50%	1.53%	0.00%	1.91%		0.38%
	Royal	5,504	17.46%	7.85%	4.49%	3.45%		2.36%
	SWAH	1,208	9.77%	6.62%	3.89%	2.90%		2.32%
	Ulster	4,137	12.45%	9.45%	7.06%	3.41%		3.29%
	Home/Other	38	2.63%	0.00%	0.00%	0.00%		0.00%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%
	Trust of residence of mother	Belfast	4,623	18.08%	7.92%	4.35%	3.55%	
Northern		5,694	13.33%	9.15%	3.60%	2.67%		1.91%
South Eastern		4,188	13.25%	8.29%	6.06%	3.34%		3.01%
Southern		5,350	10.22%	4.86%	4.36%	3.29%		1.38%
Western		3,842	12.94%	8.54%	3.54%	3.85%		2.21%
All mothers		23,697	13.48%	7.69%	4.34%	3.29%		2.17%
Council area (2014)	Antrim and Newtownabbey	1,720	13.08%	8.90%	3.49%	2.97%		2.03%
	Ards and North Down	1,648	13.17%	10.25%	7.77%	3.28%		3.46%
	Armagh City, Banbridge and Craigavon	2,865	11.06%	5.62%	5.20%	3.18%		1.33%
	Belfast	4,555	19.41%	7.66%	4.13%	3.51%		2.39%
	Causeway Coast and Glens	1,653	15.00%	9.07%	3.63%	3.87%		2.30%
	Derry City and Strabane	1,935	15.45%	8.79%	3.46%	4.44%		2.12%
	Fermanagh and Omagh	1,479	9.53%	8.18%	3.92%	2.50%		2.30%
	Lisburn and Castlereagh	1,723	9.52%	7.60%	4.88%	3.25%		2.67%
	Mid and East Antrim	1,552	14.30%	9.41%	3.80%	1.80%		1.68%
	Mid Ulster	2,138	9.49%	7.86%	3.60%	2.67%		1.26%
	Newry, Mourne and Down	2,429	11.28%	4.28%	4.08%	3.95%		2.59%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%

Table 6.2 continued: Mothers resident in Northern Ireland, by maternal risk factor, 2016/17

		% mothers by risk factor						
		Total mothers	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Alcohol use	Antepartum haemorrhage
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	5,379	24.99%	8.01%	4.13%	4.00%		1.91%
	2	5,108	15.43%	7.83%	4.03%	3.52%		2.23%
	3	5,028	9.57%	7.02%	4.14%	2.98%		1.89%
	4	4,534	8.40%	8.29%	4.59%	2.73%		2.32%
	Least deprived	3,648	5.48%	7.18%	5.07%	3.04%		2.66%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	5,339	24.84%	7.94%	3.63%	4.03%		2.23%
	2	5,060	14.82%	7.91%	4.60%	3.60%		1.82%
	3	4,870	9.94%	7.04%	4.14%	2.72%		2.05%
	4	4,631	8.87%	7.68%	4.12%	2.98%		2.12%
	Least deprived	3,797	5.46%	7.92%	5.59%	2.93%		2.80%
	All mothers	23,697	13.48%	7.69%	4.34%	3.29%		2.17%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Alcohol use - figures are too small and so have not been provided

Table 6.3: Mothers resident in Northern Ireland, by maternal risk factor - smoking and diabetes, by District Electoral Area, 2016/17

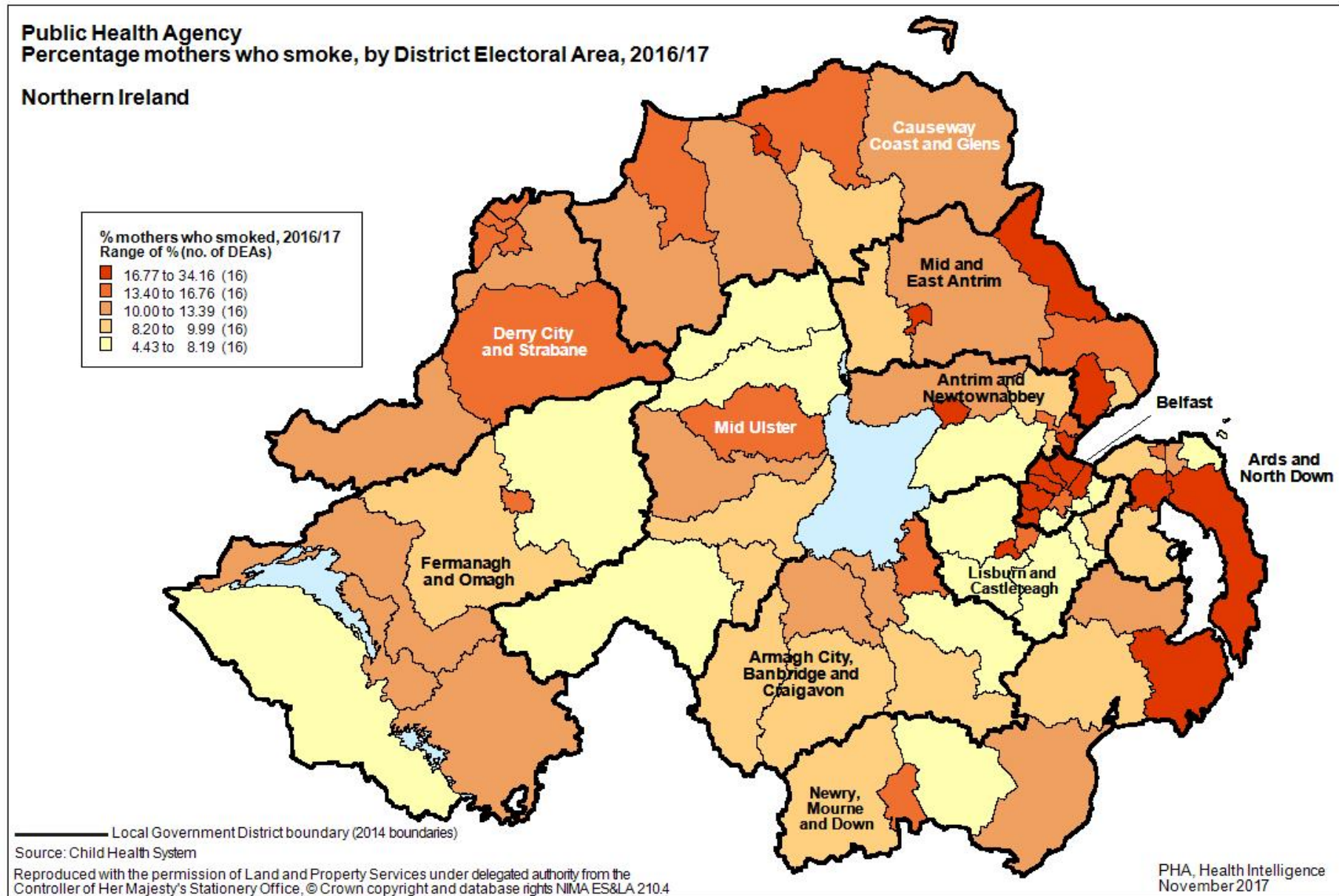
Council (2014)	District Electoral Area	Total mothers	% mothers by risk factor	
			Smoking	Diabetes
Antrim and Newtownabbey	Airport	320	7.50%	9.38%
	Antrim	292	18.84%	10.96%
	Ballyclare	209	8.61%	7.66%
	Dunsilly	196	10.20%	8.16%
	Glengormley Urban	250	9.60%	8.80%
	Macedon	236	22.03%	8.05%
	Three Mile Water	217	14.75%	8.29%
	Total	1,720	13.08%	8.90%
Ards and North Down	Ards Peninsula	241	18.26%	8.71%
	Bangor Central	326	11.96%	9.51%
	Bangor East and Donaghadee	203	4.43%	10.84%
	Bangor West	204	14.71%	12.75%
	Comber	182	8.24%	10.44%
	Holywood and Clondeboye	193	8.81%	6.74%
	Newtownards	299	21.07%	12.37%
	Total	1,648	13.17%	10.25%
Armagh, Banbridge and Craigavon	Armagh	458	9.83%	8.08%
	Banbridge	446	9.87%	3.81%
	Craigavon	370	12.16%	7.03%
	Cusher	352	9.38%	2.56%
	Lagan River	302	5.96%	4.97%
	Lurgan	494	15.59%	5.26%
	Portadown	443	12.42%	7.00%
	Total	2,865	11.06%	5.62%
Belfast	Balmoral	278	7.19%	7.55%
	Black Mountain	554	23.10%	6.32%
	Botanic	470	14.47%	8.09%
	Castle	412	18.45%	8.01%
	Collin	567	17.11%	5.64%
	Court	483	34.16%	7.04%
	Lisnasharragh	339	5.90%	6.49%
	Oldpark	538	30.86%	8.18%
	Ormiston	364	7.97%	9.34%
	Titanic	550	20.91%	10.18%
	Total	4,555	19.41%	7.66%
	Causeway Coast and Glens	Ballymoney	296	9.80%
Bann		217	11.52%	13.36%
Benbradagh		248	12.50%	7.26%
Causeway		219	15.98%	6.39%
Coleraine		276	26.45%	8.33%
Limavady		178	14.61%	10.67%
The Glens		219	13.24%	8.22%
Total		1,653	15.00%	9.07%
Derry City and Strabane	Ballyarnett	364	16.76%	6.04%
	Derg	215	12.09%	8.37%
	Faughan	228	11.40%	10.96%
	Foyleside	213	16.43%	8.92%
	Sperrin	303	16.17%	8.58%
	The Moor	233	16.74%	10.30%
	Waterside	379	16.62%	9.50%
	Total	1,935	15.45%	8.79%

Table 6.3 continued: Mothers resident in Northern Ireland, by maternal risk factor - smoking and diabetes, by District Electoral Area, 2016/17

Council (2014)	District Electoral Area	Total mothers	% mothers by risk factor	
			Smoking	Diabetes
Fermanagh and Omagh	Enniskillen	199	11.06%	11.56%
	Erne East	229	10.04%	6.55%
	Erne North	191	10.99%	10.47%
	Erne West	182	5.49%	7.14%
	Mid Tyrone	238	5.04%	7.98%
	Omagh	247	13.77%	8.50%
	West Tyrone	193	9.84%	5.18%
	Total	1,479	9.53%	8.18%
Lisburn and Castlereagh	Castlereagh East	235	8.94%	8.51%
	Castlereagh South	313	4.47%	8.31%
	Downshire East	173	6.36%	9.25%
	Downshire West	144	5.56%	8.33%
	Killultagh	303	5.61%	5.28%
	Lisburn North	257	14.40%	6.23%
	Lisburn South	298	18.79%	8.39%
	Total	1,723	9.52%	7.60%
Mid and East Antrim	Ballymena	340	17.35%	10.88%
	Bannside	221	9.95%	9.95%
	Braid	286	10.49%	7.69%
	Carrick Castle	175	9.14%	8.00%
	Coast Road	160	21.25%	7.50%
	Knockagh	185	18.38%	9.73%
	Larne Lough	185	14.59%	11.35%
	Total	1,552	14.30%	9.41%
Mid Ulster	Carntogher	255	7.45%	9.80%
	Clogher Valley	327	6.12%	5.50%
	Cookstown	341	11.73%	8.50%
	Dungannon	382	9.69%	5.50%
	Magherafelt	265	14.72%	9.81%
	Moyola	248	7.66%	10.08%
	Torrent	320	9.06%	7.50%
	Total	2,138	9.49%	7.86%
Newry, Mourne and Down	Crotlieve	392	5.61%	2.04%
	Downpatrick	253	18.97%	7.91%
	Newry	383	14.10%	2.35%
	Rowallane	254	13.39%	9.06%
	Slieve Croob	275	8.73%	6.18%
	Slieve Gullion	474	9.70%	2.32%
	The Mournes	398	11.56%	4.02%
	Total	2,429	11.28%	4.28%
Northern Ireland	All mothers	23,697	13.48%	7.69%

Source: Child Health System

Figure 6.2: Percentage mothers resident in Northern Ireland who smoke, by District Electoral Area, 2016/17



Section 7: Maternal BMI

Why should we be concerned?

This report highlights that over one fifth (22%) of mothers giving birth in Northern Ireland in 2016/17 were obese (BMI \geq 30) (Table 7.1, page 51). Obesity is linked to the following^{41,42}:

- Reduced fertility
- Greater risk of miscarriage / still birth
- Greater risk of developing gestational diabetes
- Perinatal complications e.g. shoulder dystocia
- Greater risk of conditions such as diabetes and hypertension to both mother and child
- Maternal death

The Royal College of Obstetricians and Gynaecologists⁴³ adds that mothers who were obese were also at risk of thrombosis (blood clot), high blood pressure and pre-eclampsia, post-Caesarean wound infection, anaesthetic complications and postpartum haemorrhage.

Maternal obesity puts both the mother and infant at risk. Risks to infants include⁴⁴:

- Greater risk of neural tube defects (problems with development of brain and spine)
- Having a larger baby (>4kg)
- Being born preterm
- The increased risk of obesity and diabetes in later life.

Maternal obesity has been linked also to low breastfeeding rates and adverse cardiovascular and respiratory outcomes in children⁴⁵.

What can be done?

Advice given to the general population on maintaining a sensible weight should be encouraged in women of childbearing age. Recent campaigns and initiatives such as the Public Health Agency's "Choose to Live Better"⁴⁶ and the Department of Health framework "A Fitter Future for All"⁴⁷ encourage people to make healthy choices, to improve their health and wellbeing and to reduce the risk of diseases relating to obesity.

For women who are already pregnant or are planning conception, healthy eating, appropriate physical activity, increased dose of folic acid and vitamin D supplements are encouraged, particularly in obese women. Due to the risks highlighted above, women who are obese are more likely to need specialist health care during their pregnancy, at birth and postnatally. Various guidelines, recommendations and resources are available to health care professionals to encourage better weight management in pregnancy⁴⁸.

⁴¹ "Annual Report of the Chief Medical Officer, 2014, The Health of the 51%: Women" https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/484383/cmo-report-2014.pdf

⁴² Agnihotri S (2015) Obesity: Time to re-examine care for pregnant women. British Journal of Obesity 1: 94–8 <http://www.britishtjournalofobesity.co.uk/journal/2015-1-3-96>

⁴³ Royal College of Obstetricians and Gynaecologists "Why your weight matters during pregnancy and after birth" https://www.rcog.org.uk/en/patients/patient-leaflets/why-your-weight-matters-during-pregnancy-and-after-birth/?t_id=1B2M2Y8AsqTpdAmY7PhCiq%3d%3d&t_q=obesity+and+pregnancy&t_tags=language%3aen%2csiteid%3a39338ee9-cb61-4e10-a686-8f4a5e1b76d7&t_ip=81.145.165.209&t_hit.id=EPIServer_Templates_RCOG_Models_Pages_PatientGuidelinesDetailsType/a0e7baf6-8ee1-45e5-921f-727dce8de07_en&t_hit.pos=9

⁴⁴ As⁴⁵
⁴⁵ National Obesity Observatory (part of Public Health England) http://www.noo.org.uk/NOO_about_obesity/maternal_obesity_2015

⁴⁶ Choose to Live Better, Public Health Agency <http://www.choosetolivebetter.com/>

⁴⁷ "A Fitter Future for All", Department of Health <https://www.health-ni.gov.uk/articles/obesity-prevention>

⁴⁸ Centre for Maternal and Child Enquiries/Royal College of Obstetricians and Gynaecologists. Joint guideline "Management of Women with Obesity in Pregnancy", 2010 <https://www.rcog.org.uk/globalassets/documents/guidelines/cmacercojointguidelinemanagementwomenobesitypregnancy.pdf> and National Institute for Health and Care Excellence (NICE), "Weight management before, during and after pregnancy", 2010 <http://www.nice.org.uk/guidance/ph27/resources/weight-management-before-during-and-after-pregnancy-1996242046405>

Key Points

- Over 22% of mothers giving birth during 2016/17 were measured as obese at time of booking appointment. This proportion has increased year on year since 2011/12. [Page 51]
- In 2016/17, over half (52.2%) of all mothers at the time of booking, are considered pre-obese or obese. [Page 51]
- Levels of obesity in mothers, in general, increased with age e.g. in 2016/17, 35.6% of mothers aged less than twenty years were considered pre-obese/obese compared to 58.3% of mothers aged 40 and over. [Page 52]
- Levels of obesity decreased as level of deprivation decreased (NIMDM 2010). In 2016/17, 56.3% of mothers from most deprived areas were classified as pre-obese/obese compared to 47.4% from the least deprived areas (all mothers = 52.2%). [Page 53]

Table 7.1: Body Mass Index, at time of booking, of mothers resident in Northern Ireland who gave birth, 2011/12 - 2016/17

Year of birth		Mothers by BMI at booking							Total	Total: Obese I, II and III
		Underweight (<18.50)	Normal (18.50 - 24.99)	Pre-obese (25.00 - 29.99)	Obese I (30.00 - 34.99)	Obese II (35.00 - 39.99)	Obese III (≥40.00)	Not known		
2011/12	n	487	11,538	6,752	2,733	1,032	489	945	23,976	4,254
	%	2.1%	50.1%	29.3%	11.9%	4.5%	2.1%	-	-	18.5%
2012/13	n	510	11,802	7,036	2,970	1,113	547	553	24,531	4,630
	%	2.1%	49.2%	29.3%	12.4%	4.6%	2.3%	-	-	19.3%
2013/14	n	470	11,429	6,949	2,921	1,174	515	368	23,826	4,610
	%	2.0%	48.7%	29.6%	12.5%	5.0%	2.2%	-	-	19.7%
2014/15	n	472	11,510	6,952	2,933	1,215	576	308	23,966	4,724
	%	2.0%	48.7%	29.4%	12.4%	5.1%	2.4%	-	-	20.0%
2015/16	n	472	11,216	7,178	2,969	1,271	605	331	24,042	4,845
	%	2.0%	47.3%	30.3%	12.5%	5.4%	2.6%	-	-	20.4%
2016/17	n	456	10,703	7,044	3,147	1,332	676	345	23,703	5,155
	%	2.0%	45.8%	30.2%	13.5%	5.7%	2.9%	-	-	22.1%

Source: NIMATS

Figure 7.1: % mothers Obese I, II and III, Northern Ireland, 2011/12 – 2016/17

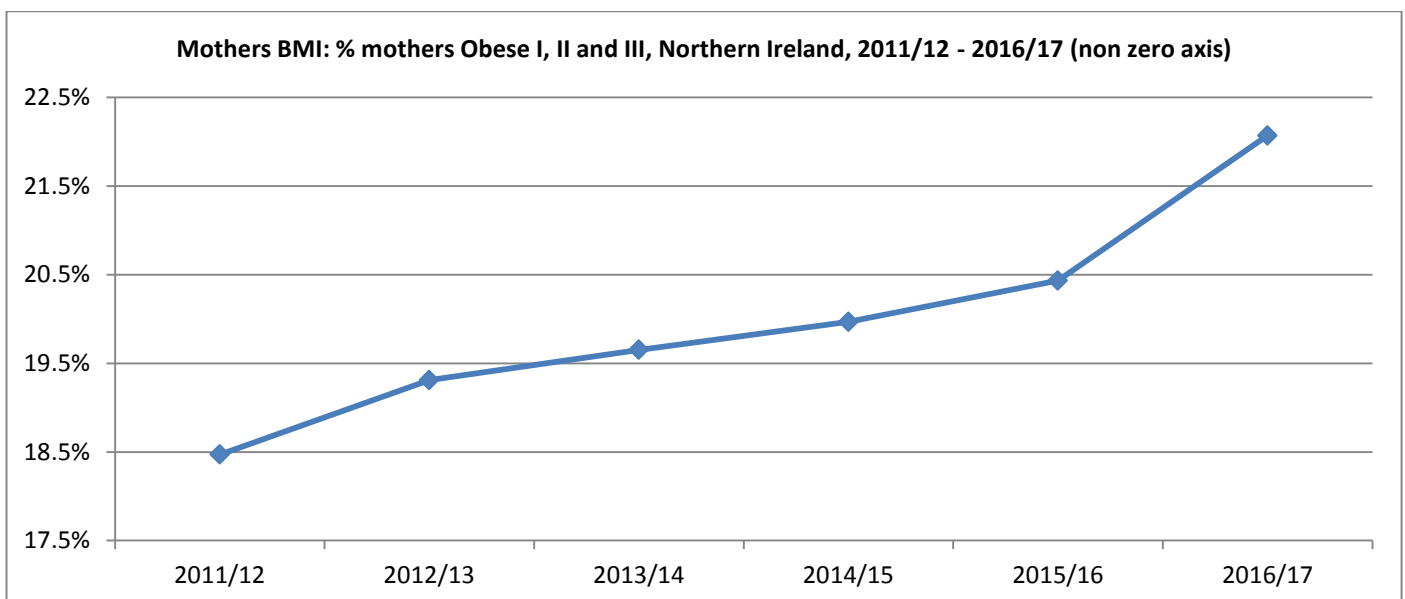


Table 7.2: Body Mass Index, at time of booking, of mothers resident in Northern Ireland who gave birth, 2016/17

		Mothers by BMI at booking, 2015/16								% obese I, II and III
		Underweight (<18.50)	Normal (18.50 - 24.99)	Pre-obese (25.00 - 29.99)	Obese I (30.00 - 34.99)	Obese II (35.00 - 39.99)	Obese III (≥40.00)	Not known	Total	
Age Group of mother	Under 20	49	428	167	66	18	13	11	752	13.1%
	20 - 24	100	1,354	812	423	204	74	43	3,010	23.6%
	25 - 29	136	2,908	1,850	903	388	212	91	6,488	23.5%
	30 - 34	119	3,777	2,475	1,020	432	217	109	8,149	20.8%
	35 - 39	44	1,873	1,448	599	229	130	81	4,404	22.2%
	40 +	8	363	292	136	61	30	10	900	25.5%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Multiple births	Single	450	10,536	6,935	3,093	1,311	670	340	23,335	22.1%
	Multiple	6	167	109	54	21	6	5	368	22.3%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Ethnic group of mother	White	427	10,348	6,796	3,054	1,300	664	332	22,921	22.2%
	Non-white	27	328	242	90	31	12	11	741	18.2%
	Not stated / Blank	2	27	6	3	1	0	2	41	10.3%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Place of birth	Altnagelvin	46	1,075	796	392	178	86	4	2,577	25.5%
	Antrim	61	1,307	891	422	162	118	9	2,970	23.7%
	Causeway	≤20	497	342	103	53	≤5	0	1,017	<22.1%
	Craigavon	87	1,952	1,187	467	224	113	21	4,051	20.0%
	Daisy Hill	21	817	558	209	90	33	4	1,732	19.2%
	Downe	0	31	19	≤5	≤5	0	0	54	7.4%
	Lagan Valley	7	85	57	10	≤5	0	≤5	163	<22.1%
	Mater	≤5	131	94	28	≤5	0	1	259	<22.1%
	Royal	117	2,405	1,593	827	330	187	40	5,499	24.6%
	SWAH	22	596	349	163	65	≤25	≤5	1,217	<22.1%
	Ulster	73	1,790	1,144	521	225	114	263	4,130	22.2%
	Home/Other	0	17	14	≤5	0	0	≤5	34	<22.1%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Trust of residence of mother	Belfast	92	2,129	1,357	669	244	134	21	4,646	22.6%
	Northern	109	2,548	1,730	765	333	172	20	5,677	22.5%
	South Eastern	88	1,763	1,157	520	233	134	270	4,165	22.8%
	Southern	103	2,542	1,635	635	280	132	23	5,350	19.7%
	Western	64	1,721	1,165	558	242	104	11	3,865	23.5%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Council area (2014)	Antrim & Newtownabbey	32	750	532	226	112	42	10	1,704	22.4%
	Ards & North Down	27	729	461	249	105	61	10	1,642	25.4%
	Armagh City, Banbridge & Craigavon	57	1,368	865	339	142	72	16	2,859	19.5%
	Belfast	104	2,073	1,336	662	244	141	23	4,583	23.0%
	Causeway Coast & Glens	26	711	541	221	97	54	3	1,653	22.5%
	Derry City & Strabane	39	837	598	288	144	52	1	1,959	24.7%
	Fermanagh & Omagh	22	723	420	193	77	37	10	1,482	20.9%
	Lisburn & Castlereagh	33	756	473	184	81	38	140	1,705	19.4%
	Mid & East Antrim	36	690	447	244	75	54	3	1,549	24.1%
	Mid Ulster	42	1,023	642	256	111	59	6	2,139	20.0%
	Newry, Mourne & Down	38	1,043	729	285	144	66	123	2,428	21.5%
	All infants	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%

Table 7.2 continued: Body Mass Index, at time of booking, of mothers resident in Northern Ireland who gave birth, 2016/17

		Mothers by BMI at booking, 2015/16							Total	% obese I, II and III
		Underweight (<18.50)	Normal (18.50 - 24.99)	Pre-obese (25.00 - 29.99)	Obese I (30.00 - 34.99)	Obese II (35.00 - 39.99)	Obese III (≥40.00)	Not known		
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	121	2,220	1,604	834	381	193	44	5,397	26.3%
	2	89	2,249	1,524	696	320	147	84	5,109	23.1%
	3	86	2,308	1,525	668	275	143	63	5,068	21.7%
	4	86	2,130	1,317	553	213	120	79	4,498	20.0%
	Least deprived	74	1,796	1,074	396	143	73	75	3,631	17.2%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	126	2,198	1,606	840	365	186	42	5,363	26.1%
	2	81	2,258	1,472	692	337	165	68	5,073	23.9%
	3	91	2,161	1,494	644	277	134	71	4,872	22.0%
	4	81	2,243	1,332	546	216	114	91	4,623	19.3%
	Least deprived	77	1,843	1,140	425	137	77	73	3,772	17.3%
	All mothers	456	10,703	7,044	3,147	1,332	676	345	23,703	22.1%

Source: NIMATS

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Due to small numbers, it is not possible to show data by individual ethnic group

Disclosure controls have been applied to this table. As a result, for some places of birth, it is not possible to show the exact percentage values in the final column and so a comparison to the NI value has been provided

Section 8: Method of Delivery

Why should we be concerned?

This report highlights the high level of Caesarean section births in Northern Ireland (over 30% of births in 2016/17). In some pregnancies where there are complications present, a Caesarean section may be necessary e.g. breech presentation, a multiple birth, inadequate progress during labour, pre-eclampsia, placenta praevia (low lying placenta)⁴⁹. The main risks associated with a Caesarean section include⁵⁰:

- Wound infection
- Blood clots
- Excess bleeding
- Possibility of staying in hospital for longer
- Maternal death

Having numerous Caesarean Sections may increase the risk of the following (although risk is low):

- Damage to the bowel and bladder
- Further procedures after birth e.g. blood transfusion, emergency hysterectomy
- Stillbirth in a future pregnancy

What can be done?

WHO states that *“when medically justified, a caesarean section can effectively prevent maternal and perinatal mortality and morbidity. However, there is no evidence showing the benefits of caesarean delivery for women or infants who do not require the procedure”*.⁵¹

For some women, there will not be a choice i.e. a Caesarean section must be carried out (see above). However all women should be provided with information on the potential risks and benefits associated with Caesarean delivery. One particular area of concern is the number of first time mothers delivering by Caesarean unnecessarily. These women are more likely to give birth by Caesarean again, and therefore reducing the number of first time mothers delivering by Caesarean, by encouraging a birth without intervention, may help to decrease the overall number of Caesarean sections carried out.

ROBSON GROUPS

To allow for meaningful comparison of Caesarean section rates, a classification system (Ten Group Classification System)⁵² developed by Dr Michael Robson, was recommended for use within all healthcare facilities. WHO believes that this classification will help health care facilities to:

- Optimize the use of caesarean section by identifying, analysing and focusing interventions on specific groups of particular relevance for each health care facility
- Assess the effectiveness of strategies or interventions targeted at optimizing the use of caesarean section
- Assess the quality of care, clinical management practices and outcomes by group
- Assess the quality of the data collected, while raising staff awareness about the importance of the data and its use.

Currently work is being carried out to allow the Robson Groups to be monitored across Northern Ireland.

⁴⁹ National Institute for Health and Care Excellence (NICE), “Caesarean section”, Clinical Guidance (CG132), <https://www.nice.org.uk/guidance/CG132>

⁵⁰ Royal College of Obstetricians and Gynaecologists “Choosing to have a caesarean section” <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-choosing-to-have-a-c-section.pdf>

⁵¹ World Health Organisation, Statement on Caesarean Section Rates, 2015 http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/cs-statement/en/

⁵² As ⁵¹

Key Points

- In 2016/17, 30.5% of infants were delivered by Caesarian section. [Page 55]
- In 2016/17, mothers under 30 years of age had a higher percentage of births by emergency Caesarian section (13.8%) than by elective Caesarian section (9.7%), but the opposite is seen when the mother is over 30 years of age when 20.8% of births are by elective Caesarian section and 15.1% are by emergency Caesarian section. [Page 56]
- In 2016/17, of those hospitals providing Caesarean Sections, the proportion of infants born by this method, ranged from 29.5% in Causeway Hospital to 34.3% in Antrim Hospital. (All infants = 30.5%). [Page 56]
- In 2016/17, the proportion of Caesarean Sections increased as deprivation decreased (NIMDM 2010) – from 28.2% in the most deprived areas of Northern Ireland to 33.2% in the least deprived. (Elective increased from 14.2% - 17.3%, emergency 13.9% - 15.8%) [Page 57]

Table 8.1: Births to Northern Ireland residents, by method of delivery, 2010/11 - 2016/17

Year of birth		Infants born by method of delivery						Total	Infants born by Caesarean Section
		Elective C/S	Emergency C/S	C/S Other	Normal	Other	Not known		
2010/11	n	3,614	3,518	16	14,318	3,313	880	25,659	7,148
	%	14.6%	14.2%	0.1%	57.8%	13.4%	-	-	28.8%
2011/12	n	3,614	3,509	0	14,291	3,744	151	25,309	7,123
	%	14.4%	13.9%	0.0%	56.8%	14.9%	-	-	28.3%
2012/13	n	3,785	3,610	0	13,902	3,574	157	25,028	7,395
	%	15.2%	14.5%	0.0%	55.9%	14.4%	-	-	29.7%
2013/14	n	3,475	3,484	0	13,778	3,393	147	24,277	6,959
	%	14.4%	14.4%	0.0%	57.1%	14.1%	-	-	28.8%
2014/15	n	3,473	3,550	0	13,754	3,525	98	24,400	7,023
	%	14.3%	14.6%	0.0%	56.6%	14.5%	-	-	28.9%
2015/16	n	3,742	3,492	0	13,832	3,262	108	24,436	7,234
	%	15.4%	14.4%	0.0%	56.9%	13.4%	-	-	29.7%
2016/17	n	3,832	3,480	0	13,527	3,131	109	24,079	7,312
	%	16.0%	14.5%	0.0%	56.4%	13.1%	-	-	30.5%

Source: Child Health System

Method of delivery – categories used

- Normal: normal vertex
- Elective Caesarean: elective, planned or scheduled Caesarean
- Emergency Caesarean: crash, emergency or urgent Caesarean
- Other: assisted breech, breech delivery, breech extraction, forceps (low), forceps (other), other cephalic, spontaneous breech or vacuum

Figure 8.1: % infants born by Caesarean Section, Northern Ireland, 2010/11 – 2016/17

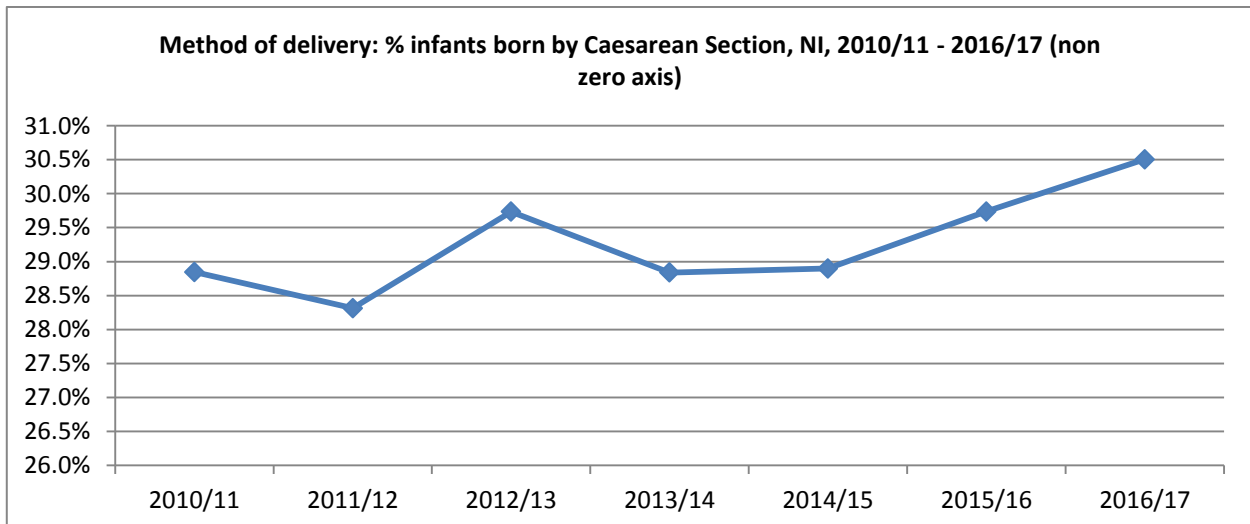


Table 8.2: Births to Northern Ireland residents, by method of delivery, 2016/17

		Infants born by method of delivery						% infants born by Caesarean Section
		Elective C/S	Emergency C/S	Normal	Other	Not known	Total	
Age Group of mother	Under 20	33	87	526	113	1	760	15.8%
	20 - 24	210	403	2,029	406	12	3,060	20.1%
	25 - 29	759	941	3,883	969	32	6,584	25.9%
	30 - 34	1,472	1,193	4,479	1,087	36	8,267	32.4%
	35 - 39	1,080	693	2,247	453	19	4,492	39.6%
	40 +	278	163	363	103	7	914	48.6%
	Not known	0	0	0	0	2	2	0.0%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Birth status	Live	3,827	3,474	13,465	3,111	100	23,977	30.6%
	Still	5	6	62	20	9	102	11.8%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Multiple births	Single	3,548	3,258	13,415	3,015	91	23,327	29.3%
	Multiple	284	222	112	116	18	752	68.9%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
First time mothers	First time mother	660	2,060	4,089	2,181	39	9,029	30.3%
	Not a first time mother	3,146	1,391	9,263	917	56	14,773	30.8%
	Not known	26	29	175	33	14	277	20.9%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Ethnic group of mother (NIMATS)	White	3,796	3,384	13,335	2,770	2	23,287	30.8%
	Asian	34	55	154	36	0	279	31.9%
	Black	18	29	92	17	0	156	30.1%
	Mixed	≤5	≤10	54	8	0	75	17.3%
	Other	34	37	151	23	0	245	29.0%
	Not stated / Blank	≤10	≤15	22	2	0	41	41.5%
	All infants	3,892	3,525	13,808	2,856	2	24,083	30.8%
Ethnic group of infant (CHS)	White	3,671	3,294	12,868	2,987	88	22,908	30.5%
	Asian	25	44	132	32	1	234	29.6%
	Black	13	22	87	18	2	142	25.0%
	Mixed	61	61	181	41	0	344	35.5%
	Other	49	49	174	36	2	310	31.8%
	Not stated / Blank	13	10	85	17	16	141	18.4%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Place of birth	Altnagelvin	409	382	1,458	356	6	2,611	30.4%
	Antrim	513	518	1,659	318	5	3,013	34.3%
	Causeway	158	143	585	135	0	1,021	29.5%
	Craigavon	703	559	2,267	566	31	4,126	30.8%
	Daisy Hill	328	254	929	228	7	1,746	33.5%
	Downe	0	0	53	≤5	≤5	56	0.0%
	Lagan Valley	0	0	160	≤5	≤5	165	0.0%
	Mater	0	0	256	6	0	262	0.0%
	Royal	863	797	3,168	781	16	5,625	29.6%
	SWAH	200	208	659	152	2	1,221	33.5%
	Ulster	658	614	2,320	585	16	4,193	30.5%
	Home/Other	0	5	13	≤5	≤25	40	26.3%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
	Trust of residence of mother	Belfast	664	649	2,725	635	23	4,696
Northern		916	889	3,249	706	20	5,780	31.3%
South Eastern		649	606	2,440	551	22	4,268	29.6%
Southern		974	737	2,956	724	35	5,426	31.7%
Western		629	599	2,157	515	9	3,909	31.5%
All infants		3,832	3,480	13,527	3,131	109	24,079	30.5%

Table 8.2 continued: Births to Northern Ireland residents, by method of delivery, 2016/17

	Infants born by method of delivery						% infants born by Caesarean Section	
	Elective C/S	Emergency C/S	Normal	Other	Not known	Total		
Council area (2014)	Antrim and Newtownabbey	258	238	1,033	215	7	1,751	28.4%
	Ards and North Down	297	240	910	221	7	1,675	32.2%
	Armagh City, Banbridge and Craigavon	509	373	1,619	393	17	2,911	30.5%
	Belfast	650	599	2,738	621	23	4,631	27.1%
	Causeway Coast and Glens	270	250	924	222	8	1,674	31.2%
	Derry City and Strabane	322	305	1,073	267	2	1,969	31.9%
	Fermanagh and Omagh	241	253	822	186	4	1,506	32.9%
	Lisburn and Castlereagh	226	286	991	246	8	1,757	29.3%
	Mid and East Antrim	239	267	888	177	5	1,576	32.2%
	Mid Ulster	371	300	1,196	287	12	2,166	31.2%
	Newry, Mourne and Down	449	369	1,333	296	16	2,463	33.4%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	776	761	3,251	656	22	5,466	28.2%
	2	835	753	2,860	706	23	5,177	30.8%
	3	834	700	2,906	630	27	5,097	30.3%
	4	743	678	2,549	617	26	4,613	31.0%
	Least deprived	644	588	1,961	522	11	3,726	33.2%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	809	774	3,165	647	22	5,417	29.3%
	2	836	719	2,860	694	24	5,133	30.4%
	3	772	676	2,822	648	24	4,942	29.4%
	4	753	702	2,633	601	21	4,710	31.0%
	Least deprived	662	609	2,047	541	18	3,877	32.9%
	All infants	3,832	3,480	13,527	3,131	109	24,079	30.5%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Method of delivery – Categories (Child Health System data)

- Normal: normal vertex
- Elective Caesarean: elective, planned or scheduled Caesarean
- Emergency Caesarean: crash, emergency or urgent Caesarean
- Other: assisted breech, breech delivery, breech extraction, forceps (low), forceps (other), other cephalic, spontaneous breech or vacuum

Section 9: Infant Birth Weight

LOW BIRTH WEIGHT

Why should we be concerned?

Low birth weight is defined as weight at birth of less than 2,500 grammes (or 5.5 pounds). In Northern Ireland in 2016/17, 6.2% of infants were born with a low birth weight (Table 9.1, page 60). Typically, a baby might have a lower birth weight because they were born earlier than expected (pre-term) or where growth has been restricted (small for gestational age). The following risk factors are associated with low birth weight^{53,54,55,56}:

- Younger (<17) / older mothers (>35)
- Low maternal BMI / poor maternal diet
- Maternal smoking (heavy) / substance misuse
- Maternal alcohol consumption (heavy)
- Multiple pregnancy
- Maternal hypertension and diabetes
- Non-attendance at antenatal care.

A birthweight below 2,500g contributes to a range of poor outcomes, including infant mortality^{57,58,59,60,61,62}:

- Respiratory problems
- Infections
- In later life - diabetes, high blood pressure, heart disease, obesity.
- Possible lower life expectancy
- Possible lower educational achievement

Programme for Government

The draft programme for Government sets out the priorities that the Northern Ireland Executive will pursue within the Assembly and includes actions it will take to address them. Although still in draft, the Programme contains 14 strategic outcomes, supported by 42 indicators. One indicator “Improve health in pregnancy” will measure “the proportion of babies born at a low birth weight”.

What can be done?

Actions to prevent low birth weight should address the risk factors identified above. For example, reduce teenage pregnancies, encourage women to maintain a healthy weight/promote healthy eating, encourage healthier lifestyles (stop smoking/reduce alcohol consumption), monitor women with conditions such as diabetes (see Sections 3, 6 and 7).

Studies suggest that encouraging women to take folic acid prior to conception and during early stages of pregnancy is associated with a significant reduction in the risk of delivering a small for gestation age infant⁶³.

⁵³ World Health Organisation, “Born too soon - The global action report on preterm birth”, 2012 http://www.who.int/maternal_child_adolescent/documents/born_too_soon/en/

⁵⁴ Han Z, Mulla S, Beyene J et al. Maternal underweight and the risk of preterm birth and low birth weight: a systematic review and meta-analysis. *Int J Epidemiol* 2011;40(1):65–101 <http://ije.oxfordjournals.org/content/40/1/65.long>

⁵⁵ Patra J, Bakker R, Irving H, Jaddoe V, Malini S, Rehm J. Dose–response relationship between alcohol consumption before and during pregnancy and the risks of low birthweight, preterm birth and small for gestational age (SGA)—a systematic review and meta-analysis. *BJOG* 2011;118:1411–1421 <http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2011.03050.x/pdf>

⁵⁶ Bramham Kate, Parnell Bethany, Nelson-Piercy Catherine, Seed Paul T, Poston Lucilla, Chappell Lucy C et al. Chronic hypertension and pregnancy outcomes: systematic review and meta-analysis *BMJ* 2014; 348 :g2301 <http://www.bmj.com/content/348/bmj.g2301>

⁵⁷ Royal College of Obstetricians and Gynaecologists “Premature labour” <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-premature-labour.pdf>

⁵⁸ Royal College of Obstetricians and Gynaecologists “Having a small baby” <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-having-a-small-baby.pdf>

⁵⁹ Diabetes UK, https://www.diabetes.org.uk/About_us/News_Landing_Page/2008/Underweight-babies-at-higher-risk-of-Type-2-diabetes/

⁶⁰ Class QA, Rickert ME, Lichtenstein P, et al. Birth weight, physical morbidity, and mortality: a population-based sibling-comparison study. *Am J Epidemiol* 2014;179:550–8. <http://aje.oxfordjournals.org/content/179/5/550.full>

⁶¹ Institute of Health Economics, Canada, “Determinants and Prevention of Low Birth Weight: A Synopsis of the Evidence”, 2008

http://www.ihe.ca/index.php?download/determinants_and_prevention_of_low_birth_weight_a_synopsis_of_the_evidence.pdf

⁶² Public Health Wales, Low Birth Weight – Review of risk factors and interventions – Technical Report, 2014,

[http://www2.nphs.wales.nhs.uk:8080/ChildrenMatFamiliesDocs.nsf/5633c1d141208e8880256f2a004937d1/e3f761ec6efe646f80257d490044fbae/\\$FILE/Low%20Birth%20Weight%20-%20Technical%20paper%20v1.pdf](http://www2.nphs.wales.nhs.uk:8080/ChildrenMatFamiliesDocs.nsf/5633c1d141208e8880256f2a004937d1/e3f761ec6efe646f80257d490044fbae/$FILE/Low%20Birth%20Weight%20-%20Technical%20paper%20v1.pdf)

⁶³ Hodgetts VA, Morris RK, Francis A, Gardosi J, Ismail KM. Effectiveness of folic acid supplementation in pregnancy on reducing the risk of small-for-gestational age neonates: a population study, systematic review and meta-analysis. *BJOG* 2014; DOI:10.1111/1471-0528.13202 <https://www.rcog.org.uk/globalassets/documents/news/folic-acid-supplementation.pdf>

Key Points

- In 2016/17, 6.2% of all births were measured as low birth weight i.e. less than 2,500g (6.0% of live and 55.2% of still births). 13.6% of live infants were born with a higher birth weight of 4,000g+ and 2.0% with a birth weight of 4,500g+. [Page 60]
- In 2016/17, 9.6% of births to mothers aged 40 and over were measured as low birth weight. All other age groups were closer to the Northern Ireland figure for this year of 6.2%. [Page 61]
- A higher proportion (13.7%) of mothers in 2016/17 who were of a white ethnic group had infants with a higher birth weight ($\geq 4,000$ g) than those of a non-white ethnic group (6.6%). [Page 61]
- The proportion of low birth weight infants born to mothers residing in the most deprived areas (NIMDM 2010) in 2016/17 was higher at 7.6% than to mothers from least deprived areas (5.9%). [Page 62]
- Data at District Electoral Area level for 2016/17 show that 9.8% of infants born to mothers living in The Glens DEA in Causeway Coast and Glens LGD were born with a low birth weight, compared to 2.8% in Downshire West DEA (Lisburn and Castlereagh LGD). [Page 63]

Figure 9.1: Percentage low birth weight infants, Northern Ireland, 2010/11 – 2016/17

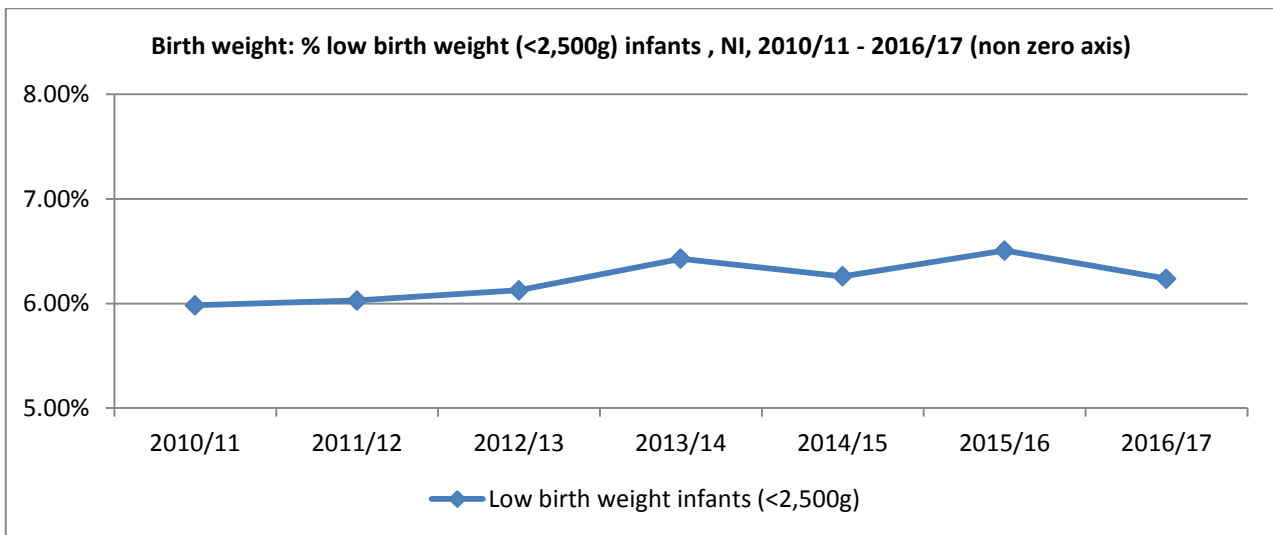


Figure 9.2: Percentage high birth weight infants, Northern Ireland, 2010/11 – 2016/17

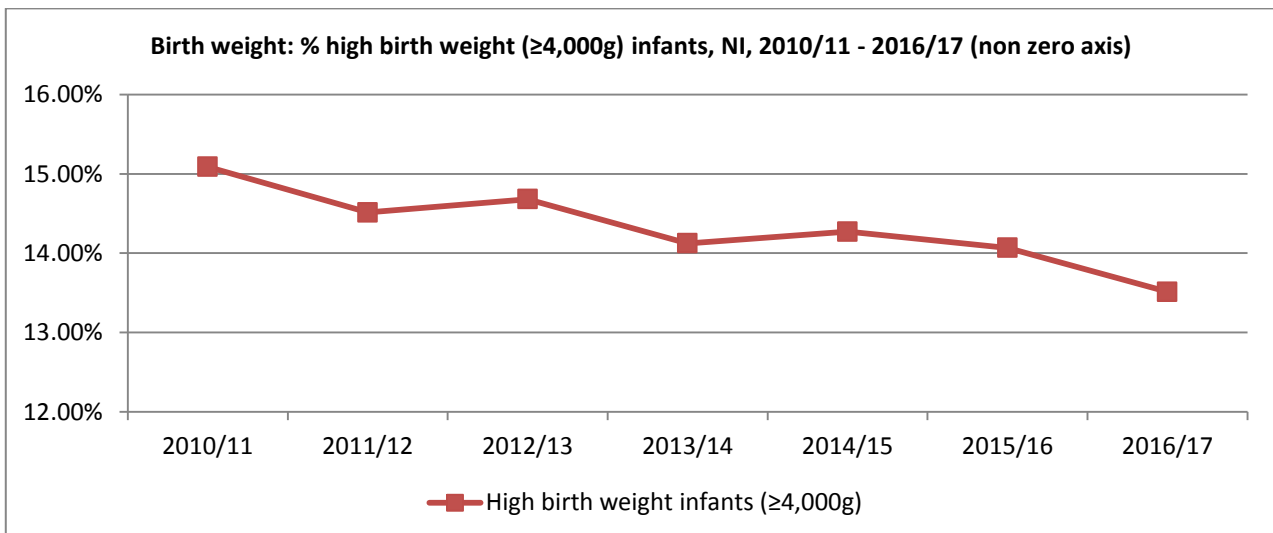


Table 9.1: Births to Northern Ireland residents, by birth weight, 2010/11 - 2016/17

Year of birth		Infants born by birth weight							Low birth weight infants (<2,500g)	High birth weight infants (≥4,000g)	High birth weight infants (≥4,500g)
		LIVE BIRTHS									
		< 1,500g	1,500 - 2,499g	2,500 - 3,999g	4,000 - 4,499g	4,500+g	Not known	Total			
2010/11	n	251	1,220	20,190	3,245	621	29	25,556	1,471	3,866	621
	%	1.0%	4.8%	79.1%	12.7%	2.4%	-	-	5.76%	15.14%	2.43%
2011/12	n	247	1,218	20,062	3,075	590	28	25,220	1,465	3,665	590
	%	1.0%	4.8%	79.6%	12.2%	2.3%	-	-	5.82%	14.55%	2.34%
2012/13	n	229	1,225	19,767	3,118	548	24	24,911	1,454	3,666	548
	%	0.9%	4.9%	79.4%	12.5%	2.2%	-	-	5.84%	14.73%	2.20%
2013/14	n	243	1,241	19,238	2,942	480	25	24,169	1,484	3,422	480
	%	1.0%	5.1%	79.7%	12.2%	2.0%	-	-	6.15%	14.17%	1.99%
2014/15	n	238	1,221	19,341	2,997	477	35	24,309	1,459	3,474	477
	%	1.0%	5.0%	79.7%	12.3%	2.0%	-	-	6.01%	14.31%	1.97%
2015/16	n	206	1,327	19,333	2,923	504	55	24,348	1,533	3,427	504
	%	0.8%	5.5%	79.6%	12.0%	2.1%	-	-	6.31%	14.11%	2.07%
2016/17	n	239	1,208	19,261	2,764	484	21	23,977	1,447	3,248	484
	%	1.0%	5.0%	80.4%	11.5%	2.0%	-	-	6.04%	13.56%	2.02%

Year of birth		Infants born by birth weight					Low birth weight infants (<2,500g)
		STILL BIRTHS					
		< 1,500g	1,500 - 2,499g	2,500+g	Not known	Total	
2010/11	n	38	24	38	3	103	62
	%	38.0%	24.0%	38.0%	-	-	62.00%
2011/12	n	34	25	29	1	89	59
	%	38.6%	28.4%	33.0%	-	-	67.05%
2012/13	n	53	25	39	0	117	78
	%	45.3%	21.4%	33.3%	-	-	66.67%
2013/14	n	50	25	32	1	108	75
	%	46.7%	23.4%	29.9%	-	-	70.09%
2014/15	n	43	23	24	1	91	66
	%	47.8%	25.6%	26.7%	-	-	73.33%
2015/16	n	33	20	29	6	88	53
	%	40.2%	24.4%	35.4%	-	-	64.63%
2016/17	n	43	10	43	6	102	53
	%	44.8%	10.4%	44.8%	-	-	55.21%

The number of infants with a birth weight above 4,000g was too small to show separately

Year of birth		Infants born by birth weight							Low birth weight infants (<2,500g)	High birth weight infants (≥4,000g)	High birth weight infants (≥4,500g)
		ALL BIRTHS									
		< 1,500g	1,500 - 2,499g	2,500 - 3,999g	4,000 - 4,499g	4,500+g	Not known	Total			
2010/11	n	289	1,244	20,227	3,246	621	32	25,659	1,533	3,867	621
	%	1.1%	4.9%	78.9%	12.7%	2.4%	-	-	5.98%	15.09%	2.42%
2011/12	n	281	1,243	20,087	3,077	592	29	25,309	1,524	3,669	592
	%	1.1%	4.9%	79.5%	12.2%	2.3%	-	-	6.03%	14.51%	2.34%
2012/13	n	282	1,250	19,801	3,123	548	24	25,028	1,532	3,671	548
	%	1.1%	5.0%	79.2%	12.5%	2.2%	-	-	6.13%	14.68%	2.19%
2013/14	n	293	1,266	19,267	2,944	481	26	24,277	1,559	3,425	481
	%	1.2%	5.2%	79.4%	12.1%	2.0%	-	-	6.43%	14.12%	1.98%
2014/15	n	281	1,244	19,362	2,999	478	36	24,400	1,525	3,477	478
	%	1.2%	5.1%	79.5%	12.3%	2.0%	-	-	6.26%	14.27%	1.96%
2015/16	n	239	1,347	19,360	2,925	504	61	24,436	1,586	3,429	504
	%	1.0%	5.5%	79.4%	12.0%	2.1%	-	-	6.51%	14.07%	2.07%
2016/17	n	282	1,218	19,302	2,765	485	27	24,079	1,500	3,250	485
	%	1.2%	5.1%	80.3%	11.5%	2.0%	-	-	6.24%	13.51%	2.02%

Source: Child Health System

Table 9.2: Births to Northern Ireland residents, by birth weight, 2016/17

		Infants born by birth weight							% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)
		< 1,500g	1,500 - 2,499g	2,500 - 3,999g	4,000 - 4,499g	4,500+ g	Not known	Total		
Age Group of mother	Under 20	15	37	646	55	7	0	760	6.84%	8.16%
	20 - 24	43	167	2,540	269	36	5	3,060	6.87%	9.98%
	25 - 29	62	334	5,311	746	124	7	6,584	6.02%	13.23%
	30 - 34	93	364	6,584	1,022	196	8	8,267	5.53%	14.75%
	35 - 39	50	248	3,498	592	102	2	4,492	6.64%	15.46%
	40 +	19	68	723	81	20	3	914	9.55%	11.09%
	Not known	0	0	0	0	0	2	2	0.00%	0.00%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Multiple births	Single	200	873	18,980	2,765	485	24	23,327	4.60%	13.95%
	Multiple	82	345	322	0	0	3	752	57.01%	0.00%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Ethnic group of mother (NIMATS)	White	264	1,169	18,644	2,719	475	16	23,287	6.16%	13.73%
	Non-white	14	45	645	42	8	1	755	7.82%	6.63%
	Not stated / Blank	0	3	36	2	0	0	41	7.32%	4.88%
	All infants	278	1,217	19,325	2,763	483	17	24,083	6.21%	13.49%
Ethnic group of infant (CHS)	White	259	1,140	18,335	2,684	472	18	22,908	6.11%	13.79%
	Non-white	18	67	861	69	12	3	1,030	8.28%	7.89%
	Not stated / Blank	5	11	106	12	1	6	141	11.85%	9.63%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Place of birth	Altnagelvin	28	153	2,071	299	60	0	2,611	6.93%	13.75%
	Antrim	32	157	2,429	340	55	0	3,013	6.27%	13.11%
	Causeway	5	23	820	152	20	1	1,021	2.75%	16.86%
	Craigavon	38	262	3,274	465	80	7	4,126	7.28%	13.23%
	Daisy Hill	6	54	1,383	251	51	1	1,746	3.44%	17.31%
	Downe	0	0	50	≤5	≤5	0	56	0.00%	10.71%
	Lagan Valley	0	0	128	32	5	0	165	0.00%	22.42%
	Mater	0	0	215	41	6	0	262	0.00%	17.94%
	Royal	134	329	4,512	548	98	4	5,625	8.24%	11.49%
	SWAH	≤5	≤40	959	177	≤50	0	1,221	3.60%	>13.51%
	Ulster	29	194	3,441	451	68	10	4,193	5.33%	12.41%
	Home/Other	≤10	≤10	20	≤5	0	4	40	33.33%	<13.51%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Trust of residence of mother	Belfast	67	265	3,839	442	75	8	4,696	7.08%	11.03%
	Northern	66	292	4,617	687	116	2	5,780	6.20%	13.90%
	South Eastern	57	220	3,419	491	71	10	4,268	6.51%	13.20%
	Southern	48	256	4,332	660	125	5	5,426	5.61%	14.48%
	Western	44	185	3,095	485	98	2	3,909	5.86%	14.92%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Council area (2014)	Antrim and Newtownabbey	29	85	1,424	175	38	0	1,751	6.51%	12.16%
	Ards and North Down	21	88	1,360	171	32	3	1,675	6.52%	12.14%
	Armagh City, Banbridge and Craigavon	22	157	2,351	325	55	1	2,911	6.15%	13.06%
	Belfast	71	270	3,766	442	74	8	4,631	7.38%	11.16%
	Causeway Coast and Glens	22	85	1,303	225	38	1	1,674	6.40%	15.72%
	Derry City and Strabane	21	92	1,597	222	37	0	1,969	5.74%	13.15%
	Fermanagh and Omagh	19	75	1,163	202	45	2	1,506	6.25%	16.42%
	Lisburn and Castlereagh	22	83	1,406	213	27	6	1,757	6.00%	13.71%
	Mid and East Antrim	12	90	1,271	176	27	0	1,576	6.47%	12.88%
	Mid Ulster	15	90	1,730	279	48	4	2,166	4.86%	15.12%
	Newry, Mourne and Down	28	103	1,931	335	64	2	2,463	5.32%	16.21%
All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%	

Table 9.2 continued: Births to Northern Ireland residents, by birth weight, 2016/17

		Infants born by birth weight						% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)	
		< 1,500g	1,500 - 2,499g	2,500 - 3,999g	4,000 - 4,499g	4,500+ g	Not known			Total
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	81	334	4,439	531	76	5	5,466	7.60%	11.12%
	2	53	249	4,171	581	119	4	5,177	5.84%	13.53%
	3	65	226	4,029	659	110	8	5,097	5.72%	15.11%
	4	42	230	3,667	568	103	3	4,613	5.90%	14.56%
	Least deprived	41	179	2,996	426	77	7	3,726	5.92%	13.53%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	84	322	4,406	521	80	4	5,417	7.50%	11.10%
	2	43	249	4,135	590	113	3	5,133	5.69%	13.70%
	3	60	234	3,902	627	111	8	4,942	5.96%	14.96%
	4	50	235	3,746	574	102	3	4,710	6.05%	14.36%
	Least deprived	45	178	3,113	453	79	9	3,877	5.77%	13.75%
	All infants	282	1,218	19,302	2,765	485	27	24,079	6.24%	13.51%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Due to small numbers, it is not possible to show data by individual ethnic group

Disclosure controls have been applied to this table. As a result, for some places of birth, it is not possible to show the exact percentage values in the final two columns and so a comparison to the NI value has been provided

Table 9.3: Births to Northern Ireland residents, by birth weight, District Electoral Area, 2016/17

Council (2014)	District Electoral Area	Infants born by birth weight					% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)
		< 2,500g	2,500 - 3,999g	4,000+g	Not known	Total		
Antrim and Newtownabbey	Airport	14	258	55	0	327	4.28%	16.82%
	Antrim	25	251	19	0	295	8.47%	6.44%
	Ballyclare	8	181	24	0	213	3.76%	11.27%
	Dunsilly	16	153	33	0	202	7.92%	16.34%
	Glengormley Urban	15	200	37	0	252	5.95%	14.68%
	Macedon	21	197	22	0	240	8.75%	9.17%
	Three Mile Water	15	184	23	0	222	6.76%	10.36%
	Total	114	1,424	213	0	1,751	6.51%	12.16%
Ards and North Down	Ards Peninsula	17	197	31	0	245	6.94%	12.65%
	Bangor Central	24	269	39	0	332	7.23%	11.75%
	Bangor East and Donaghadee	13	172	23	0	208	6.25%	11.06%
	Bangor West	18	159	30	1	208	8.70%	14.49%
	Comber	12	150	21	0	183	6.56%	11.48%
	Hollywood and Clandeboye	9	159	27	1	196	4.62%	13.85%
	Newtownards	16	254	32	1	303	5.30%	10.60%
	Total	109	1,360	203	3	1,675	6.52%	12.14%
Armagh, Banbridge and Craigavon	Armagh	31	378	59	0	468	6.62%	12.61%
	Banbridge	29	346	79	0	454	6.39%	17.40%
	Craigavon	25	306	49	0	380	6.58%	12.89%
	Cusher	16	289	52	0	357	4.48%	14.57%
	Lagan River	18	251	36	0	305	5.90%	11.80%
	Lurgan	31	421	46	0	498	6.22%	9.24%
	Portadown	29	360	59	1	449	6.47%	13.17%
	Total	179	2,351	380	1	2,911	6.15%	13.06%
Belfast	Balmoral	20	221	37	2	280	7.19%	13.31%
	Black Mountain	36	464	60	1	561	6.43%	10.71%
	Botanic	37	393	49	0	479	7.72%	10.23%
	Castle	31	328	60	0	419	7.40%	14.32%
	Collin	52	463	66	2	583	8.95%	11.36%
	Court	48	385	57	0	490	9.80%	11.63%
	Lisnasharragh	17	277	48	0	342	4.97%	14.04%
	Oldpark	29	464	51	0	544	5.33%	9.38%
	Ormiston	27	305	44	1	377	7.18%	11.70%
	Titanic	44	466	44	2	556	7.94%	7.94%
Total	341	3,766	516	8	4,631	7.38%	11.16%	
Causeway Coast and Glens	Ballymoney	20	234	45	0	299	6.69%	15.05%
	Bann	8	164	45	0	217	3.69%	20.74%
	Benbradagh	12	191	48	0	251	4.78%	19.12%
	Causeway	12	175	35	1	223	5.41%	15.77%
	Coleraine	23	229	27	0	279	8.24%	9.68%
	Limavady	10	142	29	0	181	5.52%	16.02%
	The Glens	22	168	34	0	224	9.82%	15.18%
	Total	107	1,303	263	1	1,674	6.40%	15.72%
Derry City and Strabane	Ballyarnett	18	307	44	0	369	4.88%	11.92%
	Derg	9	179	30	0	218	4.13%	13.76%
	Faughan	8	189	34	0	231	3.46%	14.72%
	Foyleside	8	178	30	0	216	3.70%	13.89%
	Sperrin	19	251	37	0	307	6.19%	12.05%
	The Moor	20	188	34	0	242	8.26%	14.05%
	Waterside	31	305	50	0	386	8.03%	12.95%
	Total	113	1,597	259	0	1,969	5.74%	13.15%

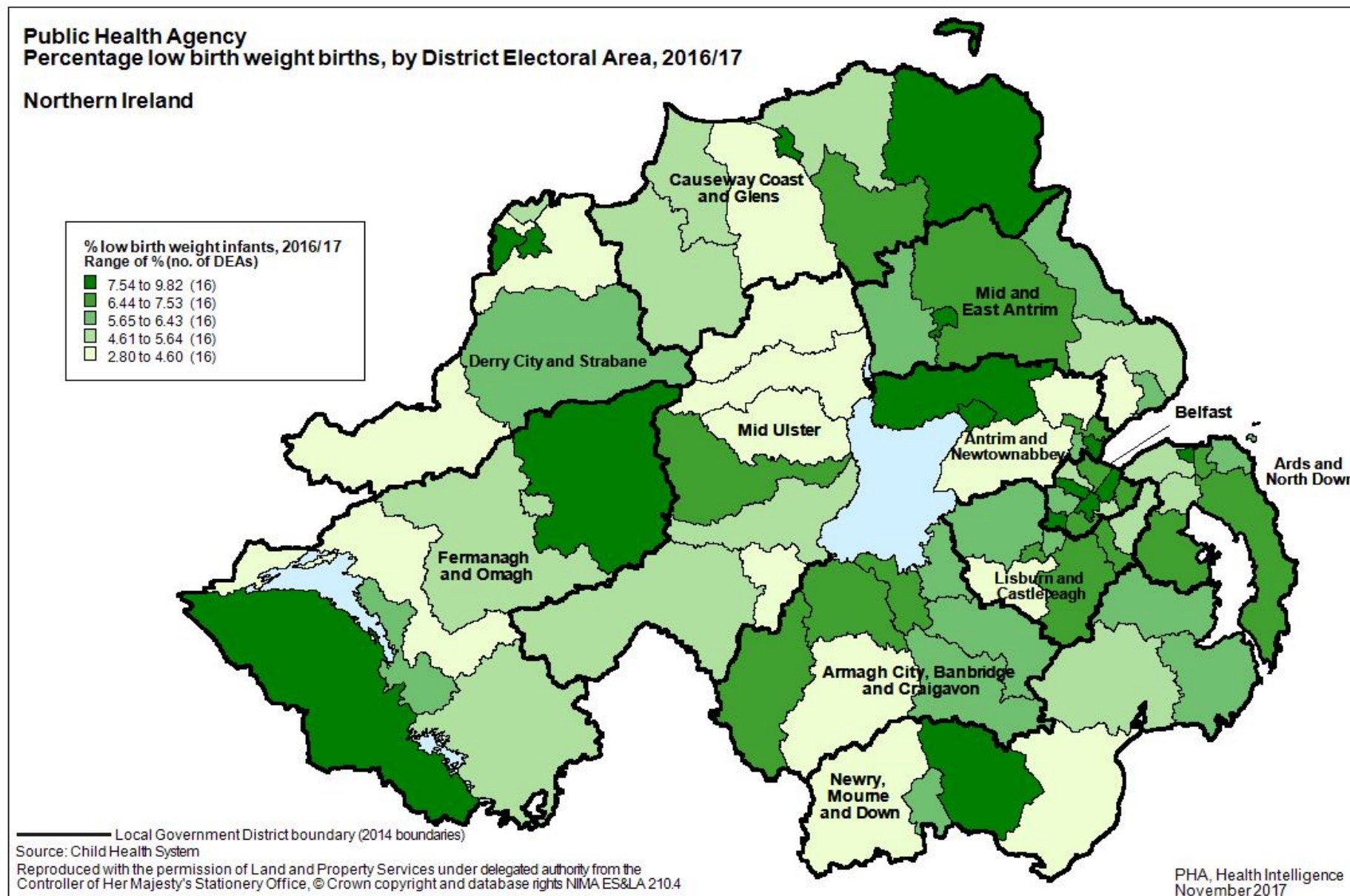
Table 9.3 continued: Births to Northern Ireland residents, by birth weight, District Electoral Area, 2015/16

Council (2014)	District Electoral Area	Infants born by birth weight					% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)
		< 2,500g	2,500 - 3,999g	4,000+g	Not known	Total		
Fermanagh and Omagh	Enniskillen	13	157	35	0	205	6.34%	17.07%
	Erne East	13	182	36	0	231	5.63%	15.58%
	Erne North	8	150	35	0	193	4.15%	18.13%
	Erne West	17	130	40	1	188	9.09%	21.39%
	Mid Tyrone	20	183	38	1	242	8.30%	15.77%
	Omagh	12	205	32	0	249	4.82%	12.85%
	West Tyrone	11	156	31	0	198	5.56%	15.66%
	Total	94	1,163	247	2	1,506	6.25%	16.42%
Lisburn and Castlereagh	Castlereagh East	≤15	204	20	≤5	237	<6.00%	8.47%
	Castlereagh South	21	258	42	0	321	6.54%	13.08%
	Downshire East	12	148	16	0	176	6.82%	9.09%
	Downshire West	≤5	115	24	≤5	145	<6.00%	16.78%
	Killultagh	19	229	58	2	308	6.21%	18.95%
	Lisburn North	15	207	41	0	263	5.70%	15.59%
	Lisburn South	22	245	39	1	307	7.19%	12.75%
	Total	105	1,406	240	6	1,757	6.00%	13.71%
Mid and East Antrim	Ballymena	28	278	39	0	345	8.12%	11.30%
	Bannside	14	174	37	0	225	6.22%	16.44%
	Braid	22	233	37	0	292	7.53%	12.67%
	Carrick Castle	10	149	18	0	177	5.65%	10.17%
	Coast Road	10	136	16	0	162	6.17%	9.88%
	Knockagh	8	151	27	0	186	4.30%	14.52%
	Larne Lough	10	150	29	0	189	5.29%	15.34%
	Total	102	1,271	203	0	1,576	6.47%	12.88%
Mid Ulster	Carntogher	12	201	48	0	261	4.60%	18.39%
	Clogher Valley	17	265	48	1	331	5.15%	14.55%
	Cookstown	23	267	53	0	343	6.71%	15.45%
	Dungannon	17	321	49	0	387	4.39%	12.66%
	Magherafelt	8	208	49	1	266	3.02%	18.49%
	Moyola	11	206	37	0	254	4.33%	14.57%
	Torrent	17	262	43	2	324	5.28%	13.35%
	Total	105	1,730	327	4	2,166	4.86%	15.12%
Newry, Mourne and Down	Crotlieve	31	297	70	1	399	7.79%	17.59%
	Downpatrick	15	219	22	0	256	5.86%	8.59%
	Newry	22	304	62	0	388	5.67%	15.98%
	Rowallane	15	196	44	1	256	5.88%	17.25%
	Slieve Croob	15	226	41	0	282	5.32%	14.54%
	Slieve Gullion	16	370	92	0	478	3.35%	19.25%
	The Mournes	17	319	68	0	404	4.21%	16.83%
	Total	131	1,931	399	2	2,463	5.32%	16.21%
Northern Ireland	All infants	1,500	19,302	3,250	27	24,079	6.24%	13.51%

Source: Child Health System

Disclosure controls have been applied to this table. As a result, for some Local Government Districts (LGD), it is not possible to show the exact percentage values in the final two columns and so a comparison to the LGD value has been provided

Figure 9.3: Percentage low birth weight births, by District Electoral Area, 2016/17



Section 10: Breastfeeding

Why should we be concerned?

In June 2013, the Department of Health presented “*Breastfeeding – A Great Start. A Strategy for Northern Ireland 2013 - 2023*”⁶⁴. The Strategy describes breastfeeding as “a fundamental public health issue because it promotes health, prevents disease and helps contribute to reducing health inequalities. It provides the foundation for a healthy start in life and prevents disease in the short and long term for both babies and their mothers.” The Strategy explains the benefits of breastfeeding - “Human milk provides infants with all the nutrients they need for healthy growth and development. Many of the components of breast milk cannot be manufactured”.

For infants, evidence supports the role of breastfeeding in reducing the risk of:^{65,66,6}

- Ear infections;
- Respiratory infections;
- Gastroenteritis;
- Bowel complications e.g. necrotising enterocolitis;
- Sudden Infant Death Syndrome (SIDS) (cot death); and
- Childhood leukaemia.

The 2016 Lancet review⁶⁷ also indicates that breastfeeding improves intelligence and supports better life chances. There is also some evidence to suggest likely effects in reducing obesity and the risk of developing Type 2 diabetes.

The benefits of breastfeeding for mothers include reduced risk of:

- Breast cancer;
- Ovarian cancer; and
- Type 2 diabetes.

However despite the benefits to both infant and mother, breastfeeding rates across Northern Ireland remain low.

What can be done?

The Strategy recognises that there are a number of reasons why a mother may choose not to breastfeed. Reasons reported in the 2010 Infant Feeding Survey⁶⁸:

- mothers had fed previous children with formula;
- did not like the idea of breastfeeding;
- convenience/mothers lifestyle;
- that other people could feed baby;
- put off by previous experience of breastfeeding or others experience; and
- medical reasons or embarrassment.

The reasons given by mothers for stopping breastfeeding included insufficient milk, baby not sucking/rejecting the breast/would not latch on and having painful breasts or nipples.⁶⁹ When mothers were asked what could have influenced them to breastfeed for longer the main reasons included: more support and guidance from hospital staff, midwives and family; if the baby could have latched on the breast easier; and naturally producing more milk and less pain/being more comfortable.

In qualitative research undertaken in Northern Ireland, mothers reported that breastfeeding was not convenient at home or outside the home and a lack of information/support as reasons why they chose not to breastfeed or had ceased breastfeeding. Other reasons for not starting to breastfeed included a lack of social acceptance, lack of confidence, lack of facilities and complicated births/medical issues. While those who stopped breastfeeding reported problems establishing breastfeeding, exhaustion/difficult births, self-image/lifestyle and not believing the benefits of breastfeeding over feeding with formula.^{70,71}

⁶⁴ Department of Health, “Breastfeeding – A Great Start. A Strategy for Northern Ireland 2013 – 2023” <https://www.health-ni.gov.uk/publications/breastfeeding-strategy>

⁶⁵ As ⁶⁴

⁶⁶ Health Service Executive, Republic of Ireland, 2008 “*The Evidence for Breastfeeding*” <https://www.breastfeeding.ie/Uploads/The-evidence-for-breastfeeding.pdf>

⁶⁷ Victoria CG et al. Breastfeeding in the 21st century: epidemiology, mechanisms and lifelong effect. *Lancet* 2016; 387: 475-490. Available at

[http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(15\)01024-7.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)01024-7.pdf)

⁶⁸ UK Infant Feeding Survey 2010. Available at <http://digital.nhs.uk/catalogue/PUB08694> Table 3.7

⁶⁹ UK Infant Feeding Survey 2010. Available at <http://digital.nhs.uk/catalogue/PUB08694> Table 6.6

⁷⁰ Glass K. Breastfeeding and maternity care research: final report Spring. Report prepared for the Public Health Agency. Belfast: Ipsos MORI, 2015.

⁷¹ Glass K. Breastfeeding and maternity care research: final report Autumn. Report prepared for the Public Health Agency. Belfast: Ipsos MORI, 2016.

The Strategy has suggested the following to help increase breastfeeding rates in Northern Ireland:

- *Creating supportive environments for breastfeeding and normalising breastfeeding so that it is seen as the normal social and biological way to feed babies.*
- *Ensuring those working in Health and Social Care have the necessary knowledge and skills needed to fully promote, support and protect breastfeeding.*
- *Improve awareness about the importance of breastfeeding by informing and influencing mothers, families, and the public about the benefits of breastfeeding; and*
- *Supporting breastfeeding by having health services and communities which actively support antenatal preparation for breastfeeding, and postnatal breastfeeding initiation and maintenance.*

In January 2017, the Department of Health announced that it would bring forward legislation to protect mothers who breastfeed their children in public spaces. The legislation “*is a pro-active and necessary approach to ensure that the rights of mothers and their children are fully protected. It will ensure that breast and bottle-feeding mothers are given equal access to feed their children with confidence and without interruption in a public place*”⁷².

Initiatives such as the WHO/UNICEF Baby Friendly Initiative⁷³ provide a framework to implement best practice in hospitals/health care facilities to ensure that mothers are able to make informed decisions about how they will feed their infant. Facilities accredited as ‘Baby Friendly’ will implement standards which have been proven to increase breastfeeding rates. All hospitals providing maternity services in Northern Ireland are now accredited as “Baby Friendly”.

⁷² Department of Health, Statement by Minister, 9 January 2017 <https://www.health-ni.gov.uk/news/oneill-law-protect-breastfeeding-mothers-be-introduced-0>

⁷³ WHO/UNICEF, The Baby Friendly Initiative <http://www.unicef.org.uk/BabyFriendly/>

Key Points

Breastfeeding at discharge

- Please note that recording of breastfeeding data may not be complete. In any year, there will be a number of records where the breastfeeding status is not known.
- In 2016/17, almost 47% of live infants were breastfed (total/partial feeding) at discharge. *[Page 69]*.
- Only 21.2% of infants born to mothers under 20 were breastfed at discharge, compared to 56.3% of infants to mothers aged 40 and over. *[Page 70]*.
- Breastfeeding rates were slightly higher for infants born to first time mothers at 50.2%. Mothers who have previously given birth = 44.8%. *[Page 70]*.
- Breastfeeding rates were much higher in infants born to 'non-white' mothers. However the number of births for some ethnic groupings was small and caution is advised. *[Page 70]*.
- Breastfeeding rates varied by Health Trust, ranging from 41.3% of infants born to mothers from WHSCT, to 50.1% in SEHSCT. *[Page 70]*.
- The proportion breastfeeding was markedly lower in more deprived areas (NIMDM 2010). In 2016/17, 30.8% of mothers from most deprived areas were breastfeeding at discharge compared to 64.4% of mothers from the least deprived areas. It should however be noted that breastfeeding rates increase with age of mother, and more deprived areas have a higher proportion of younger mothers. *[Page 71]*
- Breastfeeding rates at District Electoral Area level range from 19.7% in Court DEA (Belfast LGD) to 70.1% in Downshire West DEA (Lisburn and Castlereagh LGD). *[Page 72]*.

Breastfeeding at later stages

- Prevalence of breastfeeding at various stages during the first year of life is not yet available for 2016/17.
- Of mothers who delivered in 2015/16, the proportion breastfeeding gradually decreased with time e.g. only 8.1% of mothers were still breastfeeding 12 months after the baby was born. This percentage increased with age of mother – 1.1% of mothers aged less than 20 years up to 13.5% of mothers aged 40+ were still breastfeeding after 12 months in this year. *[Page 74]*
- At all stages where breastfeeding was recorded, the rate was higher in those infants born to mothers who lived in less deprived areas (NIMDM 2010), when compared to mothers from more deprived areas. In 2015/16, prevalence of breastfeeding at 12 months old was higher at 14.2% in the least deprived areas, than in the most deprived areas of Northern Ireland (4.3%). *[Page 75]*

Breastfeeding data on the Child Health System is recorded as either 'Total', 'Partial' or 'Not at all'. Total – where the child is breastfed fully with no other feed given. Partial – where the child is breastfed alongside another feeding method. Not at all - where the child is not breastfed at all, but rather other feeding methods are used.

Please note that recording of breastfeeding data may not be complete. In any year, there will be a number of records where the breastfeeding status is not known.

Table 10.1: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, 2010/11 - 2016/17

Year of birth		Infant breastfeeding status at discharge					Infants breastfed (partial/total)
		Total	Partial	Not at all	Not known	Total	
2010/11	n	9,578	1,897	13,573	508	25,556	11,475
	%	38.2%	7.6%	54.2%	-	-	45.81%
2011/12	n	9,369	1,610	13,879	362	25,220	10,979
	%	37.7%	6.5%	55.8%	-	-	44.17%
2012/13	n	9,011	1,777	13,658	465	24,911	10,788
	%	36.9%	7.3%	55.9%	-	-	44.13%
2013/14	n	9,148	1,838	12,886	297	24,169	10,986
	%	38.3%	7.7%	54.0%	-	-	46.02%
2014/15	n	9,235	1,762	12,918	394	24,309	10,997
	%	38.6%	7.4%	54.0%	-	-	45.98%
2015/16	n	9,157	1,891	12,988	312	24,348	11,048
	%	38.1%	7.9%	54.0%	-	-	45.96%
2016/17	n	8,655	2,439	12,562	321	23,977	11,094
	%	36.6%	10.3%	53.1%	-	-	46.90%

Source: Child Health System

Figure 10.1: % infants breastfed (total/partial) at discharge, Northern Ireland, 2010/11 – 2016/17

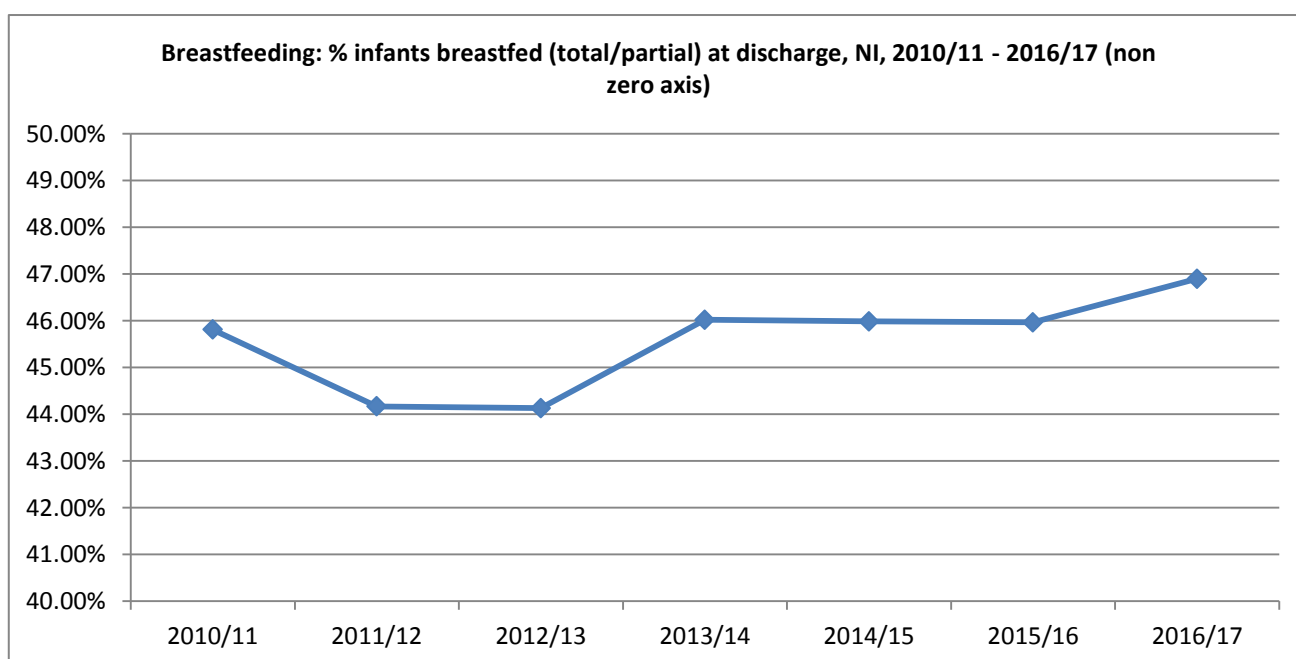


Table 10.2: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, 2016/17

		Infant breastfeeding status at discharge				Total	% infants breastfed (partial/total)
		Total	Partial	Not at all	Other / Not known		
Age Group of mother	Under 20	121	38	590	5	754	21.23%
	20 - 24	679	211	2,116	41	3,047	29.61%
	25 - 29	2,060	596	3,814	87	6,557	41.05%
	30 - 34	3,483	926	3,717	109	8,235	54.26%
	35 - 39	1,943	536	1,936	62	4,477	56.15%
	40 +	369	132	389	15	905	56.29%
	Not known	0	0	0	2	2	0.00%
	All ages	8,655	2,439	12,562	321	23,977	46.90%
Multiple births	Single	8,583	2,263	12,099	283	23,228	47.27%
	Multiple	72	176	463	38	749	34.88%
	All infants	8,655	2,439	12,562	321	23,977	46.90%
First time mothers	First time mother	3,296	1,156	4,413	115	8,980	50.22%
	Not a first time mother	5,258	1,258	8,015	190	14,721	44.84%
	Not known	101	25	134	16	276	48.46%
	All infants	8,655	2,439	12,562	321	23,977	46.90%
Ethnic group of mother (NIMATS)	White	8,288	2,232	12,445	224	23,189	45.81%
	Asian	123	103	43	9	278	84.01%
	Black	75	57	20	4	156	86.84%
	Mixed/Other	167	71	77	5	320	75.56%
	Not stated / Blank	21	6	14	0	41	65.85%
	All ethnic groups	8,674	2,469	12,599	242	23,984	46.93%
Ethnic group of infant (CHS)	White	8,114	2,164	12,260	273	22,811	45.60%
	Asian	104	86	37	6	233	83.70%
	Black	65	50	20	7	142	85.19%
	Mixed	170	56	109	8	343	67.46%
	Other	161	73	66	10	310	78.00%
	Not stated / Blank	41	10	70	17	138	42.15%
	All ethnic groups	8,655	2,439	12,562	321	23,977	46.90%
Place of birth	Altnagelvin	779	151	1,636	36	2,602	36.24%
	Antrim	992	297	1,669	40	2,998	43.58%
	Causeway	408	50	553	4	1,015	45.30%
	Craigavon	1,564	525	1,964	60	4,113	51.54%
	Daisy Hill	620	171	927	24	1,742	46.04%
	Downe	34	≤5	16	≤5	56	>46.90%
	Lagan Valley	87	≤10	67	≤5	165	>46.90%
	Mater	126	12	124	0	262	52.67%
	Royal	1,708	698	3,107	80	5,593	43.64%
	SWAH	498	119	591	9	1,217	51.08%
	Ulster	1,829	404	1,902	41	4,176	54.00%
	Home/Other	10	1	6	21	38	64.71%
	All places of birth	8,655	2,439	12,562	321	23,977	46.90%
	Trust of residence of mother	Belfast	1,611	532	2,478	52	4,673
Northern		2,039	557	3,075	79	5,750	45.78%
South Eastern		1,679	427	2,094	50	4,250	50.14%
Southern		2,031	631	2,660	88	5,410	50.02%
Western		1,295	292	2,255	52	3,894	41.31%
All infants		8,655	2,439	12,562	321	23,977	46.90%

Table 10.2 continued: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, 2016/17

		Infant breastfeeding status at discharge				Total	% infants breastfed (partial/total)
		Total	Partial	Not at all	Other / Not known		
Council area (2014)	Antrim and Newtownabbey	647	205	865	23	1,740	49.62%
	Ards and North Down	704	166	777	19	1,666	52.82%
	Armagh City, Banbridge and Craigavon	1,101	324	1,434	44	2,903	49.84%
	Belfast	1,478	483	2,595	51	4,607	43.04%
	Causeway Coast and Glens	571	111	963	19	1,664	41.46%
	Derry City and Strabane	551	114	1,264	32	1,961	34.47%
	Fermanagh and Omagh	615	154	718	14	1,501	51.71%
	Lisburn and Castlereagh	761	229	740	20	1,750	57.23%
	Mid and East Antrim	549	151	843	26	1,569	45.37%
	Mid Ulster	799	251	1,080	28	2,158	49.30%
	Newry, Mourne and Down	879	251	1,283	45	2,458	46.83%
	All infants	8,655	2,439	12,562	321	23,977	46.90%
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	1,222	425	3,706	80	5,433	30.77%
	2	1,763	465	2,874	64	5,166	43.67%
	3	1,851	547	2,605	74	5,077	47.93%
	4	1,942	517	2,069	64	4,592	54.31%
	Least deprived	1,877	485	1,308	39	3,709	64.36%
	All infants	8,655	2,439	12,562	321	23,977	46.90%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	1,259	412	3,636	80	5,387	31.49%
	2	1,709	499	2,849	60	5,117	43.66%
	3	1,775	499	2,579	71	4,924	46.86%
	4	1,975	523	2,131	60	4,689	53.96%
	Least deprived	1,937	506	1,367	50	3,860	64.12%
	All infants	8,655	2,439	12,562	321	23,977	46.90%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Disclosure controls have been applied to this table. As a result, for some places of birth, it is not possible to show the exact percentage values in the final column and so a comparison to the NI value has been provided

Table 10.3: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, District Electoral Area, 2016/17

Council (2014)	District Electoral Area	Infant breastfeeding status at discharge					% infants breastfed (partial/total)
		Total	Partial	Not at all	Not known	Total	
Antrim and Newtownabbey	Airport	136	35	150	6	327	53.27%
	Antrim	92	39	158	4	293	45.33%
	Ballyclare	98	24	87	3	212	58.37%
	Dunsilly	88	25	86	1	200	56.78%
	Glengormley Urban	89	29	129	3	250	47.77%
	Macedon	67	25	143	2	237	39.15%
	Three Mile Water	77	28	112	4	221	48.39%
	Total	647	205	865	23	1,740	49.62%
Ards and North Down	Ards Peninsula	86	19	137	3	245	43.39%
	Bangor Central	153	24	151	2	330	53.96%
	Bangor East and Donaghadee	89	24	92	1	206	55.12%
	Bangor West	77	22	101	6	206	49.50%
	Comber	88	11	81	1	181	55.00%
	Holywood and Clondeboye	106	27	60	3	196	68.91%
	Newtownards	105	39	155	3	302	48.16%
	Total	704	166	777	19	1,666	52.82%
Armagh, Banbridge and Craigavon	Armagh	156	63	234	15	468	48.34%
	Banbridge	191	45	212	5	453	52.68%
	Craigavon	125	45	203	6	379	45.58%
	Cusher	140	36	180	1	357	49.44%
	Lagan River	157	31	113	3	304	62.46%
	Lurgan	142	59	288	4	493	41.10%
	Portadown	190	45	204	10	449	53.53%
	Total	1,101	324	1,434	44	2,903	49.84%
Belfast	Balmoral	136	50	88	4	278	67.88%
	Black Mountain	114	40	401	2	557	27.75%
	Botanic	204	76	187	8	475	59.96%
	Castle	151	41	223	3	418	46.27%
	Collin	139	42	390	8	579	31.70%
	Court	62	33	388	4	487	19.67%
	Lisnasharragh	184	51	104	2	341	69.32%
	Oldpark	102	35	398	5	540	25.61%
	Ormiston	198	42	128	9	377	65.22%
	Titanic	188	73	288	6	555	47.54%
	Total	1,478	483	2,595	51	4,607	43.04%
Causeway Coast and Glens	Ballymoney	103	22	167	4	296	42.81%
	Bann	93	19	102	3	217	52.34%
	Benbradagh	72	15	157	5	249	35.66%
	Causeway	102	8	110	2	222	50.00%
	Coleraine	91	16	167	3	277	39.05%
	Limavady	56	9	115	1	181	36.11%
	The Glens	54	22	145	1	222	34.39%
	Total	571	111	963	19	1,664	41.46%
Derry City and Strabane	Ballyarnett	101	17	242	5	365	32.78%
	Derg	66	17	133	1	217	38.43%
	Faughan	81	12	135	2	230	40.79%
	Foyleside	64	10	140	2	216	34.58%
	Sperrin	81	17	204	4	306	32.45%
	The Moor	41	12	179	9	241	22.84%
	Waterside	117	29	231	9	386	38.73%
	Total	551	114	1,264	32	1,961	34.47%

Table 10.3 continued: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, District Electoral Area, 2016/17

Council (2014)	District Electoral Area	Infant breastfeeding status at discharge					% infants breastfed (partial/total)
		Total	Partial	Not at all	Not known	Total	
Fermanagh and Omagh	Enniskillen	91	28	83	2	204	58.91%
	Erne East	84	26	117	3	230	48.46%
	Erne North	71	14	106	1	192	44.50%
	Erne West	79	18	87	3	187	52.72%
	Mid Tyrone	114	23	103	1	241	57.08%
	Omagh	97	25	124	3	249	49.59%
	West Tyrone	79	20	98	1	198	50.25%
	Total	615	154	718	14	1,501	51.71%
Lisburn and Castlereagh	Castlereagh East	90	28	114	3	235	50.86%
	Castlereagh South	155	61	99	5	320	68.57%
	Downshire East	84	26	63	2	175	63.58%
	Downshire West	80	21	43	1	145	70.14%
	Killultagh	137	35	130	4	306	56.95%
	Lisburn North	107	28	125	2	262	51.92%
	Lisburn South	108	30	166	3	307	45.39%
	Total	761	229	740	20	1,750	57.23%
Mid and East Antrim	Ballymena	124	38	176	6	344	47.93%
	Bannside	73	21	126	4	224	42.73%
	Braid	112	27	144	7	290	49.12%
	Carrick Castle	67	16	91	3	177	47.70%
	Coast Road	40	7	112	2	161	29.56%
	Knockagh	57	20	104	3	184	42.54%
	Larne Lough	76	22	90	1	189	52.13%
	Total	549	151	843	26	1,569	45.37%
Mid Ulster	Carntogher	97	19	142	3	261	44.96%
	Clogher Valley	128	43	157	3	331	52.13%
	Cookstown	111	41	183	6	341	45.37%
	Dungannon	185	69	127	2	383	66.67%
	Magherafelt	92	24	147	2	265	44.11%
	Moyola	74	26	148	5	253	40.32%
	Torrent	112	29	176	7	324	44.48%
	Total	799	251	1,080	28	2,158	49.30%
Newry, Mourne and Down	Crotlieve	149	47	191	11	398	50.65%
	Downpatrick	96	22	134	4	256	46.83%
	Newry	134	37	200	15	386	46.09%
	Rowallane	93	27	132	3	255	47.62%
	Slieve Croob	112	28	140	2	282	50.00%
	Slieve Gullion	140	49	286	3	478	39.79%
	The Mournes	155	41	200	7	403	49.49%
	Total	879	251	1,283	45	2,458	46.83%
Northern Ireland	All infants	8,655	2,439	12,562	321	23,977	46.90%

Source: Child Health System

Table 10.4: Prevalence of breastfeeding of live infants born to Northern Ireland residents, at various stages during first year of life, 2015/16

		Total live infants born	% infants breastfed (total/partial) by time period					
			Discharge	Primary visit (10-14 days old)	6 weeks	3 months	6 months	12 months
Age Group of mother	Under 20	718	19.5%	15.3%	6.8%	3.3%	2.6%	1.1%
	20 - 24	3,297	28.9%	20.7%	13.0%	9.1%	5.3%	3.2%
	25 - 29	6,585	40.0%	30.1%	23.0%	17.6%	11.3%	6.2%
	30 - 34	8,122	51.8%	41.6%	34.2%	26.9%	17.6%	9.8%
	35 - 39	4,616	55.3%	44.9%	38.0%	31.2%	20.4%	11.4%
	40 +	1,008	55.5%	46.2%	38.4%	31.4%	21.2%	13.5%
	Not known	2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
Multiple births	Single	23,641	45.7%	35.8%	28.6%	22.5%	14.7%	8.2%
	Multiple	707	33.9%	32.4%	22.3%	13.7%	7.9%	4.8%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
First time mothers	First time mother	9,214	49.3%	37.8%	29.2%	22.2%	14.6%	8.1%
	Not a first time mother	14,816	43.0%	34.5%	27.9%	22.3%	14.5%	8.1%
	Not known	318	41.2%	33.0%	25.5%	20.8%	12.9%	8.5%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
Ethnic group of infant (CHS)	White	22,967	44.2%	34.5%	27.1%	21.2%	13.9%	7.7%
	Asian	238	75.2%	71.8%	66.8%	52.5%	31.5%	22.3%
	Black	123	85.4%	72.4%	77.2%	63.4%	43.9%	22.8%
	Mixed	368	63.6%	56.5%	45.7%	39.1%	25.3%	15.5%
	Other	237	74.7%	63.7%	59.9%	48.1%	30.0%	17.7%
	Not stated / Blank	415	46.3%	35.2%	30.6%	24.6%	11.8%	7.7%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
Place of birth	Altnagelvin	2,678	35.8%	27.0%	19.2%	13.9%	7.5%	3.1%
	Antrim	2,945	42.3%	35.4%	26.5%	21.2%	16.3%	9.6%
	Causeway	1,073	42.8%	35.6%	26.7%	23.6%	18.3%	9.0%
	Craigavon	4,107	48.4%	36.6%	29.1%	22.6%	14.5%	5.7%
	Daisy Hill	1,812	45.3%	38.7%	28.6%	22.2%	16.0%	6.9%
	Downe	65	63.1%	44.6%	35.4%	21.5%	10.8%	9.2%
	Lagan Valley	195	59.5%	43.6%	35.9%	27.2%	11.8%	14.9%
	Mater	199	43.2%	32.7%	28.6%	24.6%	17.1%	10.6%
	Royal	5,731	42.2%	34.1%	27.6%	21.6%	14.6%	8.5%
	SWAH	1,287	52.5%	40.3%	32.2%	24.7%	18.3%	9.0%
	Ulster	4,220	52.9%	39.5%	34.6%	27.4%	14.7%	11.4%
	Home/Other	36	19.4%	55.6%	50.0%	41.7%	30.6%	33.3%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
	Trust of residence of mother	Belfast	4,618	45.2%	34.5%	31.7%	25.0%	18.6%
Northern		5,741	43.7%	36.3%	27.0%	22.2%	16.9%	9.7%
South Eastern		4,354	49.2%	38.4%	30.6%	23.7%	9.5%	9.7%
Southern		5,566	47.3%	37.0%	29.0%	22.5%	15.1%	5.9%
Western		4,069	41.3%	31.7%	23.4%	17.4%	10.9%	5.0%
All infants		24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
Council area (2014)	Antrim and Newtownabbey	1,799	45.7%	38.2%	28.6%	23.7%	18.2%	10.4%
	Ards and North Down	1,759	50.0%	35.8%	29.9%	23.5%	8.4%	8.9%
	Armagh City, Banbridge and Craigavon	2,986	46.9%	36.3%	28.9%	22.9%	14.3%	6.3%
	Belfast	4,547	42.7%	32.9%	29.5%	23.2%	16.7%	9.4%
	Causeway Coast and Glens	1,664	40.1%	33.5%	26.0%	21.5%	14.5%	7.8%
	Derry City and Strabane	2,118	35.1%	26.5%	18.4%	13.4%	8.0%	3.3%
	Fermanagh and Omagh	1,495	51.9%	40.2%	30.8%	23.4%	17.1%	8.3%
	Lisburn and Castlereagh	1,734	56.3%	44.4%	37.1%	29.5%	15.2%	11.9%
	Mid and East Antrim	1,542	46.8%	38.8%	29.0%	23.5%	17.5%	11.2%
	Mid Ulster	2,162	44.7%	33.5%	25.9%	19.8%	14.4%	5.3%
	Newry, Mourne and Down	2,542	45.4%	38.7%	28.9%	21.6%	14.0%	7.8%
All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%	

Table 10.4 continued: Prevalence of breastfeeding of live infants born to Northern Ireland residents, at various stages during first year of life, 2015/16

		Total live infants born	% infants breastfed (total/partial) by time period					
			Discharge	Primary visit (10-14 days old)	6 weeks	3 months	6 months	12 months
Deprivation 2010 quintile (SOA) based on residence of mother	Most deprived	5,577	30.0%	23.3%	17.4%	12.8%	8.1%	4.3%
	2	5,223	42.6%	33.7%	25.9%	20.0%	13.4%	7.0%
	3	5,169	47.3%	36.7%	29.1%	22.5%	14.8%	7.7%
	4	4,698	51.6%	41.2%	32.1%	25.8%	16.5%	9.6%
	Least deprived	3,681	62.0%	48.9%	42.8%	34.9%	22.9%	14.2%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	5,467	30.4%	24.2%	18.4%	13.8%	8.7%	4.4%
	2	5,277	43.0%	33.8%	25.7%	19.3%	13.2%	7.0%
	3	5,050	44.3%	34.0%	26.9%	20.9%	13.4%	7.4%
	4	4,728	51.8%	41.4%	32.2%	26.3%	17.0%	9.5%
	Least deprived	3,826	64.8%	51.0%	44.6%	35.9%	23.4%	14.6%
	All infants	24,348	45.4%	35.7%	28.4%	22.3%	14.5%	8.1%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Note that for some ethnic groups, hospitals, age groups the number of infants will be very small

See Appendix 1 for Health and Social Care Trust maps showing percentage infants breastfed at discharge from hospital

Section 11: Childhood BMI

Why should we be concerned?

The World Health Organisation (WHO) states that “*childhood obesity is one of the most serious public health challenges of the 21st century*”⁷⁴.

WHO states further that “*overweight and obese children are more likely to develop non communicable diseases like diabetes and cardiovascular diseases at a younger age. Overweight and obesity, as well as their related diseases, are largely preventable. Prevention of childhood obesity therefore needs high priority*”⁷⁵. Public Health England (National Obesity Observatory) states, “*Obese children are more likely to be ill, be absent from school due to illness, experience health-related limitations and require more medical care than normal weight children*”⁷⁶. A child who is obese may have a greater risk of the following as they move into adulthood⁷⁷:

- Type 2 diabetes
- Asthma
- Musculo-skeletal problems
- Low self-esteem/mental illness/eating disorders

An obese child is more likely to become an obese adult.

What can be done?

The Royal College of Paediatrics and Child Health (RCPCH) states⁷⁸: “*Prevention and treatment of obesity depends on all levels of society and government taking action – from health professionals, in educating teachers, parents and children themselves, regulating and working with the food manufacturing industry, and using fiscal measures where appropriate. This has the objective of achieving the cultural shift in improved nutrition and increased exercise to achieve a sustained decrease in the numbers of children that are overweight or obese*”.

Further reading:

http://www.noo.org.uk/NOO_about_obesity/child_obesity

<https://www.gov.uk/government/policies/obesity-and-healthy-eating>

<https://www.nice.org.uk/guidance/cg189/resources/obesity-identification-assessment-and-management-35109821097925>

<https://www.nice.org.uk/guidance/ph47/resources/weight-management-lifestyle-services-for-overweight-or-obese-children-and-young-people-1996362978757>

<http://www.who.int/dietphysicalactivity/childhood/en/>

⁷⁴ World Health Organisation <http://www.who.int/dietphysicalactivity/childhood/en/>

⁷⁵ As ⁷⁴

⁷⁶ Public Health England (National Obesity Observatory) “Health risks of childhood obesity” http://www.noo.org.uk/NOO_about_obesity/obesity_and_health/health_risk_child

⁷⁷ As ⁷⁶

⁷⁸ Royal College of Paediatrics and Child Health <http://www.rcpch.ac.uk/obesity>

Key Points

Primary 1

- Of those children measured in Primary 1 in 2016/17, 21.1% were considered overweight or obese, a slight decrease on the previous year. [Page 77].
- In 2016/17, a higher proportion of girls were overweight/obese (24.5%) compared to boys (17.9%). [Page 78].
- 23.7% of children living in the most deprived areas of Northern Ireland (NIMDM 2010) were measured as overweight/obese, compared to 16.6% of children from the least deprived areas. [Page 79].

Year 8

- In 2016/17, over 28% of children were measured as overweight/obese, a slight increase on the previous year. [Page 81].
- At this age, there is little difference in the proportion overweight/obese between the two genders (28.2% male, 28.8% female). [Page 82].
- A larger proportion of children from more deprived areas in Northern Ireland (NIMDM 2010) were measured as overweight/obese (34.8%) in 2016/17, compared to those living in the least deprived areas (23.4%) [Page 82].

PRIMARY 1

Table 11.1: BMI levels in Primary 1 children across Northern Ireland, 2008/09 - 2016/17

BMI category	% Primary 1 children								
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Thinness grade 1 to 3	3.02%	3.24%	2.79%	3.54%	4.59%	3.44%	3.97%	3.69%	4.55%
Normal	75.19%	75.12%	74.75%	75.30%	73.66%	74.81%	74.82%	74.42%	74.37%
Overweight	16.72%	16.49%	17.04%	15.74%	16.51%	16.52%	15.71%	16.09%	15.59%
Obese	5.07%	5.15%	5.42%	5.43%	5.24%	5.23%	5.50%	5.81%	5.49%
% children overweight/obese	21.79%	21.64%	22.46%	21.17%	21.75%	21.75%	21.21%	21.90%	21.08%

Source: Child Health System

Year refers to school year

Children measured are typically between 4½ and 5½ years of age

Figures above are categorised using International Obesity TaskForce measures

Note that in any year all children may not be measured and so coverage may not be complete

Figure 11.1: % Primary 1 children overweight or obese, Northern Ireland, 2008/09 – 2016/17

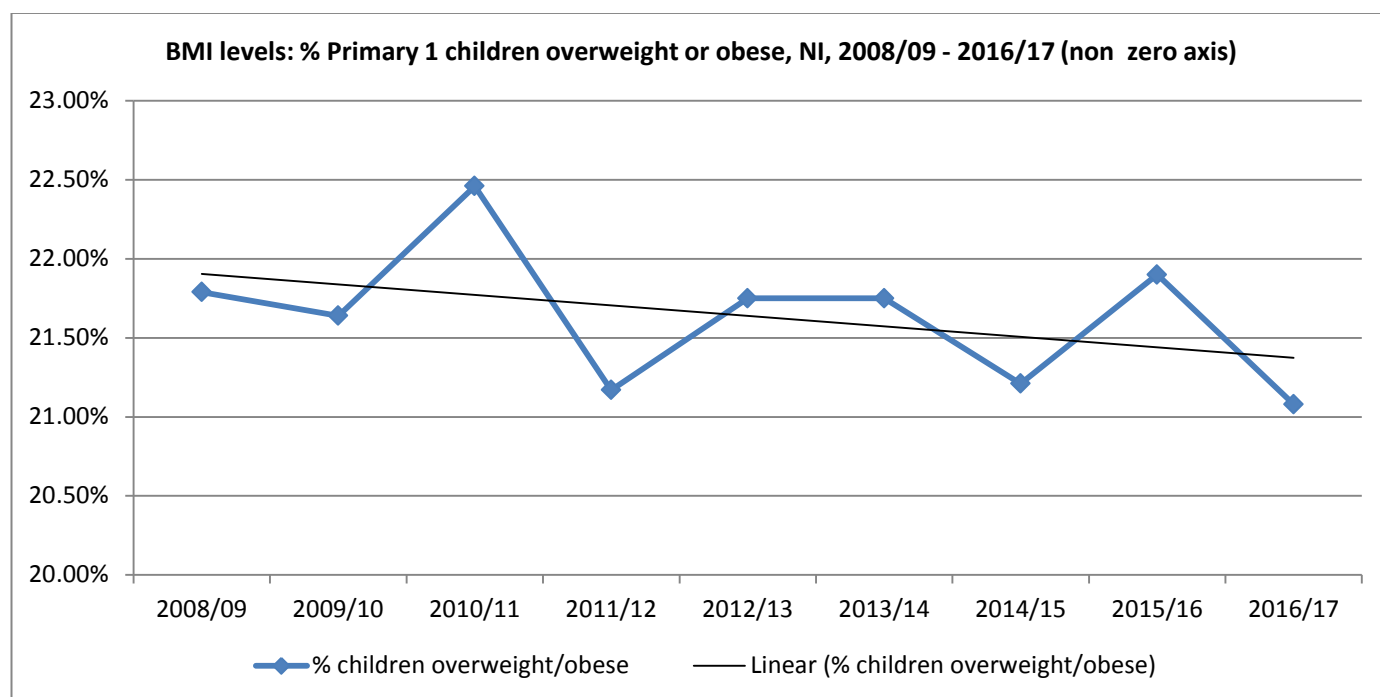


Table 11.2: BMI levels in Primary 1 children across Northern Ireland, 2016/17

		No. of children by BMI category					% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	Total	
Gender	Male	627	9,554	1,656	556	12,393	17.85%
	Female	473	8,445	2,118	772	11,808	24.47%
	All persons	1,100	17,999	3,774	1,328	24,201	21.08%
Trust of residence of child	Belfast	216	3,266	670	280	4,432	21.44%
	Northern	278	4,284	958	316	5,836	21.83%
	South Eastern	165	3,426	702	236	4,529	20.71%
	Southern	247	4,142	842	267	5,498	20.17%
	Western	193	2,843	595	223	3,854	21.22%
	Not known	1	38	7	6	52	25.00%
	All persons	1,100	17,999	3,774	1,328	24,201	21.08%
Council area (2014)	Antrim and Newtownabbey	120	1,289	308	106	1,823	22.71%
	Ards and North Down	65	1,372	252	76	1,765	18.58%
	Armagh City, Banbridge and Craigavon	147	2,284	471	135	3,037	19.95%
	Belfast	205	3,214	661	298	4,378	21.90%
	Causeway Coast and Glens	59	1,227	282	107	1,675	23.22%
	Derry City and Strabane	61	1,439	298	116	1,914	21.63%
	Fermanagh and Omagh	116	1,115	210	75	1,516	18.80%
	Lisburn and Castlereagh	73	1,349	301	84	1,807	21.31%
	Mid and East Antrim	69	1,191	244	87	1,591	20.80%
	Mid Ulster	78	1,525	354	101	2,058	22.11%
	Newry, Mourne and Down	106	1,956	386	137	2,585	20.23%
	Not known	1	38	7	6	52	25.00%
	All persons	1,100	17,999	3,774	1,328	24,201	21.08%

Table 11.2 continued: BMI levels in Primary 1 children across Northern Ireland, 2016/17

		No. of children by BMI category					% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	Total	
Deprivation 2010 quintile (SOA) based on residence of child	Most deprived	248	3,742	843	394	5,227	23.67%
	2	203	3,669	855	304	5,031	23.04%
	3	239	3,781	821	255	5,096	21.11%
	4	230	3,701	731	239	4,901	19.79%
	Least deprived	179	3,068	517	130	3,894	16.62%
	Not known	1	38	7	6	52	25.00%
	All persons	1,100	17,999	3,774	1,328	24,201	21.08%
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	228	3,714	850	384	5,176	23.84%
	2	225	3,794	851	298	5,168	22.23%
	3	255	3,715	781	270	5,021	20.93%
	4	210	3,593	760	226	4,789	20.59%
	Least deprived	181	3,145	525	144	3,995	16.75%
	Not known	1	38	7	6	52	25.00%
	All persons	1,100	17,999	3,774	1,328	24,201	21.08%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Year refers to school year

Children measured are typically between 4½ and 5½ years of age

Figures above are categorised using International Obesity TaskForce measures

Note that in any year all children may not be measured and so coverage may not be complete

Table 11.3: BMI levels in Primary 1 children across Northern Ireland, by Sure Start area, 2016/17

Sure Start area	Total children (where address is known)	% children by BMI category				% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	
Abbey	294	8.2%	71.1%	14.6%	6.1%	20.7%
Antrim	<100	6.8%	55.9%	27.1%	10.2%	37.3%
Ards	272	3.7%	73.9%	17.6%	4.8%	22.4%
ArKe	191	1.6%	71.2%	17.3%	9.9%	27.2%
Ballymena	203	3.4%	74.9%	16.7%	4.9%	21.7%
Bangor	106	2.8%	82.1%	12.3%	2.8%	15.1%
Beechmount	111	4.5%	71.2%	14.4%	9.9%	24.3%
Blossom	287	9.1%	72.5%	12.5%	5.9%	18.5%
Cherish	273	12.8%	69.2%	15.4%	2.6%	17.9%
Clan Mor	100	3.0%	65.0%	24.0%	8.0%	32.0%
Clogher Valley	184	3.8%	71.7%	19.0%	5.4%	24.5%
Coleraine	197	3.0%	75.1%	16.2%	5.6%	21.8%
Colin	368	3.3%	72.0%	16.6%	8.2%	24.7%
Dalriada	173	1.7%	70.5%	19.7%	8.1%	27.7%
Downpatrick	345	4.6%	72.5%	17.4%	5.5%	22.9%
Dungannon	321	3.7%	76.9%	13.4%	5.9%	19.3%
Dungiven	209	2.9%	67.9%	21.5%	7.7%	29.2%
East Belfast	448	5.1%	71.4%	17.0%	6.5%	23.4%
Edenballymore	183	3.3%	77.0%	13.1%	6.6%	19.7%
Glenbrook	308	4.5%	69.5%	16.6%	9.4%	26.0%
Gold	286	5.6%	73.4%	15.7%	5.2%	21.0%
Horizon	186	5.4%	73.1%	12.9%	8.6%	21.5%
Kilkeel	<100	8.7%	78.3%	8.7%	4.3%	13.0%
LAST	234	6.4%	72.6%	15.4%	5.6%	20.9%
Lisburn	136	4.4%	66.2%	18.4%	11.0%	29.4%
Little Hands	194	4.1%	75.8%	12.9%	7.2%	20.1%
Newry City	284	4.6%	75.7%	13.4%	6.3%	19.7%
Outer West Belfast	307	3.6%	75.6%	15.6%	5.2%	20.8%
Rainbow	157	5.1%	68.8%	19.1%	7.0%	26.1%
Saol Ur	216	2.8%	69.4%	16.2%	11.6%	27.8%
Shankill	405	4.2%	70.6%	18.0%	7.2%	25.2%
Shantallow	338	3.0%	73.7%	18.0%	5.3%	23.4%
Smile	283	4.2%	67.1%	18.0%	10.6%	28.6%
South Armagh	402	2.5%	75.6%	17.7%	4.2%	21.9%
South Belfast	333	8.4%	73.9%	12.3%	5.4%	17.7%
Splash	313	7.3%	70.3%	18.8%	3.5%	22.4%
Star	<100	6.9%	70.7%	17.2%	5.2%	22.4%
Strabane	326	1.2%	73.3%	18.4%	7.1%	25.5%
Waterside	204	2.0%	75.0%	16.7%	6.4%	23.0%
Children living in Sure Start areas	9,340	4.6%	72.4%	16.4%	6.5%	23.0%
Children not living in Sure Start areas	14,811	4.5%	75.6%	15.1%	4.8%	19.9%
All children	24,151	4.6%	74.4%	15.6%	5.5%	21.1%

Source: Child Health System

Year refers to school year

Children measured are typically between 4½ and 5½ years of age

Figures above are categorised using International Obesity TaskForce measures

Figures above exclude children whose area of residence is not known

Note that in any year all children may not be measured and so coverage may not be complete

Note that some percentages above are based on small numbers

Disclosure controls have been applied to the data

YEAR 8

Table 11.4: BMI levels in Year 8 children across Northern Ireland, 2010/11 - 2016/17

BMI category	% Year 8 children						
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Thinness grade 1 to 3	6.18%	6.36%	7.74%	6.05%	6.87%	6.16%	6.81%
Normal	64.89%	64.98%	65.44%	64.56%	65.38%	65.41%	64.69%
Overweight	21.53%	21.60%	20.00%	21.76%	20.61%	21.60%	21.35%
Obese	7.41%	7.05%	6.82%	7.64%	7.14%	6.82%	7.15%
% children overweight/obese	28.94%	28.65%	26.82%	29.40%	27.75%	28.42%	28.50%

Source: Child Health System

Year refers to school year

Children measured are typically between 11½ and 12½ years of age

Figures above are categorised using International Obesity TaskForce measures

Note that in any year all children may not be measured and so coverage may not be complete

Due to lower coverage in previous years, figures are only available for Year 8 from 2010/11

Figure 11.2: % Year 8 children overweight or obese, Northern Ireland, 2010/11 – 2016/17

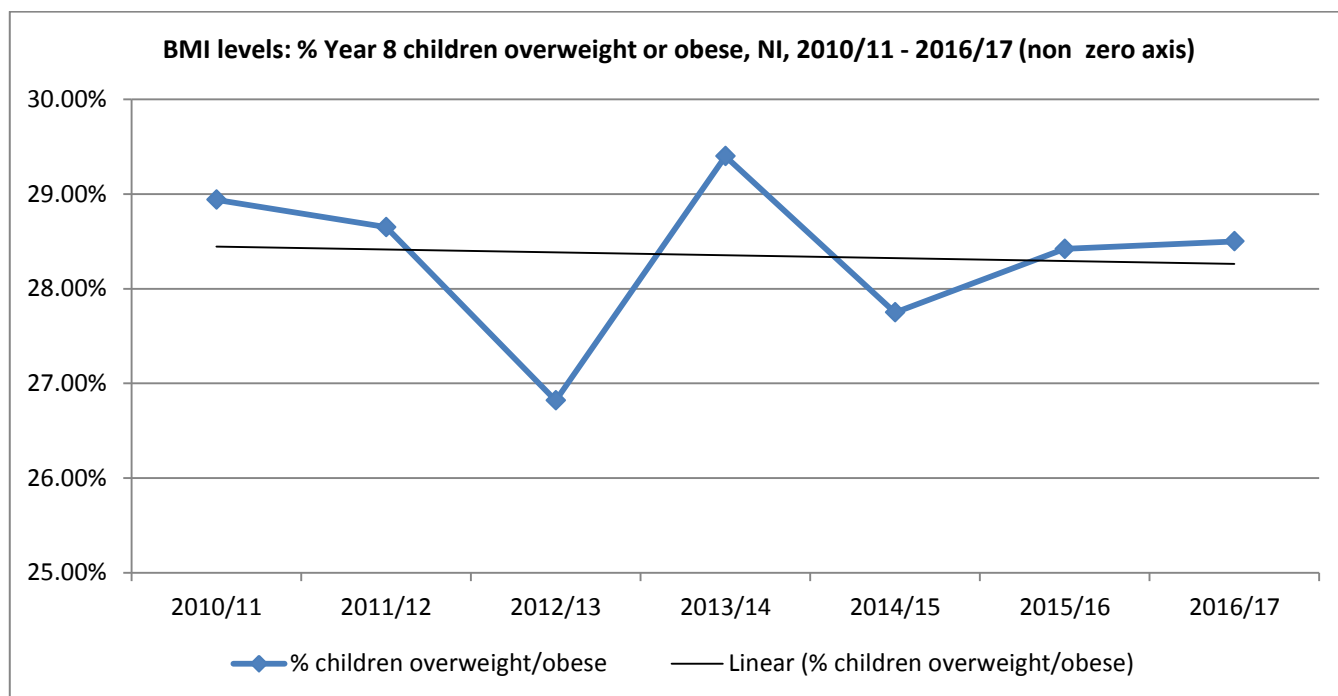


Table 11.5: BMI levels in Year 8 children across Northern Ireland, 2016/17

		No. of children by BMI category					% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	Total	
Gender	Male	585	6,092	1,957	664	9,298	28.19%
	Female	672	5,854	1,985	657	9,168	28.82%
	All persons	1,257	11,946	3,942	1,321	18,466	28.50%
Trust of residence of child	Belfast	182	1,775	599	165	2,721	28.08%
	Northern	369	3,392	1,115	419	5,295	28.97%
	South Eastern	227	2,165	636	204	3,232	25.99%
	Southern	311	2,685	895	281	4,172	28.19%
	Western	163	1,869	673	243	2,948	31.07%
	Not known	5	60	24	9	98	33.67%
	All persons	1,257	11,946	3,942	1,321	18,466	28.50%
Council area (2014)	Antrim and Newtownabbey	97	912	317	108	1,434	29.64%
	Ards and North Down	95	955	272	96	1,418	25.95%
	Armagh City, Banbridge and Craigavon	176	1,468	475	145	2,264	27.39%
	Belfast	156	1,681	578	163	2,578	28.74%
	Causeway Coast and Glens	110	979	342	145	1,576	30.90%
	Derry City and Strabane	79	891	341	120	1,431	32.22%
	Fermanagh and Omagh	61	771	255	79	1,166	28.64%
	Lisburn and Castlereagh	111	881	242	67	1,301	23.75%
	Mid and East Antrim	125	984	332	130	1,571	29.41%
	Mid Ulster	109	1,169	353	140	1,771	27.84%
	Newry, Mourne and Down	133	1,195	411	119	1,858	28.53%
	Not known	5	60	24	9	98	33.67%
	All persons	1,257	11,946	3,942	1,321	18,466	28.50%
Deprivation 2010 quintile (SOA) based on residence of child	Most deprived	166	1,905	797	306	3,174	34.75%
	2	227	2,340	862	294	3,723	31.05%
	3	293	2,732	874	307	4,206	28.08%
	4	299	2,657	774	247	3,977	25.67%
	Least deprived	267	2,252	611	158	3,288	23.39%
	Not known	5	60	24	9	98	33.67%
	All persons	1,257	11,946	3,942	1,321	18,466	28.50%
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	168	1,876	796	316	3,156	35.23%
	2	249	2,420	885	286	3,840	30.49%
	3	269	2,658	846	313	4,086	28.37%
	4	302	2,722	812	234	4,070	25.70%
	Least deprived	264	2,210	579	163	3,216	23.07%
	Not known	5	60	24	9	98	33.67%
	All persons	1,257	11,946	3,942	1,321	18,466	28.50%

Source: Child Health System

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2010 <https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2010-nimdm2010> and 2017 <https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland>

Year refers to school year

Children measured are typically between 11½ and 12½ years of age

Figures above are categorised using International Obesity TaskForce measures

Note that in any year all children may not be measured and so coverage may not be complete

Table 11.6: BMI levels in Year 8 children across Northern Ireland, by Sure Start area, 2016/17

Sure Start area	Total children (where address is known)	% children by BMI category				% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	
Abbey	223	6.3%	57.8%	25.6%	10.3%	35.9%
Antrim	<100	3.8%	62.3%	18.9%	15.1%	34.0%
Ards	231	4.3%	64.1%	24.2%	7.4%	31.6%
ArKe	123	4.9%	57.7%	26.8%	10.6%	37.4%
Ballymena	194	6.2%	57.7%	27.8%	8.2%	36.1%
Bangor	<100	8.1%	67.6%	18.9%	5.4%	24.3%
Beechmount	<100	2.6%	61.5%	28.2%	7.7%	35.9%
Blossom	165	7.9%	56.4%	26.7%	9.1%	35.8%
Cherish	216	6.5%	57.4%	25.9%	10.2%	36.1%
Clan Mor	<100	9.5%	55.6%	31.7%	3.2%	34.9%
Clogher Valley	127	7.1%	66.9%	17.3%	8.7%	26.0%
Coleraine	160	7.5%	57.5%	25.0%	10.0%	35.0%
Colin	207	3.9%	66.7%	23.2%	6.3%	29.5%
Dalriada	160	5.6%	64.4%	21.9%	8.1%	30.0%
Downpatrick	209	3.3%	64.6%	24.4%	7.7%	32.1%
Dungannon	252	6.7%	59.5%	23.8%	9.9%	33.7%
Dungiven	169	7.1%	60.9%	20.1%	11.8%	32.0%
East Belfast	289	7.3%	58.1%	26.0%	8.7%	34.6%
Edenballymore	140	2.1%	53.6%	34.3%	10.0%	44.3%
Glenbrook	160	5.0%	60.0%	23.1%	11.9%	35.0%
Gold	226	4.4%	66.8%	21.7%	7.1%	28.8%
Horizon	133	3.8%	63.2%	21.1%	12.0%	33.1%
Kilkeel	<100	3.2%	67.7%	9.7%	19.4%	29.0%
LAST	158	6.3%	65.8%	22.2%	5.7%	27.8%
Lisburn	<100	10.7%	50.7%	28.0%	10.7%	38.7%
Little Hands	153	5.2%	61.4%	24.8%	8.5%	33.3%
Newry City	181	6.6%	60.2%	26.0%	7.2%	33.1%
Outer West Belfast	203	4.9%	66.0%	23.6%	5.4%	29.1%
Rainbow	119	7.6%	63.9%	20.2%	8.4%	28.6%
Saol Ur	149	2.7%	66.4%	26.2%	4.7%	30.9%
Shankill	225	3.6%	64.0%	23.1%	9.3%	32.4%
Shantallow	195	9.7%	59.5%	22.1%	8.7%	30.8%
Smile	111	3.6%	61.3%	24.3%	10.8%	35.1%
South Armagh	310	7.7%	61.0%	23.5%	7.7%	31.3%
South Belfast	195	8.2%	57.4%	28.2%	6.2%	34.4%
Splash	197	6.6%	62.9%	19.8%	10.7%	30.5%
Star	<100	4.8%	76.2%	16.7%	2.4%	19.0%
Strabane	228	2.6%	69.7%	20.6%	7.0%	27.6%
Waterside	161	6.2%	59.6%	26.1%	8.1%	34.2%
Children living in Sure Start areas	6,346	5.8%	61.7%	24.0%	8.5%	32.5%
Children not living in Sure Start areas	12,027	7.3%	66.3%	19.9%	6.4%	26.3%
All children	18,373	6.8%	64.7%	21.3%	7.1%	28.5%

Source: Child Health System

Year refers to school year

Children measured are typically between 11½ and 12½ years of age

Figures above are categorised using International Obesity TaskForce measures

Figures above exclude children whose area of residence is not known

Note that in any year all children may not be measured and so coverage may not be complete

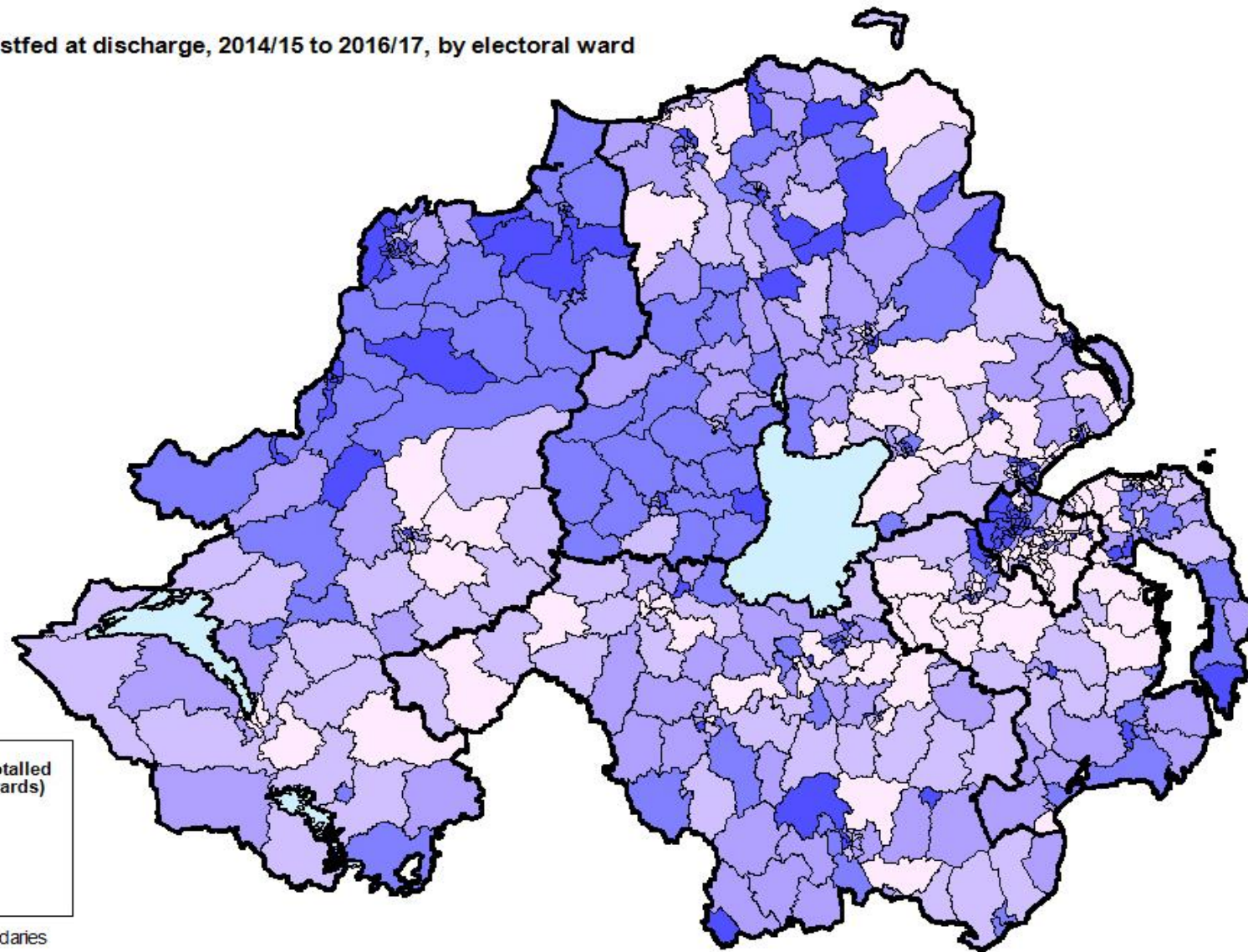
Note that some percentages above are based on small numbers

Disclosure controls have been applied to the data

Appendix 1: Breastfeeding at discharge

Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17, by electoral ward

Northern Ireland



% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)

- 56.19 to 84.46 (115)
- 49.30 to 56.18 (115)
- 42.77 to 49.29 (118)
- 35.57 to 42.76 (115)
- 12.82 to 35.56 (119)

Health Trust boundaries

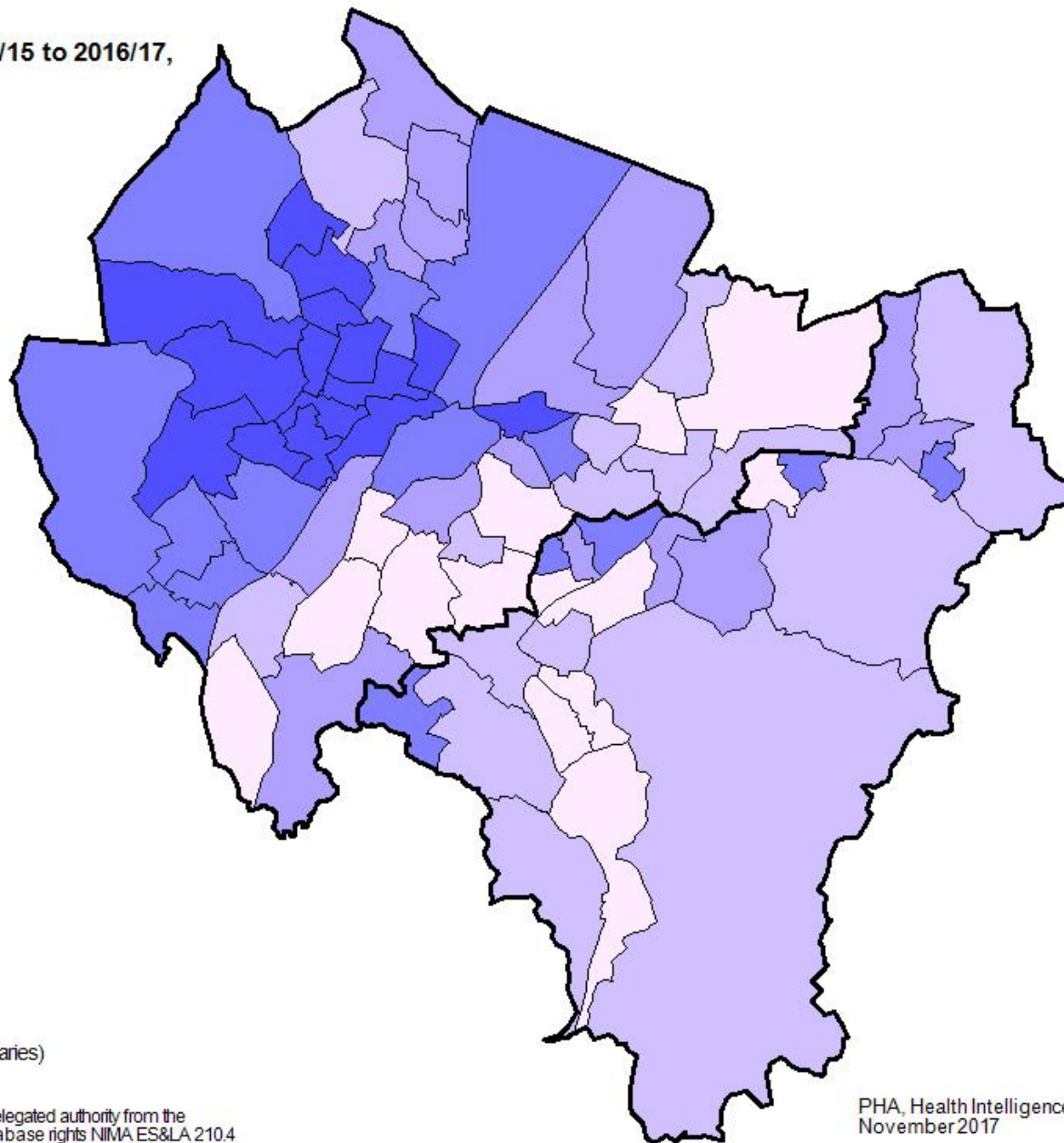
Source: Child Health System

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**Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17,
by electoral ward**

Belfast Health and Social Care Trust



**% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)**

- 68.31 to 84.46 (14)
- 55.88 to 68.30 (15)
- 41.87 to 55.87 (15)
- 31.30 to 41.86 (15)
- 14.38 to 31.29 (15)

Local Government District boundary (1992 boundaries)

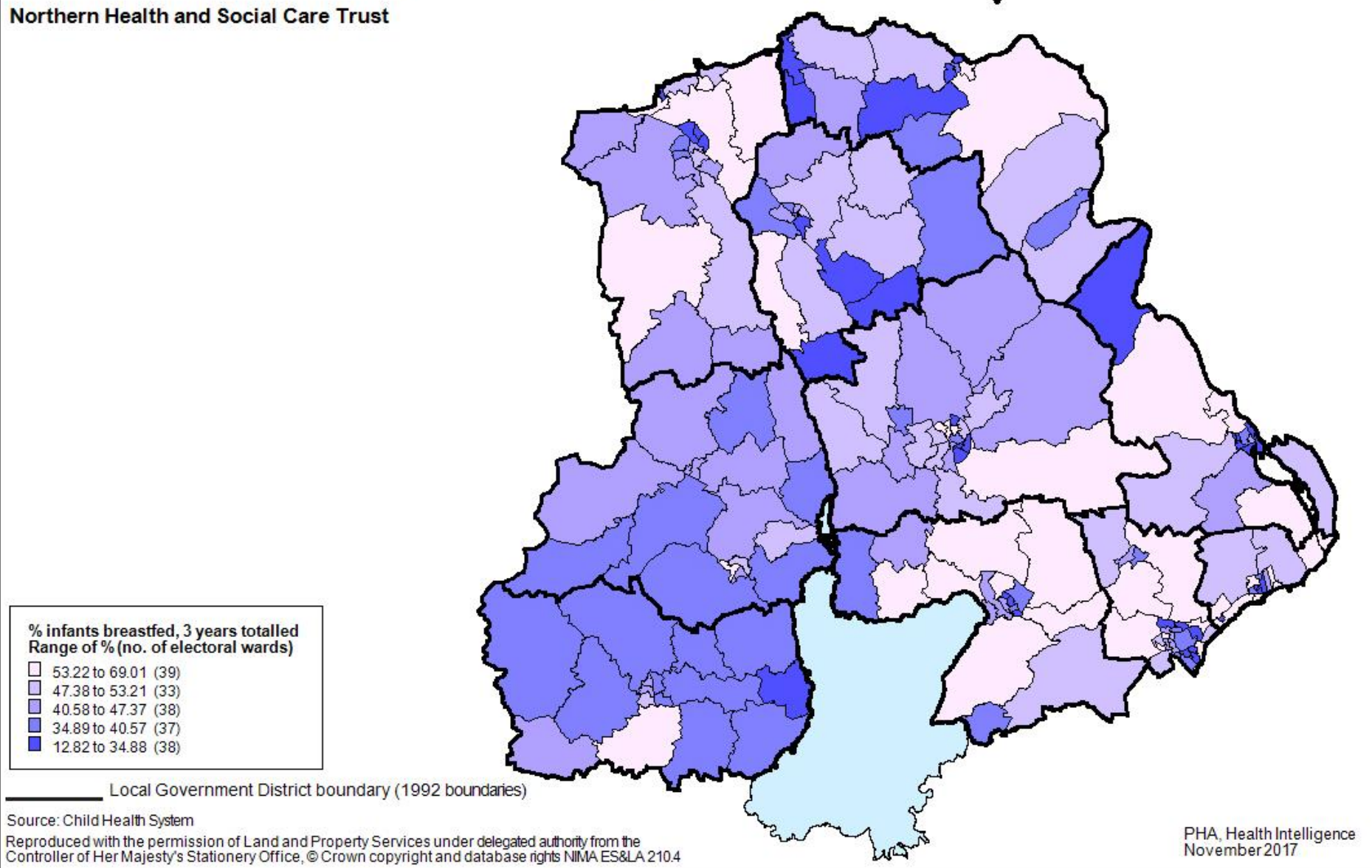
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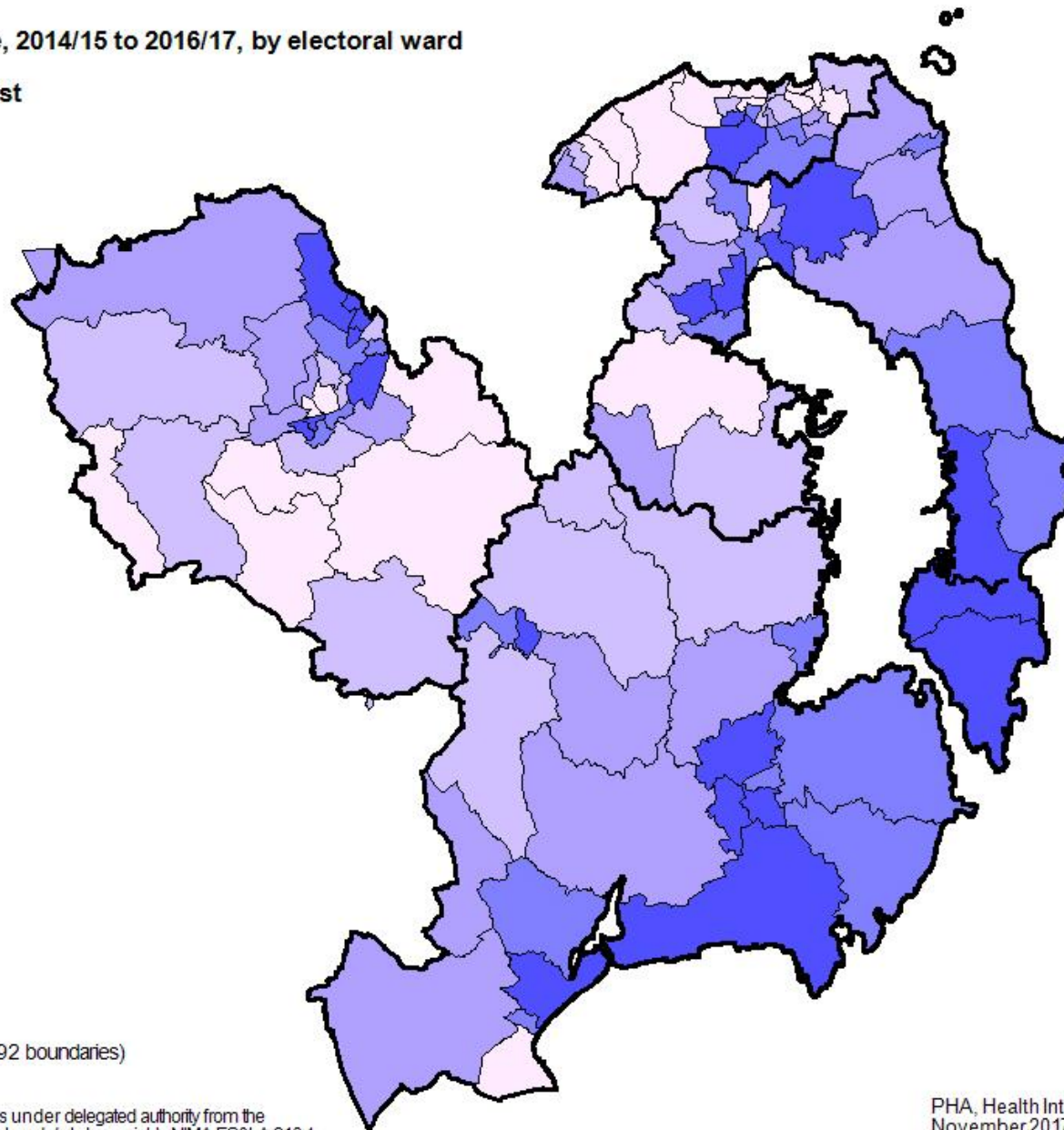
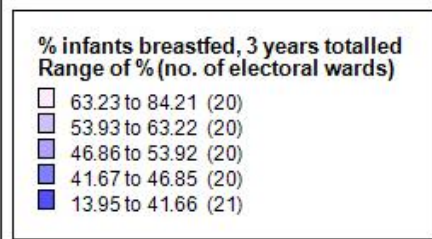
Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17, by electoral ward

Northern Health and Social Care Trust



Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17, by electoral ward

South Eastern Health and Social Care Trust



Local Government District boundary (1992 boundaries)

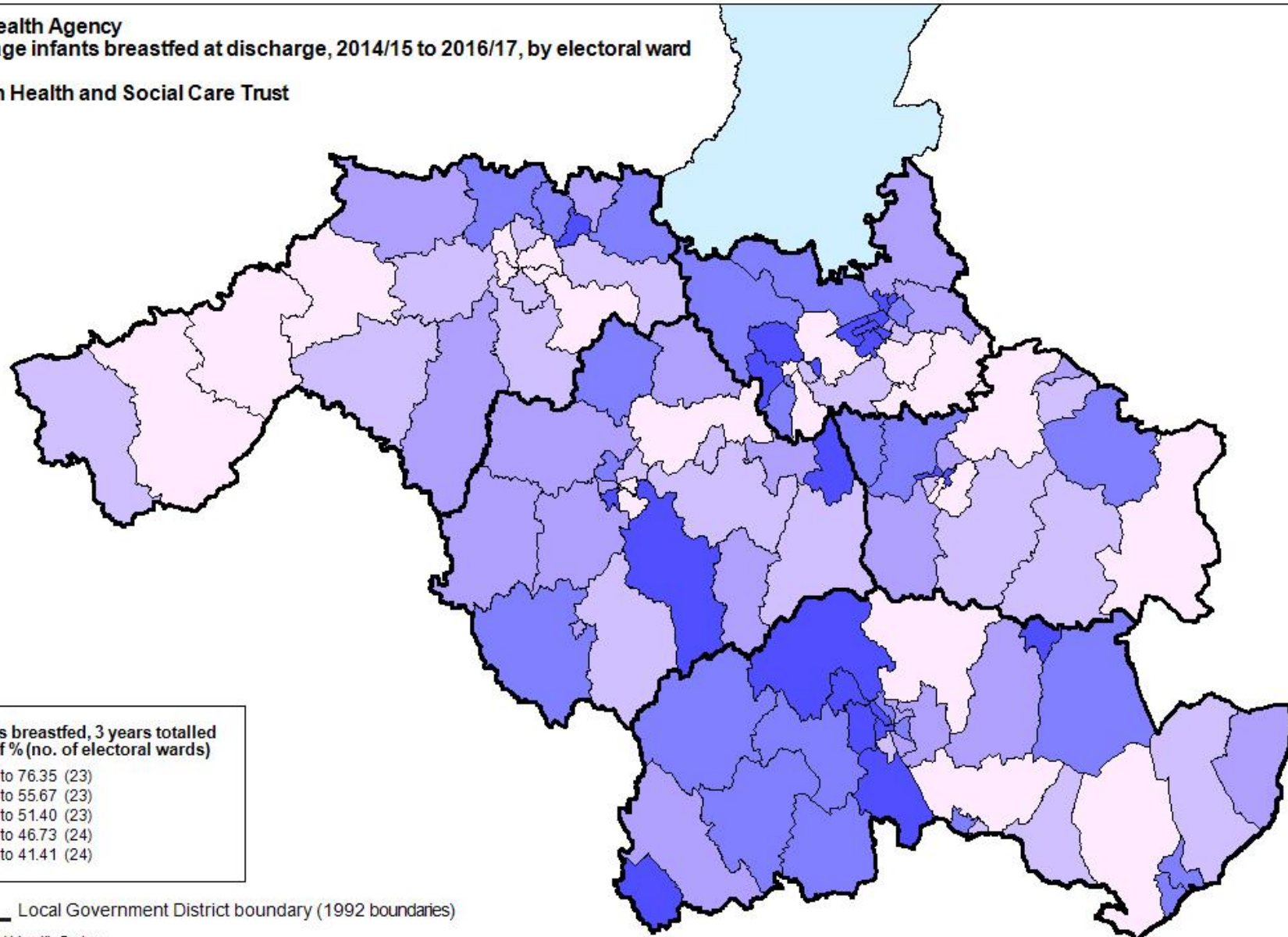
Source: Child Health System

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Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17, by electoral ward

Southern Health and Social Care Trust



% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)

- 55.68 to 76.35 (23)
- 51.41 to 55.67 (23)
- 46.74 to 51.40 (23)
- 41.42 to 46.73 (24)
- 17.70 to 41.41 (24)

Local Government District boundary (1992 boundaries)

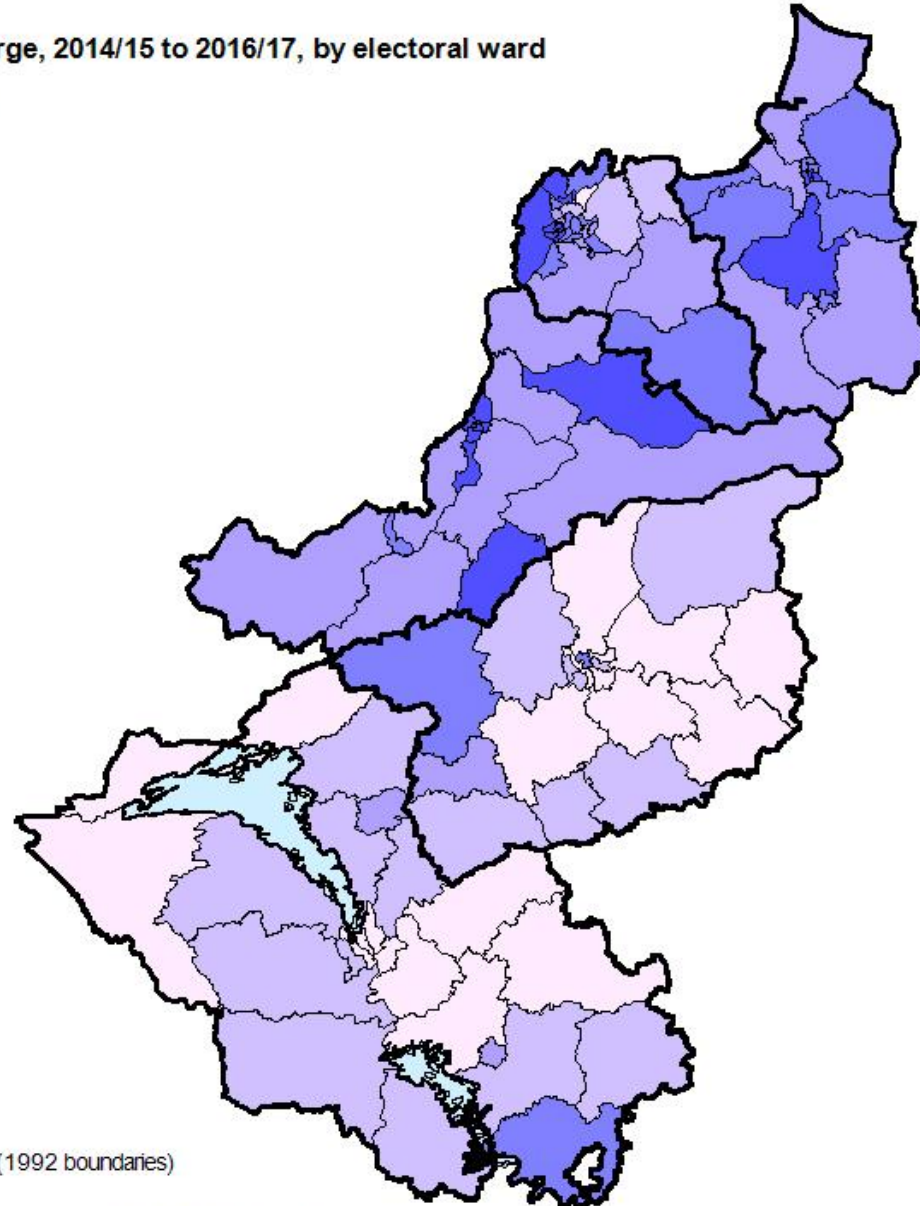
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**Public Health Agency
Percentage infants breastfed at discharge, 2014/15 to 2016/17, by electoral ward**

Western Health and Social Care Trust



**% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)**

- 53.34 to 69.23 (21)
- 43.11 to 53.33 (21)
- 37.29 to 43.10 (21)
- 30.11 to 37.28 (21)
- 18.31 to 30.10 (21)

Local Government District boundary (1992 boundaries)

Source: Child Health System

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**Produced by Public Health Agency
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Health Intelligence Unit**

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