HSC Public Health Agency

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
December 2018

Improving your health and wellbeing

Executive Summary

- There were 23,177 registered births to Northern Ireland residents in 2017 with a birth rate of 12.3 per thousand (2016 = 12.9, 2015 = 13.1, 2014 = 13.3). *[Page 11]* The live birth rate (crude) (12.3) is the highest across the four UK countries, but is lower than the equivalent rate for Republic of Ireland (2017=12.9). *[Page 10]* There were 102 registered still births to Northern Ireland residents in 2017. *[Page 11]*
- The number of births in Northern Ireland to non-NI resident mothers continued to decrease. In 2017, there were 173 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 23,177 in 2017 to 22,505 in 2037 (-2.9%). The Western Trust area is projected to have the largest decrease (-13%), with the Southern Trust showing an increase (+4.7%). *[Page 14]*
- Of the four regions of the United Kingdom, Northern Ireland had the highest total fertility rate (1.87 in 2017). Scotland had the lowest at 1.47. *[Page 15]*
- In 2017/18, births to teenage mothers represented almost 3% of all births. Following a year on year increase in the proportion of births to mothers aged 40 and over, the percentage started to decrease in 2016/17 with a further decrease in 2017/18 (3.7%). *[Page 21]*
- In 2017/18, there were 365 (1.6%) 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, however 2017/18 showed a very small increase. *[Page 35]*
- Over the last seven years there has been little variation in the proportion of infants born pre-term (<37 weeks gestation) (2017/18 = 8.0%). *[Page 38]*
- In 2017/18, 13.8% of mothers smoked (2010/11 = 15.5%) and 8.4% of mothers had diabetes (2010/11 = 1.8%). *[Page 42]*
- Over 22% of mothers giving birth during 2017/18 were measured as obese at time of booking appointment. This proportion has increased year on year since 2011/12. *[Page 52]*
- In 2017/18, 31% of infants were delivered by Caesarian section. *[Page 55]*
- In 2017/18, 6.4% of all births were measured as low birth weight i.e. less than 2,500g (6.1% of live and 69.3% of still births). 13.7% of live infants were born with a higher birth weight of 4,000g+ and 1.8% with a birth weight of 4,500g+. *[Page 60, 61]*
- In 2017/18, 48.1% of live infants were breastfed (total/partial feeding) at discharge (feeding status known). *[Page 69].*
- Of mothers who delivered in 2016/17, the proportion breastfeeding gradually decreased with time e.g. only 13% of mothers were still breastfeeding 12 months after the baby was born. *[Page 74]*
- Of those children measured in Primary 1 in 2017/18, 20.5% were considered overweight or obese, a slight decrease on the previous year. *[Page 79].* The equivalent figure for children in Year 8 was 27.9%. (Based on IOTF classification) *[Page 82]*

CONTENTS

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.**

"State of Child Health" Report, 2017

This report, published in February 2017, by the Royal College of Paediatrics and Child Health[1], 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 standarise 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 vaccination[2]. 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).
- MMR2[3] 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 relative[4] 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]	2017 (n)		646,794	32,176	52,861	23,075	62,053
		2016 (n)		663,157	32,936	54,488	24,076	63,897
		2015 (n)		664,399	33,279	55,098	24,215	65,909
2	**Still births numbers and rates per 1,000 live and still births**[2]	2017 (n)		2,679	153	225	102	N/A
		2016 (n)		2,895	165	236	82	227
		2015 (n)		2,952	158	211	76	262
		2017 (rate)		4.1	4.7	4.2	4.4	N/A
		2016 (rate)		4.3	5.0	4.3	3.4	3.5
		2015 (rate)		4.4	4.7	3.8	3.1	4.0
3	**Infant mortality (deaths in first year) – numbers and rates per 1,000 live births**[3]	2017 (n)		2,572	111	176	88	174
		2016 (n)		2,587	101	181	112	208
		2015 (n)		2,575	123	175	124	205
		2017 (rate)		4.0	3.4	3.3	3.8	2.8
		2016 (rate)		3.9	3.1	3.3	4.6	3.3
		2015 (rate)		3.9	3.7	3.2	5.1	3.1
4	**Fertility rate (TPFR)**[4]	2017 (rate)		1.76	1.69	1.47	1.87	N/A
		2016 (rate)		1.81	1.74	1.52	1.95	1.8
		2015 (rate)		1.82	1.77	1.56	1.96	1.9
5	**Live births to teenage mothers under twenty years**[5]	2017 (n)		N/A	1,410	1,838	692	1,041
		2016 (n)		20,963	1,495	1,974	791	1,098
		2015 (n)		22,420	1,529	2,126	760	1,187
		2017 (rate/1,000 aged 15-19 years)		N/A	16.51	12.96	12.37	6.9
		2016 (rate/1,000 aged 15-19 years)		13.55	16.93	13.51	13.78	7.5
		2015 (rate/1,000 aged 15-19 years)		14.34	16.96	14.34	12.99	8.2
6	**Multiple birth maternities (% of all maternities)**[6]	2017		N/A		1.48	1.37	N/A
		2016		1.59		1.51	1.57	1.9
		2015		1.61		1.50	1.46	1.9
7	**Risk factors**[7]	% mothers who smoked at booking	2017/18	10.8 (at delivery)	N/A	14.4 [p]	13.8	N/A
			2016/17	10.5 (at delivery)	N/A	14.8	13.5	N/A
			2015/16	10.6 (at delivery)	N/A	15.5	14.1	N/A
8	**Caesarean Sections (% of deliveries / births)**[8]	2017/18		28.4 (deliveries)	26.5 (births)	31.7 [p] (live singleton births, 2017)	31.0 (births)	N/A
		2016/17		27.8 (deliveries)	26.3 (births)	31.2 (live singleton births, 2016)	30.5 (births)	32.6 (live births, 2016)
		2015/16		26.7 (deliveries)	25.6 (births)	30.1 (live singleton births, 2015)	29.7 (births)	31.4 (live births, 2015)
9	**Low Birth weight**[9]	% total births less than 2,500g	2017	N/A	N/A	7.2 (2017/18)	6.4	N/A
			2016	7.2	7.2	7.3 (2016/17)	6.2	5.7 (live births)
			2015	7.3	7.1	7.0 (2015/16)	6.5	5.7 (live births)
10	**Breastfeeding - % infants breastfed at discharge / breastfeeding initiated**[10]	2017/18		N/A	56.7 (2017)	51.3 (first visit ~ 10 days old)	48.1	N/A (2017)
		2016/17		74.6 (initiation, maternities)	55.3 (2016)	50.5 (first visit ~ 10 days old)	46.9	59.9 (2016)
		2015/16		74.1 (initiation, maternities)	48.7 (2015)	49.3 (first visit ~ 10 days old)	46.0	58.0 (2015)

[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 2018 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. 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 requests 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'. 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://nationalrecordsofscotland.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/registrar-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/populationestimatesforukenglandandwalesscotlandandnorthernireland
[6] England and Wales: ONS
https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthcharacteristicsinenglandandwales
Scotland: National Records of Scotland https://www.nrscotland.gov.uk/
Vital Events Reference Tables - 2015, 2016, 2017 https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/vital-events-reference-tables
Northern Ireland: Northern Ireland Statistics and Research Agency, Registrar General Annual Reports https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrar-general-annual-report
Republic of Ireland: NPRS – as [2]
Population Estimates (all UK countries): ONS
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland
[7] England: NHS Digital, Statistics on Women's Smoking Status at Time of Delivery
https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-women-s-smoking-status-at-time-of-delivery-england
Scotland: Information Services Division (ISD Scotland) http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births/
Data excludes women delivering at home or in non-NHS hospitals
Northern Ireland: CHS and NIMATS 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/data-and-information/publications/statistical/nhs-maternity-statistics
Scotland: Information Services Division (ISD Scotland) http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births/
Wales: Welsh Government, Maternity Statistics (experimental) 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
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/ Excludes women delivering at home or in non-NHS hospitals.
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
Note that in the four countries of the UK, there are a large number of blank records for breastfeeding status in any year and so the figures shown may not reflect the true level of breastfeeding.
Republic of Ireland: NPRS – as [2] Data is based on live births only and excludes early neonatal deaths.

Further information for European countries is available at: http://www.europeristat.com/index.php/reports/european-perinatal-health-report-2015.html

Section 1: Trends in Births

Key Points

- There were 23,177 registered births to Northern Ireland residents in 2017 with a birth rate of 12.3 per thousand (2016 = 12.9, 2015 = 13.1, 2014 = 13.3). *[Page 11]* The live birth rate (crude) (12.3) is the highest across the four UK countries, but is lower than the equivalent rate for Republic of Ireland (2017=12.9). *[Page 10]*

- There were 102 registered still births to Northern Ireland residents in 2017. *[Page 11]*

- The number of births in Northern Ireland to non-NI resident mothers continued to decrease. In 2017, there were 173 such births – the lowest number in the last ten years. *[Page 11]*

- In 2017, the highest number of registered births was recorded to residents in the Northern Trust area (5,565), with the lowest number in the Western Trust (3,858). *[Page 12]*

- The percentage change in the number of births in the last ten years (2008 to 2017) has not been consistent across Northern Ireland. South Eastern Trust saw a decrease of 14%, while in the Southern Trust there was a decrease of 4% (NI = -9.9%). *[Page 12]*

- In 2017, the percentage of live births to mothers whose country of birth was not Northern Ireland was 17.5%. This has decreased slightly from 17.7% in 2008 (ten years ago). *[Page 11]*

- In the next twenty years, the number of registered resident births in Northern Ireland is projected to decrease from 23,177 in 2017 to 22,505 in 2037 (-2.9%). The Western Trust area is projected to have the largest decrease (-13%), with the Southern Trust showing an increase (+4.7%). The number of births in Belfast Trust is expected to increase by 1.8%, with Northern and South Eastern Trusts projected to decrease in the next twenty years by 8.4% and 0.8% respectively. *[Page 14]*

Table 1.1: Trends in live births/birth rate across the United Kingdom and Republic of Ireland, 1977 - 2017

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
2017	23,075	646,794	52,861	32,176	755,042	62,053	12.3	11.6	9.7	10.3	11.4	12.9
2012	25,269	694,241	58,027	35,238	812,970	72,225	13.9	13.0	10.9	11.5	12.8	15.8
2007	24,451	655,357	57,781	34,414	772,245	70,620	13.9	12.8	11.2	11.4	12.6	16.1
2002	21,385	565,709	51,270	30,205	668,777	60,521	12.6	11.4	10.1	10.3	11.3	15.5
1997	24,087	608,202	59,440	34,520	726,622	52,311	14.4	12.5	11.7	11.9	12.6	14.3
1992	25,354	651,784	65,789	37,523	780,799	51,584	15.6	13.6	12.9	13.0	13.6	14.5
1987	27,653	643,330	66,241	37,816	775,405	58,433	17.5	13.6	13.0	13.4	13.7	16.5
1982	26,872	589,711	66,196	35,720	718,999	70,843	17.4	12.6	12.8	12.7	12.8	20.3
1977	25,437	536,953	62,342	31,765	657,038	68,892	16.7	11.5	11.9	11.3	11.7	21.1

Source:

For United Kingdom: Office for National Statistics, Vital Statistics: Population and Health Reference Tables, November 2018
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, 2008 - 2017

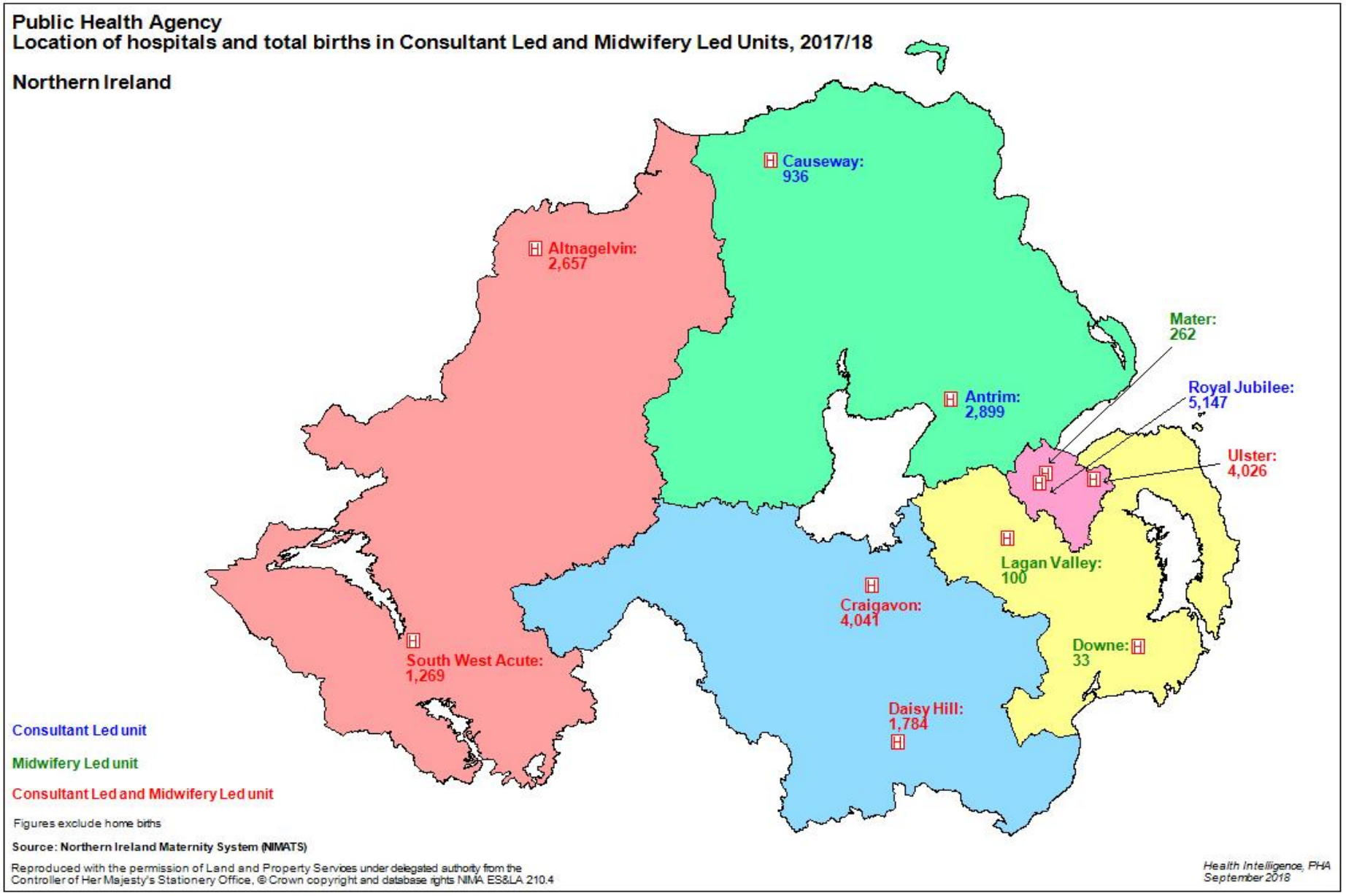
		Year of birth (registered)									
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total resident births (live and still)		**25,746**	**25,029**	**25,420**	**25,364**	**25,375**	**24,387**	**24,475**	**24,291**	**24,158**	**23,177**
Total resident birth rate / 1,000 population		**14.4**	**13.9**	**14.0**	**13.9**	**13.9**	**13.3**	**13.3**	**13.1**	**12.9**	**12.3**
Birth status (NI maternal residents)	Live	25,631	24,910	25,315	25,273	25,269	24,277	24,394	24,215	24,076	23,075
	Still	115	119	105	91	106	110	81	76	82	102
	All infants	**25,746**	**25,029**	**25,420**	**25,364**	**25,375**	**24,387**	**24,475**	**24,291**	**24,158**	**23,177**
Born to NI-resident / non-resident mothers	Resident	25,746	25,029	25,420	25,364	25,375	24,387	24,475	24,291	24,158	23,177
	Non-resident	623	577	455	461	354	261	221	210	186	173
	All infants	**26,369**	**25,606**	**25,875**	**25,825**	**25,729**	**24,648**	**24,696**	**24,501**	**24,344**	**23,350**
Country of birth of mother (live births only)	NI	21,095	20,539	20,805	20,808	20,819	19,937	20,129	19,968	19,882	19,031
	Other UK	1,410	1,364	1,323	1,296	1,293	1,271	1,170	1,186	1,052	1,051
	RoI	779	689	714	692	698	626	626	635	618	572
	A8 countries	1,080	1,113	1,235	1,210	1,202	1,257	1,258	1,205	1,184	1,041
	All other countries	1,267	1,205	1,238	1,267	1,257	1,186	1,211	1,221	1,340	1,380
	Not stated	0	0	0	0	0	0	0	0	0	0
	All infants	**25,631**	**24,910**	**25,315**	**25,273**	**25,269**	**24,277**	**24,394**	**24,215**	**24,076**	**23,075**
Place of birth (live births only)	Altnagelvin	2,672	2,676	2,623	2,830	2,741	2,554	2,695	2,675	2,588	2,526
	Antrim	3,078	2,790	2,770	2,671	2,640	2,638	2,820	2,953	2,970	2,909
	Causeway	1,447	1,373	1,412	1,432	1,413	1,362	1,204	1,086	1,033	943
	Craigavon	3,805	3,812	4,000	3,975	4,170	3,993	4,015	4,040	4,150	4,028
	Daisy Hill	1,875	1,842	1,840	1,765	1,814	1,701	1,806	1,794	1,760	1,745
	Downe	-	-	40	72	97	86	57	81	42	36
	Lagan Valley	1,196	1,069	979	334	213	206	178	193	170	107
	Mater	1,272	1,119	1,204	1,219	1,194	437	191	196	237	262
	Royal	5,437	5,467	5,473	5,555	5,584	5,927	5,995	5,748	5,630	5,137
	SWAH/Erne	1,331	1,266	1,307	1,206	1,226	1,217	1,233	1,220	1,252	1,233
	Ulster	3,416	3,398	3,553	4,120	4,086	4,036	4,119	4,131	4,140	4,027
	Other hospitals	3	3	2	5	1	0	1	5	6	13
	Home	83	91	95	73	72	105	67	75	82	89
	Other locations	16	4	17	16	18	15	13	18	16	20
	All places of birth	**25,631**	**24,910**	**25,315**	**25,273**	**25,269**	**24,277**	**24,394**	**24,215**	**24,076**	**23,075**

Table 1.2 continued: Trends in births (live and still) registered in Northern Ireland, 2008 – 2017

		Year of birth (registered)									
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total resident births (live and still)		**25,746**	**25,029**	**25,420**	**25,364**	**25,375**	**24,387**	**24,475**	**24,291**	**24,158**	**23,177**
Local Government District (2014) of residence of mother	Antrim and Newtownabbey	2,062	1,925	1,927	1,914	1,896	1,744	1,779	1,799	1,767	1,674
	Ards and North Down	1,946	1,790	1,812	1,889	1,796	1,739	1,748	1,756	1,657	1,566
	Armagh City, Banbridge & Craigavon	3,076	3,053	3,156	3,061	3,139	2,884	2,931	2,990	2,947	2,877
	Belfast	4,727	4,668	4,773	4,847	4,938	4,743	4,641	4,601	4,612	4,212
	Causeway Coast and Glens	1,810	1,666	1,755	1,777	1,768	1,771	1,712	1,726	1,663	1,632
	Derry City and Strabane	2,227	2,257	2,128	2,242	2,155	2,066	2,104	2,067	2,009	1,912
	Fermanagh and Omagh	1,603	1,541	1,623	1,559	1,549	1,461	1,513	1,418	1,517	1,508
	Lisburn and Castlereagh	1,810	1,836	1,819	1,808	1,767	1,740	1,757	1,722	1,752	1,727
	Mid and East Antrim	1,702	1,579	1,628	1,627	1,569	1,535	1,596	1,513	1,577	1,522
	Mid Ulster	2,160	2,123	2,197	2,115	2,195	2,219	2,142	2,181	2,155	2,133
	Newry, Mourne and Down	2,623	2,591	2,602	2,525	2,603	2,485	2,552	2,518	2,502	2,414
	All infants	**25,746**	**25,029**	**25,420**	**25,364**	**25,375**	**24,387**	**24,475**	**24,291**	**24,158**	**23,177**
Trust of residence of mother (NI resident mothers only)	Belfast	4,763	4,715	4,809	4,854	4,956	4,786	4,718	4,665	4,663	4,345
	Northern	6,376	5,979	6,134	6,062	5,986	5,901	5,895	5,776	5,764	5,565
	South Eastern	4,697	4,554	4,539	4,615	4,547	4,374	4,338	4,333	4,249	4,033
	Southern	5,620	5,558	5,733	5,538	5,721	5,384	5,477	5,547	5,527	5,376
	Western	4,290	4,223	4,205	4,295	4,165	3,942	4,047	3,970	3,955	3,858
	All infants	**25,746**	**25,029**	**25,420**	**25,364**	**25,375**	**24,387**	**24,475**	**24,291**	**24,158**	**23,177**

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

Figure 1.1: Location of hospitals and number of births in Consultant Led Units/Midwifery Led Units, Northern Ireland, 2017/18



Projected births

Table 1.3: Resident registered births by Health Trust and 2014 Local Government District, 2015 - 2017 and projected to 2037

		Registered births			2016 based projections			
No. of resident births		**2015**	**2016**	**2017**	**2022/23**	**2027/28**	**2032/33**	**2037/38**
Northern Ireland		**24,291**	**24,158**	**23,177**	**22,781**	**22,138**	**21,945**	**22,505**
Health Trust of residence	Belfast	4,665	4,663	4,345	4,500	4,354	4,316	4,425
	Northern	5,776	5,764	5,565	5,341	5,143	5,030	5,097
	South Eastern	4,333	4,249	4,033	4,089	3,979	3,924	4,001
	Southern	5,547	5,527	5,376	5,256	5,237	5,344	5,626
	Western	3,970	3,955	3,858	3,595	3,425	3,331	3,356
	Northern Ireland	**24,291**	**24,158**	**23,177**	**22,781**	**22,138**	**21,945**	**22,505**
Local Government District (2014)	Antrim and Newtownabbey	1,799	1,767	1,674	1,642	1,590	1,562	1,589
	Ards and North Down	1,756	1,657	1,566	1,584	1,523	1,487	1,501
	Armagh City, Banbridge & Craigavon	2,990	2,947	2,877	2,852	2,839	2,893	3,047
	Belfast	4,601	4,612	4,212	4,431	4,276	4,239	4,341
	Causeway Coast and Glens	1,726	1,663	1,632	1,514	1,415	1,351	1,347
	Derry City and Strabane	2,067	2,009	1,912	1,876	1,773	1,712	1,716
	Fermanagh and Omagh	1,418	1,517	1,508	1,326	1,277	1,256	1,273
	Lisburn and Castlereagh	1,722	1,752	1,727	1,697	1,690	1,692	1,758
	Mid and East Antrim	1,513	1,577	1,522	1,461	1,424	1,396	1,409
	Mid Ulster	2,181	2,155	2,133	2,024	1,997	2,015	2,105
	Newry, Mourne and Down	2,518	2,502	2,414	2,374	2,334	2,342	2,419
	Northern Ireland	**24,291**	**24,158**	**23,177**	**22,781**	**22,138**	**21,945**	**22,505**

Source:
Source: NISRA https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/births
NISRA (Components of Change) https://www.nisra.gov.uk/publications/2016-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, 2015 - 2017 and projected to 2037

		Births			2016 based projections			
No. of resident births		**2015**	**2016**	**2017**	**2022/23**	**2027/28**	**2032/33**	**2037/38**
Place of birth	Altnagelvin Hospital	2,711	2,602	2,604	2,415	2,289	2,213	2,223
	Antrim Hospital	2,959	3,011	2,937	2,800	2,728	2,694	2,747
	Craigavon Area Hospital	4,089	4,176	4,057	3,929	3,904	3,972	4,179
	Causeway Hospital	1,096	1,019	968	945	882	842	840
	Daisy Hill Hospital	1,799	1,774	1,773	1,686	1,674	1,699	1,773
	Downe Hospital	82	47	42	56	54	53	53
	Lagan Valley Hospital	197	175	105	156	155	155	160
	Mater Infirmorum	188	243	265	224	216	213	217
	Royal Jubilee Maternity Hospital	5,767	5,692	5,202	5,398	5,234	5,181	5,305
	South West Acute Hospital	1,223	1,269	1,255	1,118	1,080	1,066	1,083
	Ulster Hospital	4,208	4,152	4,084	4,022	3,895	3,829	3,895
	Home	30	32	31	30	29	28	29
	All locations	**24,349**	**24,192**	**23,323**	**22,781**	**22,138**	**21,945**	**22,505**

Source:
2015-2017 data: NIMATS (via Business Objects)
Projections: Calculated by PHA Health Intelligence based on:
NISRA (Components of Change) https://www.nisra.gov.uk/publications/2016-based-population-projections-areas-within-northern-ireland
NIMATS (via Business Objects) data for births in 2015 - 2017
Data for births during 2015 - 2017 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 2017 fertility levels were below replacement level at 1.87 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 fertility rate (1.87 in 2017). Scotland had the lowest at 1.47. *[Page 15]*

- Age specific fertility rates have remained fairly steady over the last ten years in most age groups with overall increases in the 30-34 and 35-39 age groups and overall decreases in the younger age groups (15-19 and 20-24). *[Page 18].* The shift to women having children later in life is clearly shown in Figure 2.4. *[Page 17]*

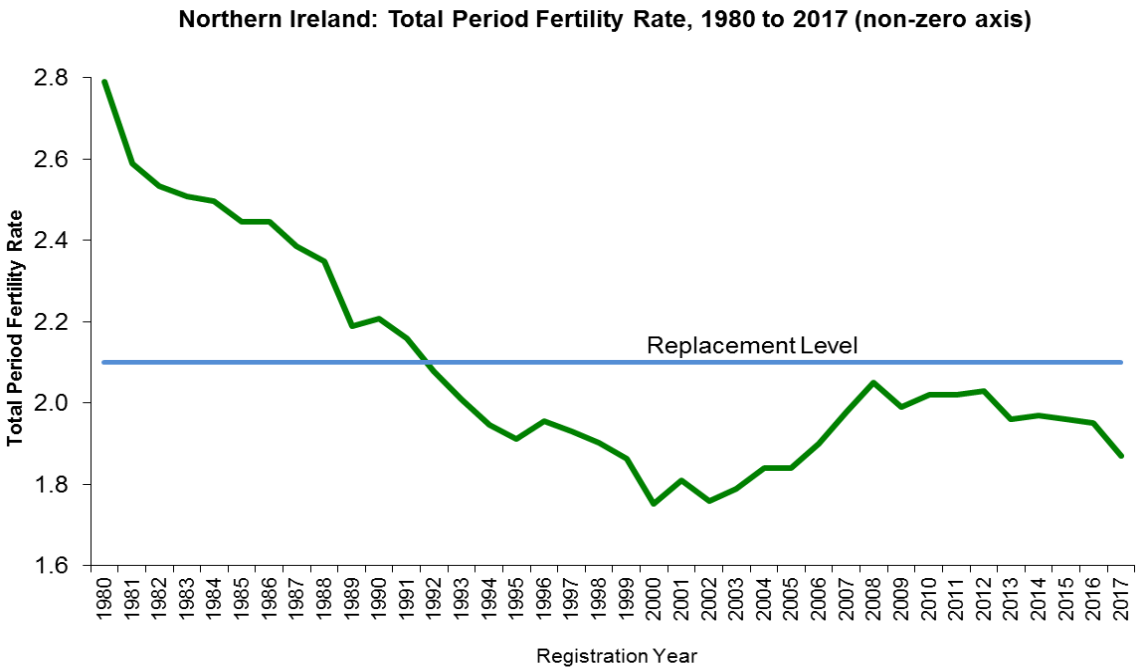
- In 2016, there was a slight increase in the teenage fertility rate (13.8), however the rate decreased in 2017 to 12.4. (The lowest number of registered teenage births on record occurred during 2017, NI = 692). The primary driver in this reduction in births is the decline in the fertility rate in this age group e.g. 29.2 per 1,000 population in 1990 to 23.4 in 2017. *[Page 18]*

Table 2.1: UK/RoI fertility rates 1992 - 2017, and projections 2022 - 2037

											2016 based projections			
Total Fertility Rate	**1992**	**1997**	**2002**	**2007**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2022/23**	**2027/28**	**2032/33**	**2037/38**
Northern Ireland	2.08	1.93	1.76	1.98	2.03	1.96	1.97	1.96	1.95	1.87	1.92	1.96	1.98	2.00
England	1.79	1.73	1.64	1.88	1.94	1.85	1.83	1.82	1.81	1.76	1.80	1.82	1.84	1.84
Wales	1.87	1.81	1.64	1.86	1.88	1.80	1.78	1.77	1.74	1.69	1.80	1.82	1.84	1.84
Scotland	1.67	1.58	1.47	1.70	1.67	1.61	1.62	1.56	1.52	1.47	1.55	1.58	1.62	1.64
UK	1.79	1.72	1.63	1.87	1.92	1.83	1.82	1.80	1.79	1.74	1.78	1.81	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	1.78	-	-	-	-

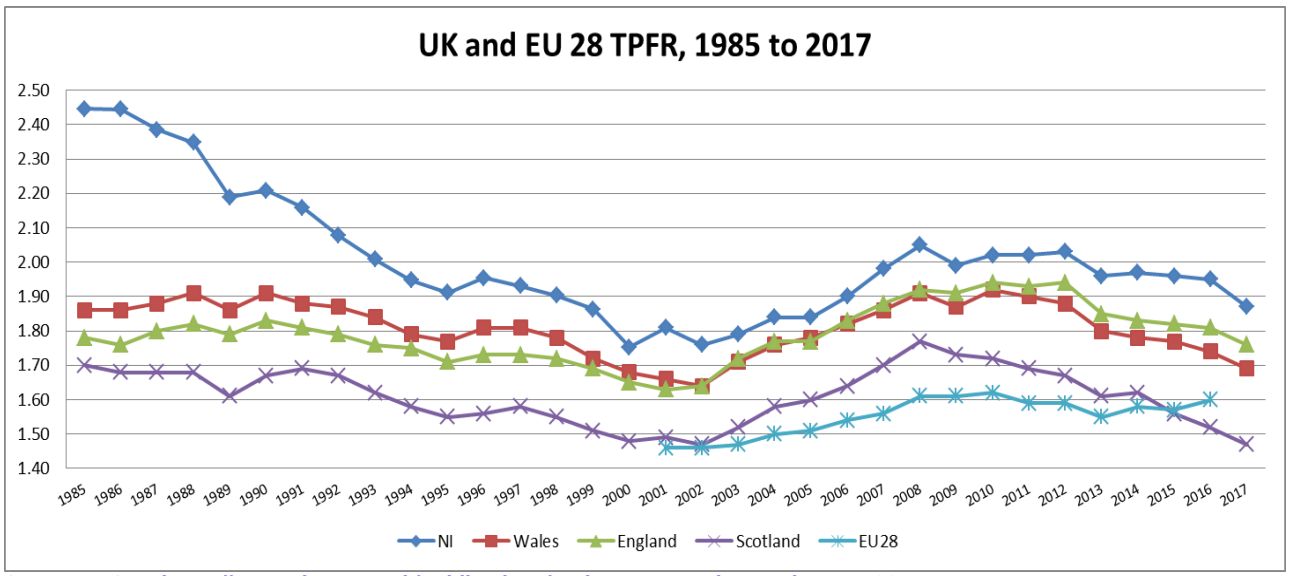
Source:
United Kingdom home countries: Office for National Statistics (ONS), Vital Statistics: Population and Health Reference Tables, November 2018
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/vitalstatisticspopulationandhealthreferencetables
Republic of Ireland: Central Statistics Office, Vital Statistics Annual Reports/Yearly Summaries
http://www.cso.ie/en/statistics/birthsdeathsandmarriages/
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 - 2017



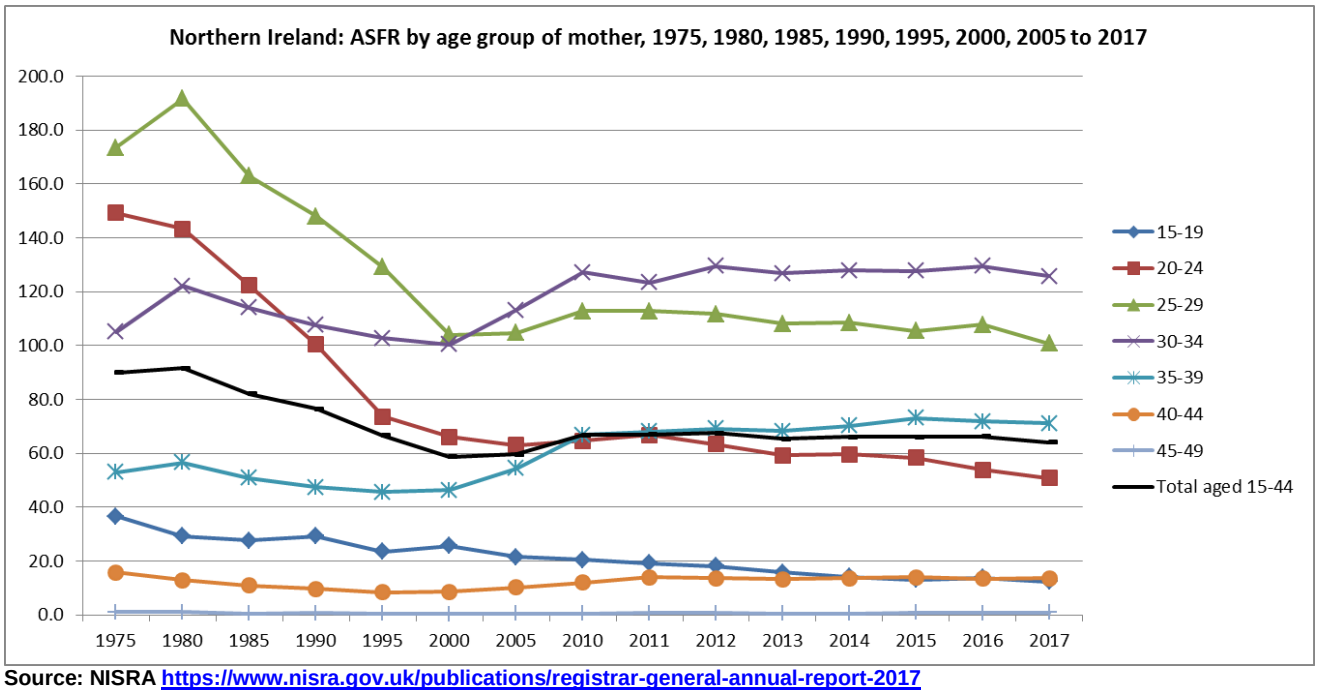
Source: NISRA https://www.nisra.gov.uk/publications/registrar-general-annual-report-2017
The line at a TPFR of 2.1 represents the 'replacement level' which is the number of births that are required to maintain a steady Northern Ireland population taking account of this population's mortality rates but ignoring any outside effects of population movement.

Figure 2.2: UK and EU total period fertility rate, 1985 to 2017



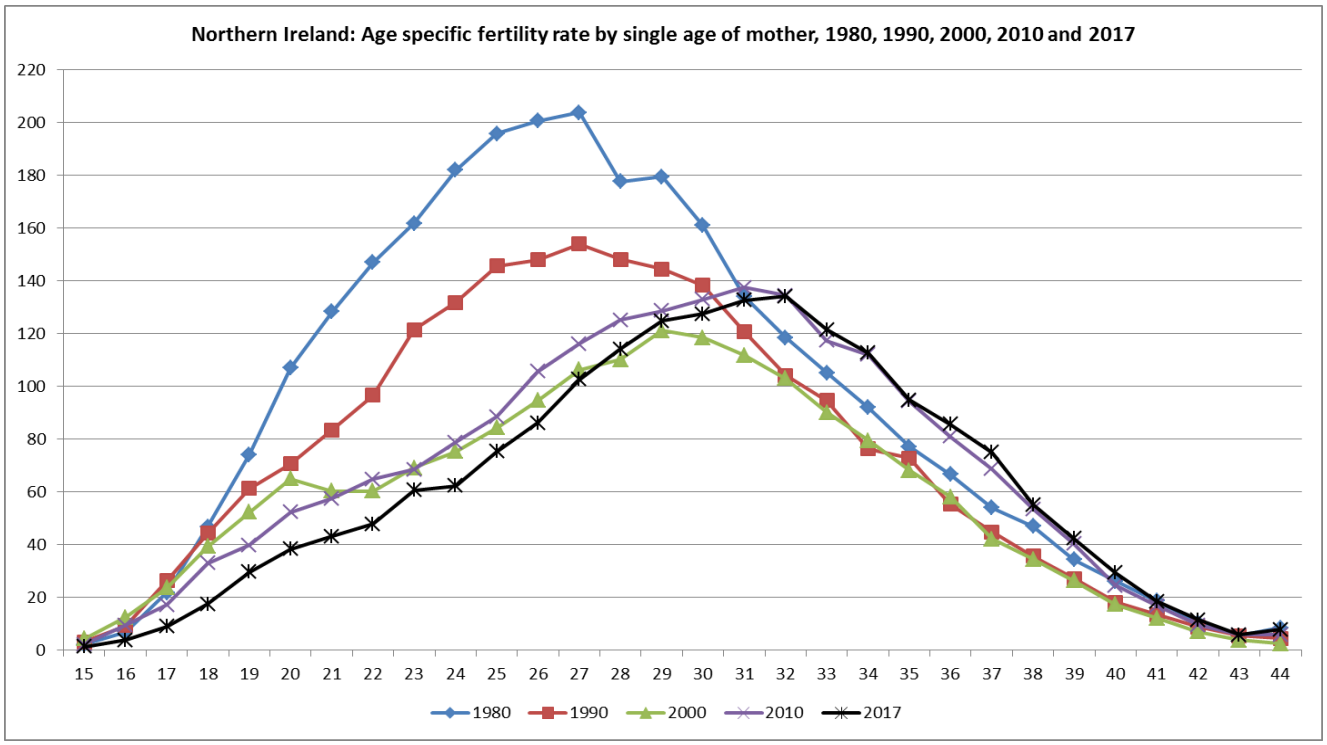
Source: NISRA https://www.nisra.gov.uk/publications/registrar-general-annual-report-2017
United Kingdom home countries: Office for National Statistics (ONS), Vital Statistics: Population and Health Reference Tables, November 2018
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/vitalstatisticspopulationandhealthreferencetables
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 2015 and 2016 are 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 2017.

Figure 2.3: Age-Specific Fertility Rates by age-group of mother, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2011 to 2017



Source: NISRA https://www.nisra.gov.uk/publications/registrar-general-annual-report-2017
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 2017



Source: NISRA https://www.nisra.gov.uk/publications/registrar-general-annual-report-2017
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, 2010, 2011 to 2017

Age Group of Mother	Registration Year														
	1975	1980	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017
15-19	36.5	29.2	27.6	29.2	23.4	25.6	21.5	20.5	19.1	18.1	15.7	14.2	13.0	13.8	12.4
20-24	149.3	143.2	122.3	100.4	73.5	66.0	63.0	64.6	66.7	63.3	59.2	59.6	58.3	53.9	50.7
25-29	173.5	191.6	162.9	148.0	129.1	103.9	104.7	112.8	112.7	111.6	108.0	108.5	105.4	107.7	100.8
30-34	105.1	122.1	114.0	107.6	102.7	100.4	113.1	127.1	123.4	129.5	126.8	127.9	127.6	129.5	125.7
35-39	52.9	56.6	50.7	47.4	45.5	46.2	54.3	66.8	68.1	69.1	68.2	70.1	73.1	71.8	71.0
40-44	15.7	12.9	10.8	9.6	8.4	8.5	10.1	12.0	13.9	13.6	13.2	13.5	14.0	13.4	13.5
45-49	1.0	1.0	0.5	0.6	0.4	0.3	*0.5*	*0.4*	*0.6*	*0.7*	*0.5*	0.5	0.9	0.6	0.8
Total aged 15-44	90.0	91.6	82.1	76.5	66.6	58.7	59.6	66.7	67.0	67.5	65.4	66.1	66.0	66.2	64.0

Source: NISRA https://www.nisra.gov.uk/publications/registrar-general-annual-report-2017
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, many pregnancies in women aged 16-19 years are unplanned. For example, findings from the National Survey of Sexual Attitudes and Lifestyles (Natsal-3) for Great Britain reported that 11.6% of women with a pregnancy in the last year reported that it was planned, 45.2% reported that it was unplanned with 43.2% stating that they were ambivalent. Young people, particularly those under 16, may be considered a group at high-risk for unplanned pregnancy as they are less likely to use or have access to condoms or contraceptives.[5]

Unplanned pregnancy has been associated with negative social and psychological consequences for both young parents and their children.[6,7,8,9,10] 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 infant mortality;
- Hospitalisation for accidental injury;
- Poverty; and
- Poor educational attainment and unemployment in later life.

In recent years the number of births to teenage mothers in Northern Ireland has declined. In 2017, 692 births were recorded, the lowest on record and less than half of that recorded a decade ago in 2007 (1,405).[11] Findings from the most recent Young Peoples' Behaviour and Attitudes Survey in 2016 also reported a decline in the proportion of young people reporting having had sexual intercourse, from 12% in 2000 to 4% in 2016.[12] However, it also found that just over a third (34%) of young people in Years 11 and 12 said that they would not find it easy to get contraceptives.

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 2014.[13] 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*".

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.[14,15] RSE is a

[5] Mason-Jones AJ, Sinclair D, Mathews C, Kagee A, Hillman A, Lombard C. School-based interventions for preventing HIV, sexually transmitted infections, and pregnancy in adolescents. Cochrane Database of Systematic Reviews 2016, Issue 11. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5461872/pdf/CD006417_0001.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. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/524506/PHE_LGA_Framework_for_supporting_teenage_mothers_and_young_fathers.pdf
[9] Teenage parents: who cares? A guide to commissioning and delivering maternity services for young parents http://webarchive.nationalarchives.gov.uk/20130102182314/https://www.education.gov.uk/publications/eOrderingDownload/Teenage%20parents.pdf
[10] Oringanje C, Meremikwu MM, Eko H, Esu E, Meremikwu A, Ehiri JE. Interventions f or preventing unintended pregnancies among adolescents. Cochrane Database of Systematic Reviews 2016, Issue 2. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD005215.pub3/epdf/full
[11] Registrar General Annual Report 2017 Births https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrar-general-annual-report
[12] Information Analysis Directorate. Young Persons' Behaviour and Attitude Survey 2016 Health Modules. Belfast: Department of Health, 2017. https://www.health-ni.gov.uk/sites/default/files/publications/health/bulletin-16-ypbas.pdf
[13] 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
[14] As [13]
[15] 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

statutory component of the Northern Ireland curriculum.[16,17] 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 (72.1%).[18] While young people also identify mothers (47.2%) and fathers (23.7%) as sources of information, some report finding it 'difficult' to talk about or 'don't discuss' sexual matters with their mother (14.2%, 33.6%) or father (18.7%, 44.9%).

The Strategy and Addendum included 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.

Building on the Strategy and Action plan a new Specialist Sexual Health Action Plan for 2019-2025 is currently under development.

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 Gynaecologists[19] 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] 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
[17] 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
[18] Central Survey Unit. Young Persons' Behaviour and Attitudes Survey 2013. Belfast: Northern Ireland Statistics and Research Agency (NISRA), 2014.
https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/YPBAS2013ToplineResults%28Weighted%29.pdf
[19] 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

- In 2017/18, births to teenage mothers represented almost 3% of all births. Following a year on year increase in the proportion of births to mothers aged 40 and over, the percentage started to decrease in 2016/17 with a further decrease in 2017/18 (3.7%). *[Page 21]*

- The proportion of teenage mothers from "non-white" ethnic groups (3.4%) who gave birth during 2017/18 is slightly higher when compared to those from "white" ethnic groups (2.9%). The same can be said for mothers aged 40 and over. There are a higher proportion of older mothers in "non-white" ethnic groups (5.6%), compared to "white" ethnic groups (3.7%). [*Page 23]*

- Based on 2017 deprivation quintiles, the proportion of births to teenage mothers has fallen from 5.4% in the most deprived areas (2016/17 = 5.7%, 2015/16 = 5.5%, 2014/15 = 5.0%) to 1.5% in the least deprived (2016/17 = 1.4%, 2015/16 = 1.3%, 2014/15 = 1.3%). The opposite can be seen in the proportion of births to older mothers (40+), increasing from 2.4% in the most deprived areas (2016/17 = 2.5%, 2015/16 = 2.5%, 2014/15 = 2.6%) to 5.4% in the least deprived areas (2016/17 = 5.6%, 2015/16 = 7.1%, 2014/15 = 7.3%). [*Page 24]*

- Data for 2015/16–2017/18, at District Electoral Area level, reveals that Court DEA (Belfast LGD) had the highest proportion of teenage mothers (6.5%) and Mid Tyrone DEA (Fermanagh & Omagh LGD) had the lowest (0.3%). Balmoral DEA (Belfast LGD) had the highest proportion of older mothers (aged 40 and over) (7.8%), The Moor DEA (Derry City & Strabane LGD) had the lowest at 2.3%. *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 - 2017/18

Year of birth		Infants born by age of mother									Infants born to teenage mothers
		≤ 17	18-19	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	**Total**	
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%**
2017/18	n	157	523	2,835	6,274	7,963	4,395	853	4	**23,004**	**680**
	%	0.7%	2.3%	12.3%	27.3%	34.6%	19.1%	3.7%	-	**-**	**2.96%**

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 - 2017/18

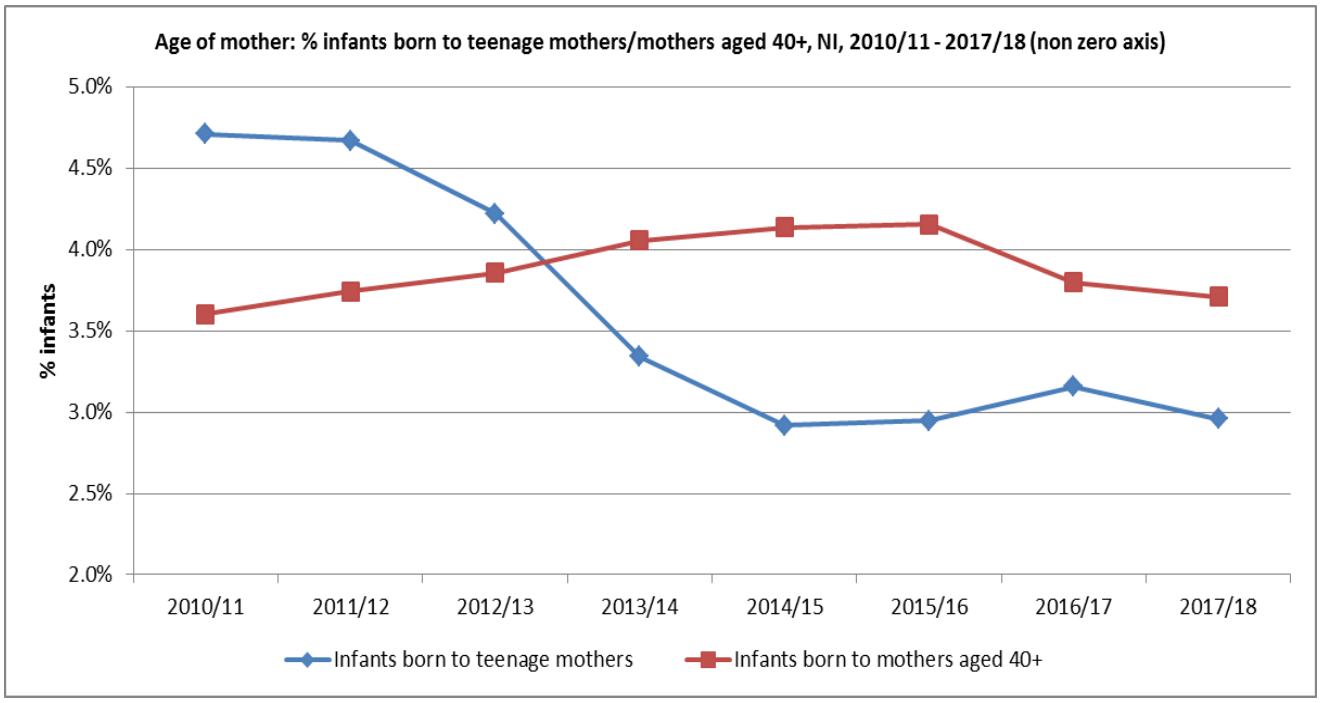


Table 3.2: Births to Northern Ireland residents, by age of mother, 2017/18

		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	153	515	2,777	6,118	7,735	4,207	819	4	**22,328**	3.0%	3.7%
	Multiple	4	8	58	156	228	188	34	0	**676**	1.8%	5.0%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**
Ethnic group of mother (NIMATS)	White	144	509	2,746	6,063	7,704	4,278	827	0	**22,271**	2.9%	3.7%
	Non-white	8	17	94	183	258	142	42	0	**744**	3.4%	5.6%
	Not stated / Blank	2	0	1	9	10	5	3	0	**30**	6.7%	10.0%
	All infants	**154**	**526**	**2,841**	**6,255**	**7,972**	**4,425**	**872**	**0**	**23,045**	**3.0%**	**3.8%**
Ethnic group of infant (CHS)	White	135	489	2,690	5,972	7,601	4,197	800	1	**21,885**	2.9%	3.7%
	Non-white	11	34	140	291	349	189	52	0	**1,066**	4.2%	4.9%
	Not stated / Blank	11	0	5	11	13	9	1	3	**53**	22.0%	2.0%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**
Place of birth	Altnagelvin	15	64	331	726	876	437	87	0	**2,536**	3.1%	3.4%
	Antrim	18	75	363	835	999	513	94	1	**2,898**	3.2%	3.2%
	Causeway	8	24	138	267	315	159	24	0	**935**	3.4%	2.6%
	Craigavon	12	77	448	1,127	1,396	817	148	0	**4,025**	2.2%	3.7%
	Daisy Hill	13	33	167	465	673	360	61	0	**1,772**	2.6%	3.4%
	Downe	0	0	≤5	10	19	≤5	0	0	**36**	0.0%	0.0%
	Lagan Valley	0	≤5	16	36	36	≤20	0	0	**103**	>3.0%	0.0%
	Mater	≤5	≤20	53	82	69	42	≤5	0	**261**	>3.0%	<3.7%
	Royal	64	147	751	1,348	1,631	985	222	0	**5,148**	4.1%	4.3%
	SWAH	≤5	≤20	109	309	484	264	51	0	**1,235**	<3.0%	4.1%
	Ulster	24	71	455	1,060	1,451	800	163	1	**4,025**	2.4%	4.1%
	Home/Other	0	0	≤5	9	14	≤5	≤5	2	**30**	0.0%	<3.7%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**
Trust of residence of mother	Belfast	59	133	617	1,160	1,389	814	168	0	**4,340**	4.4%	3.9%
	Northern	33	132	708	1,533	1,873	993	193	2	**5,467**	3.0%	3.5%
	South Eastern	24	72	470	1,067	1,395	771	152	0	**3,951**	2.4%	3.8%
	Southern	24	106	603	1,460	1,929	1,098	198	0	**5,418**	2.4%	3.7%
	Western	17	80	437	1,054	1,377	719	142	2	**3,828**	2.5%	3.7%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**

Table 3.2 continued: Births to Northern Ireland residents, by age of mother, 2017/18

		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	7	42	248	431	580	302	68	1	**1,679**	2.9%	4.1%
	Ards and North Down	13	19	168	405	520	302	66	0	**1,493**	2.1%	4.4%
	Armagh City, Banbridge and Craigavon	17	66	357	832	954	544	113	0	**2,883**	2.9%	3.9%
	Belfast	61	146	658	1,172	1,286	722	155	0	**4,200**	4.9%	3.7%
	Causeway Coast and Glens	10	33	222	476	525	261	57	0	**1,584**	2.7%	3.6%
	Derry City and Strabane	12	54	274	537	664	318	61	0	**1,920**	3.4%	3.2%
	Fermanagh and Omagh	≤5	≤20	113	377	556	334	65	2	**1,467**	<3.0%	4.4%
	Lisburn and Castlereagh	≤5	≤25	149	414	685	385	75	0	**1,737**	<3.0%	4.3%
	Mid and East Antrim	13	44	206	432	475	265	55	1	**1,491**	3.8%	3.7%
	Mid Ulster	7	36	176	571	823	434	59	0	**2,106**	2.0%	2.8%
	Newry, Mourne and Down	11	40	264	627	895	528	79	0	**2,444**	2.1%	3.2%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	69	205	1,000	1,572	1,464	668	122	0	**5,100**	5.4%	2.4%
	2	27	118	657	1,415	1,701	882	178	0	**4,978**	2.9%	3.6%
	3	29	82	523	1,347	1,663	933	177	2	**4,756**	2.3%	3.7%
	4	25	70	436	1,144	1,684	964	177	0	**4,500**	2.1%	3.9%
	Least deprived	7	48	219	796	1,451	948	199	2	**3,670**	1.5%	5.4%
	All infants	**157**	**523**	**2,835**	**6,274**	**7,963**	**4,395**	**853**	**4**	**23,004**	**3.0%**	**3.7%**

Source: Child Health System/NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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/Council areas, 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, 2015/16 to 2017/18

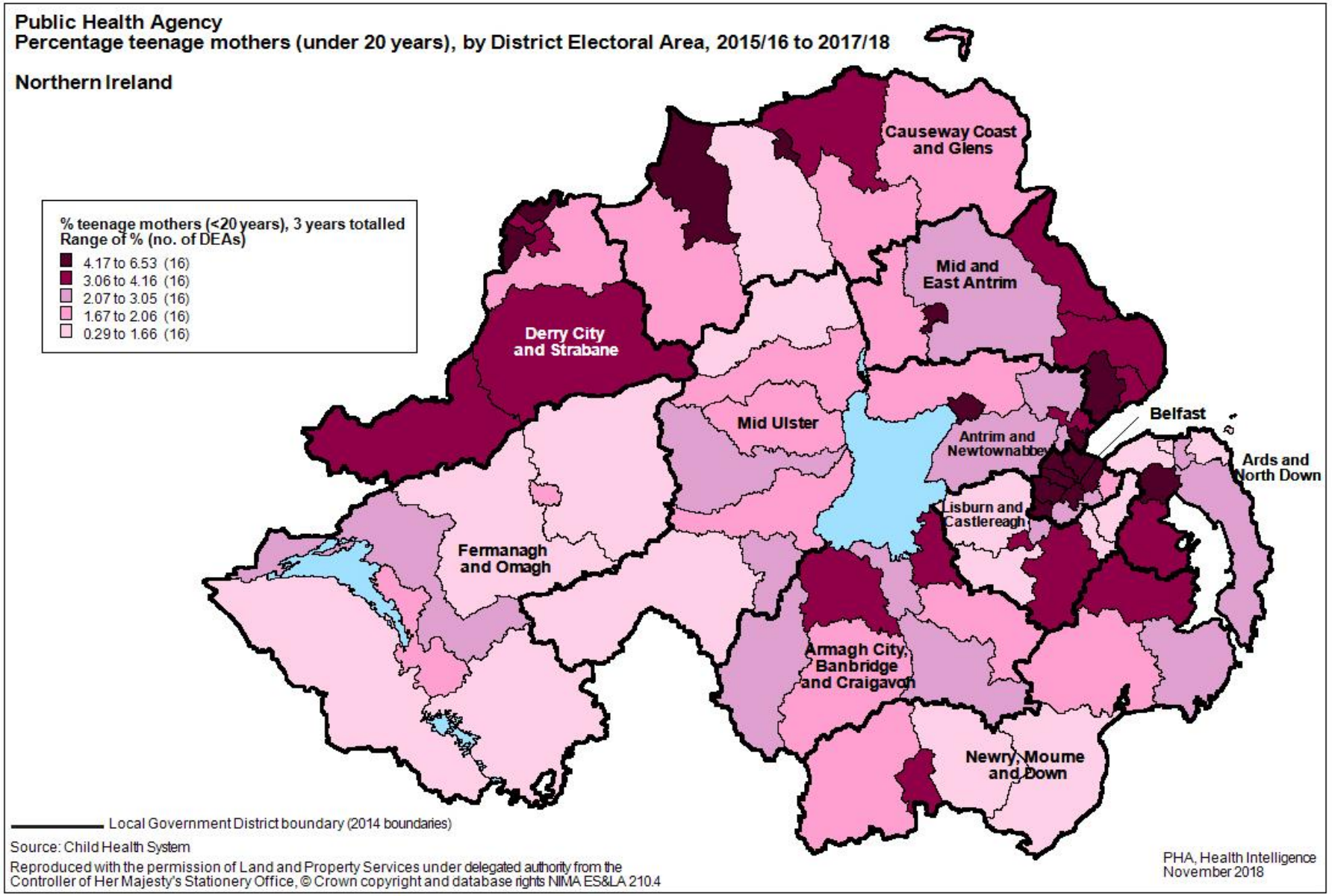
		Infants born by age of mother								% infants born to teenage mothers	% infants born to mothers aged 40+	Total births (all ages), by year		
Council (2014)	**District Electoral Area**	<20	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	**Total**			**2015/16**	**2016/17**	**2017/18**
Antrim and Newtownabbey	Airport	19	87	225	347	204	35	0	917	2.1%	3.8%	316	327	274
	Antrim	45	188	251	257	133	23	0	897	5.0%	2.6%	309	295	293
	Ballyclare	20	91	194	229	118	23	1	676	3.0%	3.4%	249	213	214
	Dunsilly	13	58	159	244	138	20	0	632	2.1%	3.2%	227	202	203
	Glengormley Urban	17	97	199	285	144	43	0	785	2.2%	5.5%	275	252	258
	Macedon	31	119	188	213	98	25	0	674	4.6%	3.7%	214	240	220
	Three Mile Water	22	92	196	189	122	32	0	653	3.4%	4.9%	214	222	217
	Total	**167**	**732**	**1,412**	**1,764**	**957**	**201**	**1**	**5,234**	**3.2%**	**3.8%**	**1,804**	**1,751**	**1,679**
Ards and North Down	Ards Peninsula	19	98	226	238	138	34	0	753	2.5%	4.5%	297	245	211
	Bangor Central	20	116	268	329	175	57	0	965	2.1%	5.9%	331	332	302
	Bangor East and Donaghadee	8	54	131	233	140	37	0	603	1.3%	6.1%	214	208	181
	Bangor West	6	65	154	218	131	34	0	608	1.0%	5.6%	202	208	198
	Comber	16	58	133	188	102	24	0	521	3.1%	4.6%	186	183	152
	Holywood and Clandeboye	9	62	90	198	156	42	0	557	1.6%	7.5%	190	196	171
	Newtownards	40	181	250	267	154	30	0	922	4.3%	3.3%	341	303	278
	Total	**118**	**634**	**1,252**	**1,671**	**996**	**258**	**0**	**4,929**	**2.4%**	**5.2%**	**1,761**	**1,675**	**1,493**
Armagh, Banbridge and Craigavon	Armagh	30	155	375	522	310	58	0	1,450	2.1%	4.0%	493	468	489
	Banbridge	41	153	352	479	267	56	0	1,348	3.0%	4.2%	445	454	449
	Craigavon	35	167	354	402	214	30	0	1,202	2.9%	2.5%	435	380	387
	Cusher	21	103	313	373	201	38	0	1,049	2.0%	3.6%	359	357	333
	Lagan River	15	71	272	322	179	37	0	896	1.7%	4.1%	312	305	279
	Lurgan	55	249	447	464	230	44	0	1,489	3.7%	3.0%	488	498	503
	Portadown	44	200	401	438	224	53	0	1,360	3.2%	3.9%	468	449	443
	Total	**241**	**1,098**	**2,514**	**3,000**	**1,625**	**316**	**0**	**8,794**	**2.7%**	**3.6%**	**3,000**	**2,911**	**2,883**

		Infants born by age of mother								% infants born to teenage mothers	% infants born to mothers aged 40+	Total births (all ages), by year		
Council (2014)	**District Electoral Area**	<20	20 - 24	25 - 29	30 - 34	35 - 39	40 +	Not known	**Total**			**2015/16**	**2016/17**	**2017/18**
Belfast	Balmoral	20	51	152	289	229	63	0	804	2.5%	7.8%	270	280	254
	Black Mountain	94	329	495	442	207	43	1	1,611	5.8%	2.7%	553	561	497
	Botanic	74	180	307	453	280	77	0	1,371	5.4%	5.6%	487	479	405
	Castle	55	198	307	365	242	48	0	1,215	4.5%	4.0%	421	419	375
	Collin	73	271	449	533	220	38	1	1,585	4.6%	2.4%	511	583	491
	Court	95	315	508	335	161	40	1	1,455	6.5%	2.8%	505	490	460
	Lisnasharragh	24	88	179	392	274	67	0	1,024	2.3%	6.5%	344	342	338
	Oldpark	94	343	507	374	200	37	0	1,555	6.0%	2.4%	516	544	495
	Ormiston	20	82	243	424	314	63	0	1,146	1.7%	5.5%	407	377	362
	Titanic	98	284	474	466	243	62	0	1,627	6.0%	3.8%	548	556	523
	Total	**647**	**2,141**	**3,621**	**4,073**	**2,370**	**538**	**3**	**13,393**	**4.8%**	**4.0%**	**4,562**	**4,631**	**4,200**
Causeway Coast and Glens	Ballymoney	18	118	315	282	136	31	0	900	2.0%	3.4%	292	299	309
	Bann	9	71	190	191	114	16	0	591	1.5%	2.7%	197	217	177
	Benbradagh	15	86	217	280	144	37	0	779	1.9%	4.7%	268	251	260
	Causeway	28	90	179	208	139	35	0	679	4.1%	5.2%	236	223	220
	Coleraine	39	190	279	216	108	20	0	852	4.6%	2.3%	311	279	262
	Limavady	23	90	166	177	78	17	0	551	4.2%	3.1%	189	181	181
	The Glens	10	76	168	189	110	24	0	577	1.7%	4.2%	178	224	175
	Total	**142**	**721**	**1,514**	**1,543**	**829**	**180**	**0**	**4,929**	**2.9%**	**3.7%**	**1,671**	**1,674**	**1,584**
Derry City and Strabane	Ballyarnett	47	205	301	346	179	38	0	1,116	4.2%	3.4%	389	369	358
	Derg	24	76	186	246	146	26	0	704	3.4%	3.7%	265	218	221
	Faughan	13	76	176	234	152	24	0	675	1.9%	3.6%	231	231	213
	Foyleside	21	120	180	224	112	18	0	675	3.1%	2.7%	260	216	199
	Sperrin	32	129	266	356	176	33	0	992	3.2%	3.3%	342	307	343
	The Moor	38	144	229	208	102	17	0	738	5.1%	2.3%	253	242	243
	Waterside	38	175	300	350	211	42	0	1,116	3.4%	3.8%	387	386	343
	Total	**213**	**925**	**1,638**	**1,964**	**1,078**	**198**	**0**	**6,016**	**3.5%**	**3.3%**	**2,127**	**1,969**	**1,920**
Fermanagh and Omagh	Enniskillen	11	63	186	214	117	29	0	620	1.8%	4.7%	220	205	195
	Erne East	9	44	158	262	137	27	0	637	1.4%	4.2%	214	231	192
	Erne North	16	58	132	222	117	29	0	574	2.8%	5.1%	196	193	185
	Erne West	7	33	125	240	148	30	0	583	1.2%	5.1%	197	188	198
	Mid Tyrone	2	36	154	289	174	31	1	687	0.3%	4.5%	205	242	240
	Omagh	14	102	182	243	136	25	1	703	2.0%	3.6%	235	249	219
	West Tyrone	8	35	170	268	157	30	0	668	1.2%	4.5%	232	198	238
	Total	**67**	**371**	**1,107**	**1,738**	**986**	**201**	**2**	**4,472**	**1.5%**	**4.5%**	**1,499**	**1,506**	**1,467**

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			2015/16	2016/17	2017/18
Lisburn and Castlereagh	Castlereagh East	12	83	210	285	114	30	0	734	1.6%	4.1%	235	237	262
	Castlereagh South	9	31	165	371	249	55	0	880	1.0%	6.3%	258	321	301
	Downshire East	16	42	109	207	114	35	0	523	3.1%	6.7%	165	176	182
	Downshire West	8	35	119	184	144	24	0	514	1.6%	4.7%	198	145	171
	Killultagh	5	57	219	357	218	43	1	900	0.6%	4.8%	302	308	290
	Lisburn North	18	111	194	279	148	31	0	781	2.3%	4.0%	273	263	245
	Lisburn South	33	141	256	296	143	34	0	903	3.7%	3.8%	310	307	286
	Total	**101**	**500**	**1,272**	**1,979**	**1,130**	**252**	**1**	**5,235**	**1.9%**	**4.8%**	**1,741**	**1,757**	**1,737**
Mid and East Antrim	Ballymena	41	174	281	285	117	29	1	928	4.4%	3.1%	300	345	283
	Bannside	13	64	169	281	114	27	0	668	1.9%	4.0%	217	225	226
	Braid	21	98	260	284	167	31	0	861	2.4%	3.6%	292	292	277
	Carrick Castle	23	87	170	154	109	19	0	562	4.1%	3.4%	185	177	200
	Coast Road	19	85	161	138	83	20	0	506	3.8%	4.0%	181	162	163
	Knockagh	35	100	145	150	104	20	0	554	6.3%	3.6%	192	186	176
	Larne Lough	19	75	154	179	95	14	0	536	3.5%	2.6%	181	189	166
	Total	**171**	**683**	**1,340**	**1,471**	**789**	**160**	**1**	**4,615**	**3.7%**	**3.5%**	**1,548**	**1,576**	**1,491**
Mid Ulster	Carntogher	10	52	216	313	142	23	0	756	1.3%	3.0%	234	261	261
	Clogher Valley	14	66	268	400	208	40	0	996	1.4%	4.0%	323	331	342
	Cookstown	25	95	299	365	190	29	0	1,003	2.5%	2.9%	340	343	320
	Dungannon	32	148	350	383	193	40	0	1,146	2.8%	3.5%	386	387	373
	Magherafelt	15	70	222	298	157	25	0	787	1.9%	3.2%	274	266	247
	Moyola	13	68	204	279	148	26	0	738	1.8%	3.5%	257	254	227
	Torrent	21	114	280	379	192	33	0	1,019	2.1%	3.2%	359	324	336
	Total	**130**	**613**	**1,839**	**2,417**	**1,230**	**216**	**0**	**6,445**	**2.0%**	**3.4%**	**2,173**	**2,166**	**2,106**
Newry, Mourne and Down	Crotlieve	15	63	252	489	286	53	0	1,158	1.3%	4.6%	375	399	384
	Downpatrick	19	129	227	259	146	31	0	811	2.3%	3.8%	288	256	267
	Newry	45	138	337	431	236	46	0	1,233	3.6%	3.7%	432	388	413
	Rowallane	23	99	209	234	148	36	0	749	3.1%	4.8%	251	256	242
	Slieve Croob	17	94	211	317	166	29	0	834	2.0%	3.5%	286	282	266
	Slieve Gullion	26	133	379	602	328	40	0	1,508	1.7%	2.7%	525	478	505
	The Mournes	18	126	339	438	216	27	0	1,164	1.5%	2.3%	393	404	367
	Total	**163**	**782**	**1,954**	**2,770**	**1,526**	**262**	**0**	**7,457**	**2.2%**	**3.5%**	**2,550**	**2,463**	**2,444**
Northern Ireland	**All infants**	**2,160**	**9,200**	**19,463**	**24,390**	**13,516**	**2,782**	**8**	**71,519**	**3.0%**	**3.9%**	**24,436**	**24,079**	**23,004**

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, 2015/16 to 2017/18



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 1.19% of mothers in 1987 to 1.37% of mothers in 2017 having a multiple birth in Northern Ireland[20]. 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)[21]. 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[22,23,24]

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.

[20] Northern Ireland Statistics and Research Agency, Registrar General Annual Reports, 2017 and 1987 https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/registrar-general-annual-report

[21] 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

[22] 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

[23] 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

[24] 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 eight years (2017/18 = 2.9%). *[Page 30]*

- The incidence of multiple births increased with mother's age. In 2017/18, across Northern Ireland, less than 2% of births to mothers aged less than twenty years were multiple births, compared to 4.0% of births to mothers aged 40 and over. *[Page 31]*

Table 4.1: Births to Northern Ireland residents, by singleton/multiple births, 2010/11 - 2017/18

Year of birth		Infants born by singleton/multiple birth				Infants born as multiples
		Single	Twin	Triplet	**Total**	
2010/11	n	24,854	784	21	**25,659**	**805**
	%	96.9%	3.1%	0.1%	**-**	**3.1%**
2011/12	n	24,552	748	9	**25,309**	**757**
	%	97.0%	3.0%	0.0%	**-**	**3.0%**
2012/13	n	24,228	782	18	**25,028**	**800**
	%	96.8%	3.1%	0.1%	**-**	**3.2%**
2013/14	n	23,523	742	12	**24,277**	**754**
	%	96.9%	3.1%	0.0%	**-**	**3.1%**
2014/15	n	23,687	698	15	**24,400**	**713**
	%	97.1%	2.9%	0.1%	**-**	**2.9%**
2015/16	n	23,720	686	30	**24,436**	**716**
	%	97.1%	2.8%	0.1%	**-**	**2.9%**
2016/17	n	23,327	716	36	**24,079**	**752**
	%	96.9%	3.0%	0.1%	**-**	**3.1%**
2017/18	n	22,328	664	12	**23,004**	**676**
	%	97.1%	2.9%	0.1%	**-**	**2.9%**

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 – 2017/18

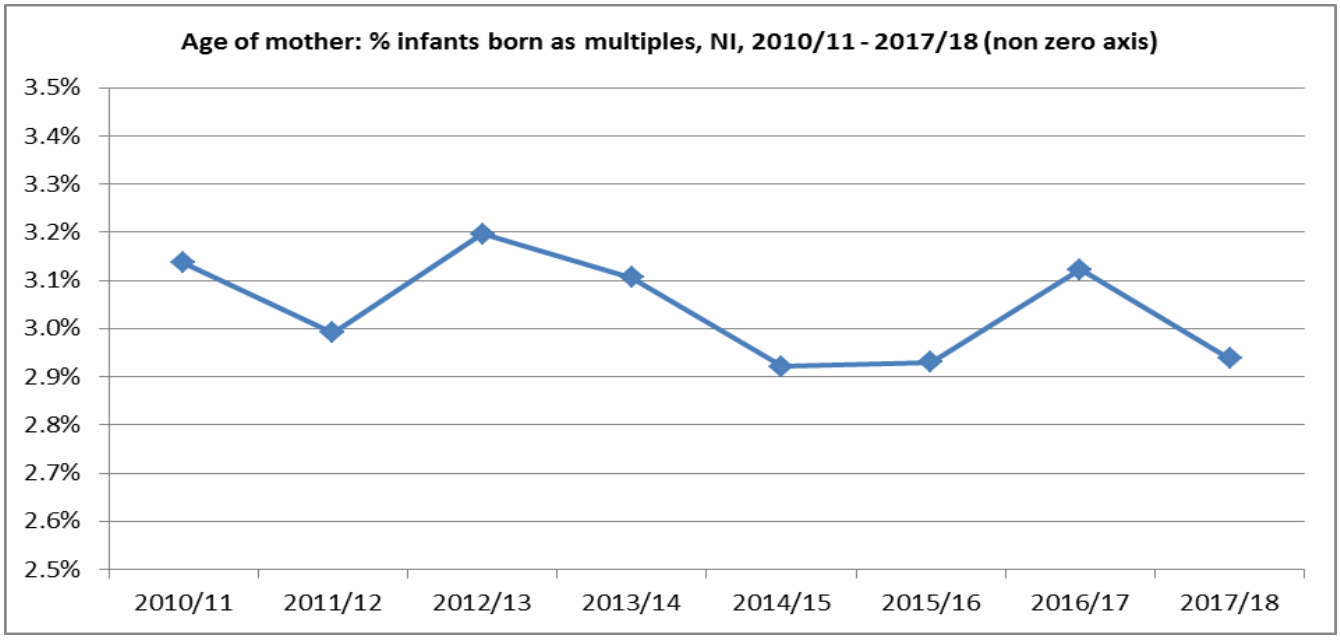


Table 4.2: Births to Northern Ireland residents, by singleton/multiple births, 2017/18

		Infants born by singleton/multiple birth			% infants born as multiples
		Single	Multiple	**Total**	
Birth status	Live	22,241	662	**22,903**	2.9%
	Still	87	14	**101**	13.9%
	All infants	**22,328**	**676**	**23,004**	**2.9%**
Age Group of mother	Under 20	668	12	**680**	1.8%
	20 - 24	2,777	58	**2,835**	2.0%
	25 - 29	6,118	156	**6,274**	2.5%
	30 - 34	7,735	228	**7,963**	2.9%
	35 - 39	4,207	188	**4,395**	4.3%
	40 +	819	34	**853**	4.0%
	Not known	4	0	**4**	0.0%
	All infants	**22,328**	**676**	**23,004**	**2.9%**
Ethnic group of mother (NIMATS)	White	21,618	653	**22,271**	2.9%
	Non-white	721	23	**744**	3.1%
	Not stated / Blank	30	0	**30**	0.0%
	All infants	**22,369**	**676**	**23,045**	**2.9%**
Ethnic group of infant (CHS)	White	21,244	641	**21,885**	2.9%
	Non-white	1,039	27	**1,066**	2.5%
	Not stated / Blank	45	8	**53**	15.1%
	All infants	**22,328**	**676**	**23,004**	**2.9%**
Place of birth	Altnagelvin	2,458	78	**2,536**	3.1%
	Antrim	2,819	79	**2,898**	2.7%
	Causeway	929	6	**935**	0.6%
	Craigavon	3,858	167	**4,025**	4.1%
	Daisy Hill	1,723	49	**1,772**	2.8%
	Downe	36	0	**36**	0.0%
	Lagan Valley	103	0	**103**	0.0%
	Mater	261	0	**261**	0.0%
	Royal	4,972	176	**5,148**	3.4%
	SWAH	1,221	14	**1,235**	1.1%
	Ulster	3,921	104	**4,025**	2.6%
	Home/Other	27	3	**30**	10.0%
	All infants	**22,328**	**676**	**23,004**	**2.9%**
Trust of residence of mother	Belfast	4,208	132	**4,340**	3.0%
	Northern	5,309	158	**5,467**	2.9%
	South Eastern	3,837	114	**3,951**	2.9%
	Southern	5,234	184	**5,418**	3.4%
	Western	3,740	88	**3,828**	2.3%
	All infants	**22,328**	**676**	**23,004**	**2.9%**
Council area (2014)	Antrim and Newtownabbey	1,627	52	**1,679**	3.1%
	Ards and North Down	1,443	50	**1,493**	3.3%
	Armagh City, Banbridge and Craigavon	2,785	98	**2,883**	3.4%
	Belfast	4,084	116	**4,200**	2.8%
	Causeway Coast and Glens	1,536	48	**1,584**	3.0%
	Derry City and Strabane	1,876	44	**1,920**	2.3%
	Fermanagh and Omagh	1,437	30	**1,467**	2.0%
	Lisburn and Castlereagh	1,689	48	**1,737**	2.8%
	Mid and East Antrim	1,459	32	**1,491**	2.1%
	Mid Ulster	2,029	77	**2,106**	3.7%
	Newry, Mourne and Down	2,363	81	**2,444**	3.3%
	All infants	**22,328**	**676**	**23,004**	**2.9%**

Table 4.2 continued: Births to Northern Ireland residents, by singleton/multiple births, 2017/18

		Infants born by singleton/multiple birth			% infants born as multiples
		Single	Multiple	**Total**	
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	4,949	151	**5,100**	3.0%
	2	4,829	149	**4,978**	3.0%
	3	4,634	122	**4,756**	2.6%
	4	4,360	140	**4,500**	3.1%
	Least deprived	3,556	114	**3,670**	3.1%
	All infants	**22,328**	**676**	**23,004**	**2.9%**

Source: Child Health System/NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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[25,26]. 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 death[27].

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, those with low income and educational level, and those living in more deprived areas who do not attend early in pregnancy (Table 5.2, page 36). A recent study[28] 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 Ireland[29] 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 8% of infants born in 2017/18 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*"[30]. The causes of spontaneous 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/substance misuse[31]. 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 guidelines[32] 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. progestational 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*".

[25] National Institute for Health and Care Excellence (NICE) "Antenatal care", Quality Standard, September 2012 http://www.nice.org.uk/guidance/qs22/resources/antenatal-care-2098542418117

[26] 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

[27] 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

[28] 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

[29] As [23]

[30] 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

[31] 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/

[32] 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 2017/18, over 93% of births were less than 15 weeks gestation at the time of booking. *[Page 35]*

- There were 365 (1.6%) 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, however 2017/18 showed a very small increase. *[Page 35]*

- The proportion of infants born to mothers booking at 15 or more weeks varies by age of mother. In 2017/18, 18% of births to mothers aged less than twenty were booked at 15+ weeks (all births = 6.6%). This results in a larger proportion of births to mothers in this age group booked at later gestations e.g. 4.9% booked at 28+ weeks compared to 0.9% of infants born to mothers aged 40 and over (all infants = 1.6%). *[Page 36]*

- There are substantial differences in the timescales of when mothers book by ethnic group. 24.8% of births to mothers from a 'non-white' ethnic group booked at 15+ weeks, compared to 6.0% of those of a white ethnic group (all births = 6.6%). *[Page 36]*

- In 2017/18, and based on the 2017 deprivation quintiles, data revealed that fewer mothers booked at less than 15 weeks gestation in the most deprived areas of Northern Ireland (90.9% of births), compared to births to those mothers from least deprived areas (94.7%). *[Page 37]*

- Over the last seven years there has been little variation in the proportion of infants born pre-term (<37 weeks gestation) (2017/18 = 8.0%). *[Page 38]* The figures differ considerably by type of birth: 7.8% of live births, 75.8% of still births. The same can be seen for multiple births (63.9%) compared to singleton births (6.4%). *[Page 39]*

- In 2017/18, a slightly higher proportion of infants were born pre-term to those mothers aged 40 and over (10.3%), compared to all infants born (8.0%). *[Page 39]*

GESTATION AT BOOKING

Table 5.1: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2011/12 - 2017/18

Year of birth		Infants born by gestation at booking								Booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known	**Total**	
2011/12	n	22,106	1,317	364	212	177	141	26	**24,343**	**2,211**
	%	90.9%	5.4%	1.5%	0.9%	0.7%	0.6%	-	**-**	**9.1%**
2012/13	n	23,050	1,050	325	200	159	138	20	**24,942**	**1,872**
	%	92.5%	4.2%	1.3%	0.8%	0.6%	0.6%	-	**-**	**7.5%**
2013/14	n	22,444	1,020	329	171	144	89	11	**24,208**	**1,753**
	%	92.8%	4.2%	1.4%	0.7%	0.6%	0.4%	-	**-**	**7.2%**
2014/15	n	22,585	1,001	316	197	160	58	5	**24,322**	**1,732**
	%	92.9%	4.1%	1.3%	0.8%	0.7%	0.2%	-	**-**	**7.1%**
2015/16	n	22,729	998	287	180	136	72	3	**24,405**	**1,673**
	%	93.1%	4.1%	1.2%	0.7%	0.6%	0.3%	-	**-**	**6.9%**
2016/17	n	22,427	1,013	280	156	141	67	0	**24,084**	**1,657**
	%	93.1%	4.2%	1.2%	0.6%	0.6%	0.3%	-	**-**	**6.9%**
2017/18	n	21,517	881	278	149	135	81	4	**23,045**	**1,524**
	%	93.4%	3.8%	1.2%	0.6%	0.6%	0.4%	-	**-**	**6.6%**

Source: NIMATS

Figure 5.1: % births booked at ≥ 15 weeks gestation, Northern Ireland residents, 2011/12 – 2017/18

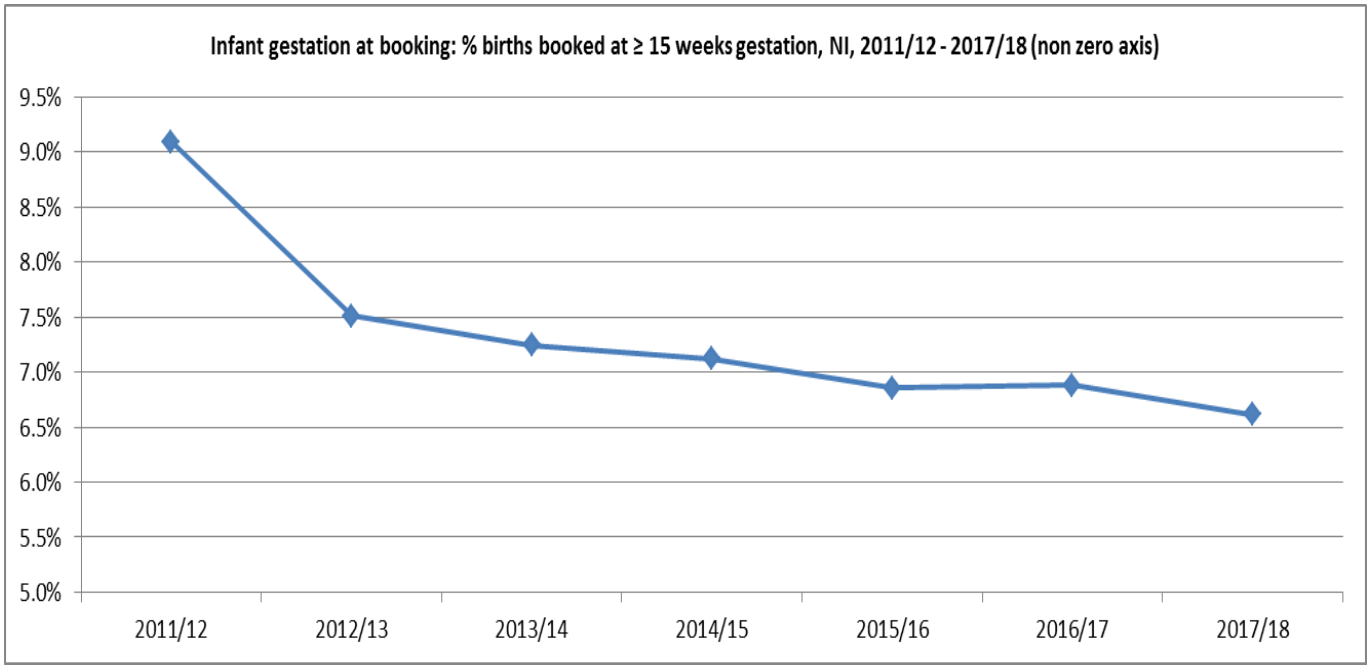


Table 5.2: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2017/18

		Infants born by gestation at booking								% booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known	**Total**	
Age Group of mother	Under 20	555	54	37	17	≤15	≤10	1	**680**	18.3%
	20 - 24	2,554	164	54	29	19	21	0	**2,841**	10.1%
	25 - 29	5,907	205	58	36	32	15	2	**6,255**	5.5%
	30 - 34	7,548	232	72	47	43	29	1	**7,972**	5.3%
	35 - 39	4,145	180	47	≤20	27	≤10	0	**4,425**	6.3%
	40 +	808	46	10	≤5	≤5	≤5	0	**872**	7.3%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**
Ethnic group of mother	White	20,936	801	230	123	113	65	3	**22,271**	6.0%
	Non-white	559	76	47	25	20	16	1	**744**	24.8%
	Not stated / Blank	22	4	1	1	2	0	0	**30**	26.7%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**
Place of birth	Altnagelvin	2,453	59	25	18	15	7	0	**2,577**	4.8%
	Antrim	2,727	116	25	10	11	7	2	**2,898**	5.8%
	Causeway	894	23	5	≤10	5	≤5	0	**936**	4.5%
	Craigavon	3,705	203	66	27	19	11	0	**4,031**	8.1%
	Daisy Hill	1,670	53	19	9	13	6	0	**1,770**	5.6%
	Downe	≤40	≤5	0	0	0	0	0	**33**	<6.6%
	Lagan Valley	95	≤5	≤5	0	≤5	≤5	0	**100**	<6.6%
	Mater	241	15	≤5	≤5	0	≤5	0	**261**	7.7%
	Royal	4,711	249	77	46	31	24	1	**5,139**	8.3%
	SWAH	1,164	45	17	≤10	12	≤5	0	**1,251**	7.0%
	Ulster	3,803	114	39	21	25	17	1	**4,020**	5.4%
	Home/Other	≤30	≤5	≤5	0	≤5	0	0	**29**	>6.6%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**
Trust of residence of mother	Belfast	3,964	213	77	42	32	27	2	**4,357**	9.0%
	Northern	5,151	196	37	25	21	12	2	**5,444**	5.3%
	South Eastern	3,720	117	39	22	22	15	0	**3,935**	5.5%
	Southern	5,010	243	79	32	31	14	0	**5,409**	7.4%
	Western	3,672	112	46	28	29	13	0	**3,900**	5.8%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**

Table 5.2 continued: Gestation at booking, for births to Northern Ireland residents, by completed weeks, 2017/18

		Infants born by gestation at booking								% booking at ≥ 15 weeks
		≤ 14 weeks	15 - 20 weeks	21 - 27 weeks	28 - 32 weeks	33 - 36 weeks	37+ weeks	Not known	**Total**	
Council area (2014)	Antrim and Newtownabbey	1,568	72	10	6	5	5	0	**1,666**	5.9%
	Ards and North Down	1,403	50	12	13	6	5	0	**1,489**	5.8%
	Armagh City, Banbridge and Craigavon	2,686	122	43	14	≤10	≤5	0	**2,877**	6.6%
	Belfast	3,813	221	76	41	33	28	2	**4,214**	9.5%
	Causeway Coast and Glens	1,515	30	15	11	8	7	0	**1,586**	4.5%
	Derry City and Strabane	1,867	49	18	12	≤20	≤5	0	**1,960**	4.7%
	Fermanagh and Omagh	1,381	59	19	13	14	7	0	**1,493**	7.5%
	Lisburn and Castlereagh	1,655	38	14	7	9	9	0	**1,732**	4.4%
	Mid and East Antrim	1,403	51	15	8	≤10	≤5	2	**1,491**	5.8%
	Mid Ulster	1,927	116	27	12	12	6	0	**2,100**	8.2%
	Newry, Mourne and Down	2,299	73	29	12	18	6	0	**2,437**	5.7%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	4,678	270	94	42	38	24	0	**5,146**	9.1%
	2	4,663	202	58	28	23	19	0	**4,993**	6.6%
	3	4,477	157	54	26	21	15	1	**4,751**	5.7%
	4	4,227	144	50	25	25	13	2	**4,486**	5.7%
	Least deprived	3,472	108	22	28	28	10	1	**3,669**	5.3%
	All infants	**21,517**	**881**	**278**	**149**	**135**	**81**	**4**	**23,045**	**6.6%**

Source: NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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.

GESTATION AT DELIVERY

Table 5.3: Gestation at delivery, for births (live and still) to Northern Ireland residents, by completed weeks, 2011/12 - 2017/18

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	4,493	18,067	3	**24,343**	**1,780**
	%	0.48%	0.79%	6.04%	18.46%	74.23%	-	-	**7.31%**
2012/13	n	116	203	1,593	4,570	18,459	1	**24,942**	**1,912**
	%	0.47%	0.81%	6.39%	18.32%	74.01%	-	-	**7.67%**
2013/14	n	105	212	1,551	4,472	17,868	0	**24,208**	**1,868**
	%	0.43%	0.88%	6.41%	18.47%	73.81%	-	-	**7.72%**
2014/15	n	101	226	1,517	4,658	17,820	0	**24,322**	**1,844**
	%	0.42%	0.93%	6.24%	19.15%	73.27%	-	-	**7.58%**
2015/16	n	106	186	1,612	4,985	17,516	0	**24,405**	**1,904**
	%	0.43%	0.76%	6.61%	20.43%	71.77%	-	-	**7.80%**
2016/17	n	123	192	1,598	5,410	16,761	0	**24,084**	**1,913**
	%	0.50%	0.79%	6.55%	22.17%	68.68%	-	-	**7.94%**
2017/18	n	105	162	1,588	5,186	16,004	0	**23,045**	**1,855**
	%	0.43%	0.66%	6.51%	21.25%	65.58%	-	-	**8.05%**

Source: NIMATS

Figure 5.2: % infants delivered pre-term (<37 weeks), Northern Ireland, 2011/12 – 2017/18

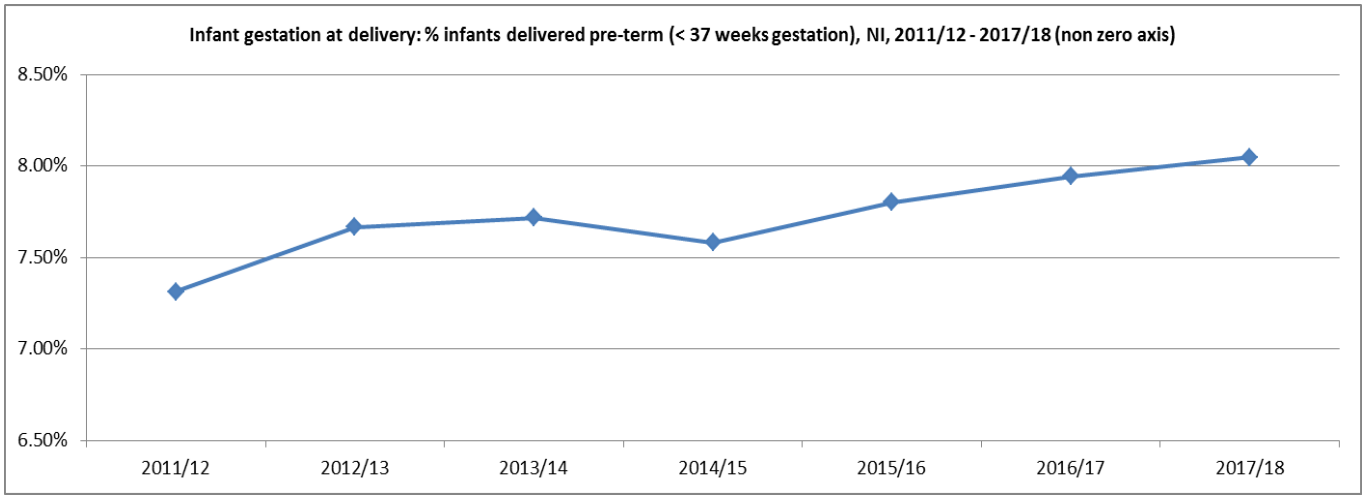


Figure 5.3: % live infants by gestational age at delivery, Northern Ireland, 2017/18

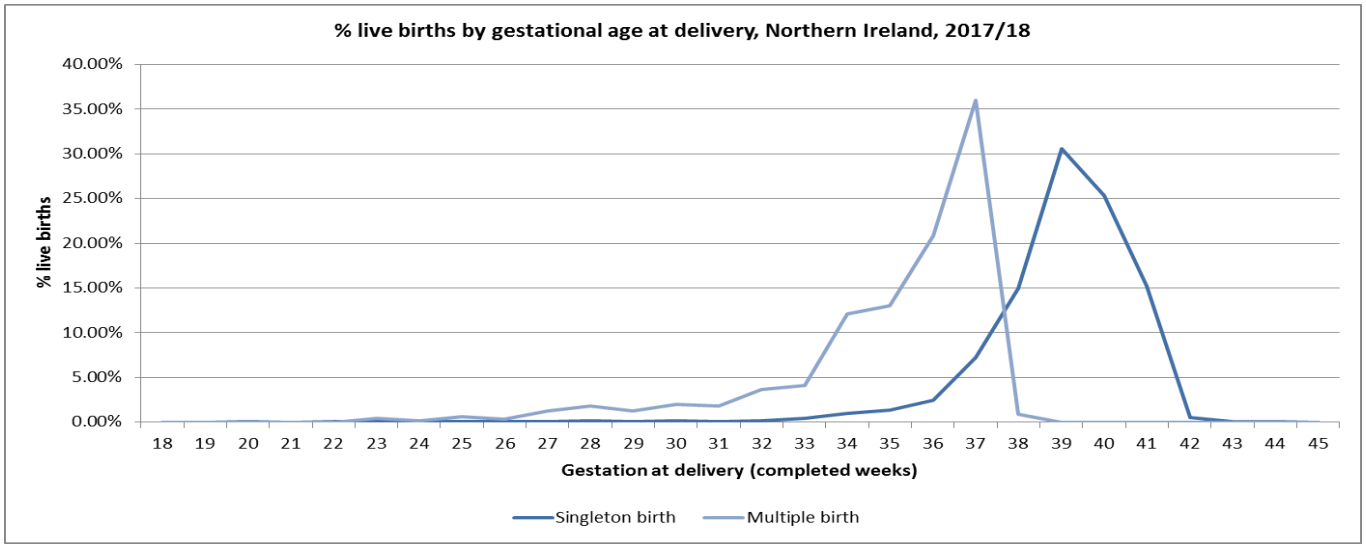


Table 5.4: Gestation at delivery for births to Northern Ireland residents by completed weeks, 2017/18

		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**	
Age Group of mother	Under 20	≤5	≤5	55	126	491	0	**680**	9.3%
	20 - 24	16	22	187	635	1,981	0	**2,841**	7.9%
	25 - 29	25	43	413	1,330	4,444	0	**6,255**	7.7%
	30 - 34	32	48	518	1,763	5,611	0	**7,972**	7.5%
	35 - 39	21	38	339	1,045	2,982	0	**4,425**	9.0%
	40 +	≤10	≤10	76	287	495	0	**872**	10.3%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Multiple births	Single	82	113	1,228	4,942	16,004	0	**22,369**	6.4%
	Multiple	23	49	360	244	0	0	**676**	63.9%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Birth status	Live	81	143	1,556	5,175	15,991	0	**22,946**	7.8%
	Still	24	19	32	11	13	0	**99**	75.8%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Ethnic group of mother	White	102	158	1,522	4,985	15,504	0	**22,271**	8.0%
	Non-white	3	4	64	194	479	0	**744**	9.5%
	Not stated / Blank	0	0	2	7	21	0	**30**	6.7%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Place of birth	Altnagelvin	13	15	196	490	1,863	0	**2,577**	8.7%
	Antrim	13	23	195	735	1,932	0	**2,898**	8.0%
	Causeway	≤5	≤5	19	175	735	0	**936**	2.8%
	Craigavon	16	27	375	953	2,660	0	**4,031**	10.4%
	Daisy Hill	≤10	≤5	98	288	1,374	0	**1,770**	6.1%
	Downe	0	0	0	5	28	0	**33**	0.0%
	Lagan Valley	0	0	0	12	88	0	**100**	0.0%
	Mater	0	0	0	36	225	0	**261**	0.0%
	Royal	44	64	326	1,310	3,395	0	**5,139**	8.4%
	SWAH	≤5	≤5	83	255	908	0	**1,251**	7.0%
	Ulster	8	22	296	925	2,769	0	**4,020**	8.1%
	Home/Other	0	0	0	2	27	0	**29**	0.0%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Trust of residence of mother	Belfast	17	39	266	1,029	3,006	0	**4,357**	7.4%
	Northern	28	48	352	1,282	3,734	0	**5,444**	7.9%
	South Eastern	19	29	281	919	2,687	0	**3,935**	8.4%
	Southern	24	26	420	1,190	3,749	0	**5,409**	8.7%
	Western	17	20	269	766	2,828	0	**3,900**	7.8%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Council area (2014)	Antrim & Newtownabbey	9	21	107	391	1,138	0	**1,666**	8.2%
	Ards and North Down	7	12	132	325	1,013	0	**1,489**	10.1%
	Armagh City, Banbridge and Craigavon	15	14	227	694	1,927	0	**2,877**	8.9%
	Belfast	20	35	255	1,014	2,890	0	**4,214**	7.4%
	Causeway Coast and Glens	9	20	102	328	1,127	0	**1,586**	8.3%
	Derry City and Strabane	13	10	118	391	1,428	0	**1,960**	7.2%
	Fermanagh and Omagh	≤5	≤10	114	305	1,063	0	**1,493**	8.4%
	Lisburn and Castlereagh	6	15	103	410	1,198	0	**1,732**	7.2%
	Mid and East Antrim	11	6	96	370	1,008	0	**1,491**	7.6%
	Mid Ulster	≤5	≤5	164	472	1,456	0	**2,100**	8.2%
	Newry, Mourne and Down	9	16	170	486	1,756	0	**2,437**	8.0%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	27	37	369	1,203	3,510	0	**5,146**	8.4%
	2	23	35	357	1,127	3,451	0	**4,993**	8.3%
	3	17	25	311	1,068	3,330	0	**4,751**	7.4%
	4	23	43	322	982	3,116	0	**4,486**	8.6%
	Least deprived	15	22	229	806	2,597	0	**3,669**	7.2%
	All infants	**105**	**162**	**1,588**	**5,186**	**16,004**	**0**	**23,045**	**8.0%**

Source: NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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.

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[33] [34] 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 for an infant 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 of[35]:

- 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" [36] and useful information, in general, on how to stop smoking is available from the Public Health Agency[37].

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 deliver an infant that is large for gestational age (maybe by Caesarean Section). Women may also have an increased risk of pre-eclampsia or miscarriage[38]. Women can experience some minor health problems, for

[33] Public Health Agency, Want2Stop http://www.want2stop.info/know-about-smoking/smoking-and-pregnancy
[34] 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
[35] 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
[36] 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
[37] As [30]
[38] "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/

example, morning sickness can cause problems with blood sugar control. Infants born to mothers with diabetes are at greater risk of [39,40]:

- Stillbirth / born pre-term (<37 weeks gestation)
- Neonatal death
- Congenital abnormality
- The increased risk of obesity and diabetes in later life.

Gestational diabetes is diabetes which develops during pregnancy. Pregnancy places a heavy demand on the body and some women are less able to produce enough insulin, resulting in high blood glucose levels. It 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. 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 include[41]:

- 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 (≥4.5kg)

In November 2016, the Department of Health published "A Diabetes Strategic Framework"[42] 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 NICE[43] 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

[39] Diabetes UK, Pregnancy and diabetes, https://www.diabetes.org.uk/guide-to-diabetes/life-with-diabetes/pregnancy
[40] Royal College of Obstetricians and Gynaecologists, March 2013 https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-gestational-diabetes.pdf
[41] Diabetes UK, https://www.diabetes.org.uk/diabetes-the-basics/gestational-diabetes
[42] Department of Health, November 2016 https://www.health-ni.gov.uk/publications/diabetes-strategic-framework
[43] 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 2017/18 *[Page 42]*:
  - 13.8% of mothers smoked (2010/11 = 15.5%)
  - 8.4% of mothers had diabetes (2010/11 = 1.8%).

- Smoking: the proportion of mothers who smoked (at booking) decreased with age, from 30% of those aged less than 20 years to 8.2% of those aged 40 and over. In the most deprived areas of Northern Ireland (NIMDM 2017), 25.7% of mothers smoked, compared to 5.2% in the least deprived areas. Mothers who had previously given birth were more likely to smoke (15.2%), compared to first time mothers (11.5%). Smoking rates were higher amongst those women who were of a white ethnic background (14.1%), compared to those of a non-white background (6.3%) *[Page 44, 45]*

- Diabetes: the percentage of mothers with diabetes increased with age, 3.3% of those aged less than 20 years, compared to 13.9% of mothers aged 40 and over. A higher proportion of mothers from a non-white ethnic background had diabetes (16.7%), compared to all mothers (8.4%). *[Page 44]*

- At District Electoral Area level:
  - Smoking: proportion of mothers who smoked ranged from 3.4% (Castlereagh South DEA, Lisburn and Castlereagh LGD) to 30.1% (Oldpark DEA, Belfast LGD). *[Page 45]*
  - Diabetes: proportion of mothers with diabetes ranged from 3.0% (Newry DEA, Newry, Mourne & Down LGD) to 14.4% (Antrim DEA, Antrim & Newtownabbey LGD). *[Page 45]*

Table 6.1: Mothers resident in Northern Ireland, by maternal risk factor, 2010/11 - 2017/18

Year of birth		Maternal risk factor							
		Mothers giving birth	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Alcohol use	Antepartum haemorrhage (APH)	History of psychiatric illness
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	779	12	514	1,668
	%	-	13.5%	7.7%	4.3%	3.3%	0.05%	2.2%	7.0%
2017/18	n	22,705	3,134	1,909	1,109	735	83	417	1,711
	%	-	13.8%	8.4%	4.9%	3.2%	0.37%	1.8%	7.5%

Source: Child Health System (2010/11 - 2016/17), NIMATS (2017/18)
Following a change in the interface between NIMATS and CHS during 2017/18, fields containing information on ante-natal risk factors, which had usually transferred from NIMATS to CHS are not now available on CHS. As a result, the data must be sourced from NIMATS. However, on CHS, only four ante-natal risk factors are recorded and so e.g. history of psychiatric of illness may not have been recorded on CHS (but would be recorded on NIMATS), therefore this may account for lower figures when comparing CHS data to NIMATS data. The data from both sources were analysed and the impact of changing the source of the data was considered minimal.
History of psychiatric illness - coverage prior to 2016/17 was not regarded as sufficient.
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 – 2017/18

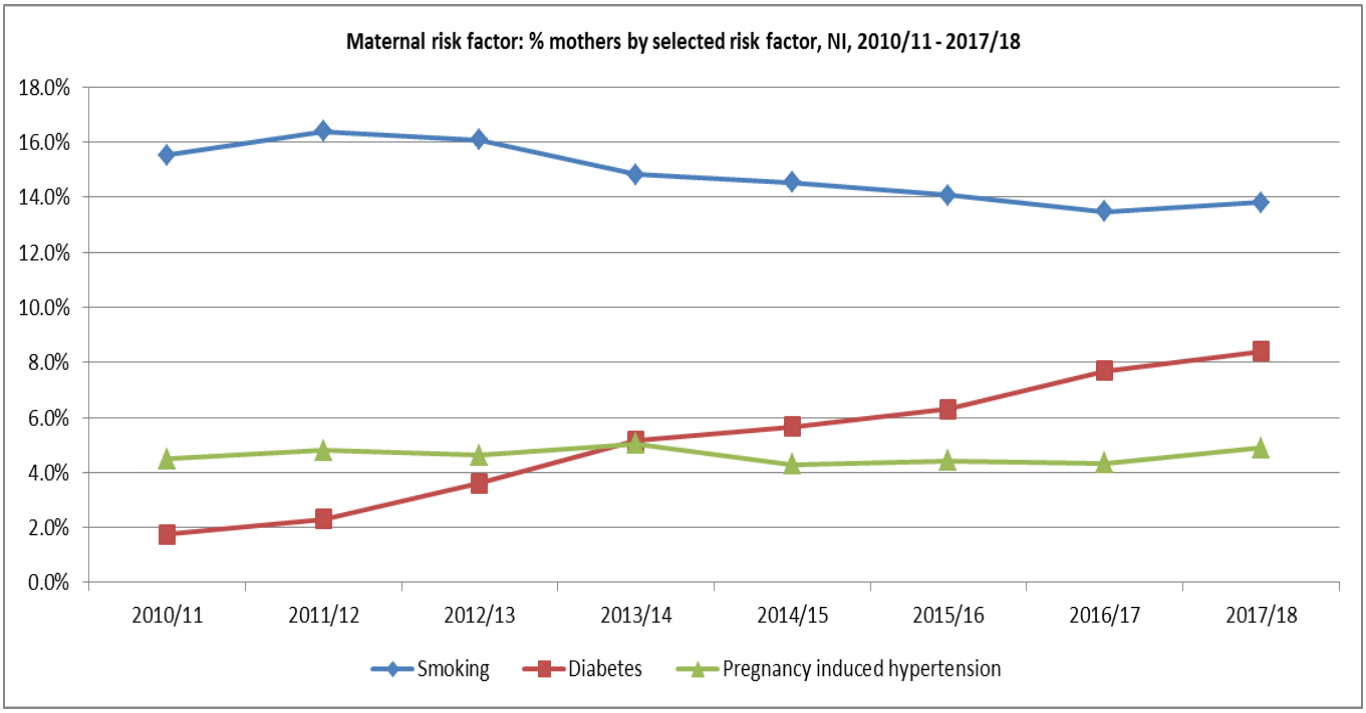


Table 6.2: Mothers resident in Northern Ireland, by maternal risk factor, 2017/18

			% mothers by risk factor					
		Total mothers	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Antepartum haemorrhage (APH)	History of psychiatric illness
Age Group of mother	Under 20	674	29.97%	3.26%	6.53%	6.53%	1.04%	10.68%
	20 - 24	2,812	27.45%	6.19%	4.94%	5.09%	1.96%	10.81%
	25 - 29	6,177	15.62%	7.46%	4.71%	3.21%	1.59%	7.71%
	30 - 34	7,858	9.67%	8.64%	4.82%	2.46%	1.81%	6.24%
	35 - 39	4,329	8.43%	10.49%	4.41%	2.70%	1.99%	6.70%
	40 +	855	8.19%	13.92%	7.60%	4.68%	3.39%	9.24%
	Not known	0	-	-	-	-	-	-
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
Multiple births	Single	22,369	13.79%	8.43%	4.84%	3.13%	1.81%	7.53%
	Multiple	336	14.88%	7.14%	8.04%	10.42%	3.87%	8.04%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
First time mothers	First time mother	8,570	11.48%	7.46%	7.61%	2.43%	1.79%	5.79%
	Not a first time mother	14,097	15.22%	9.00%	3.23%	3.73%	1.87%	8.61%
	Not known	38	13.16%	2.63%	2.63%	2.63%	0.00%	2.63%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
Ethnic group of mother	White	21,943	14.05%	8.13%	4.94%	3.19%	1.85%	7.66%
	Non-white	732	6.28%	16.67%	3.42%	4.78%	1.50%	3.96%
	Not stated / Blank	30	20.00%	13.33%	0.00%	0.00%	0.00%	3.33%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
Place of birth	Altnagelvin	2,537	14.47%	9.54%	4.30%	3.59%	1.89%	7.21%
	Antrim	2,858	14.52%	13.68%	3.99%	2.73%	1.50%	6.05%
	Causeway	933	14.90%	0.86%	1.82%	2.79%	1.71%	4.07%
	Craigavon	3,946	11.99%	8.41%	5.25%	2.91%	1.47%	6.11%
	Daisy Hill	1,746	9.79%	0.06%	3.55%	3.78%	1.72%	5.15%
	Downe	33	12.12%	0.00%	0.00%	0.00%	0.00%	6.06%
	Lagan Valley	100	14.00%	0.00%	0.00%	2.00%	1.00%	5.00%
	Mater	261	13.79%	0.00%	0.00%	0.77%	0.38%	5.75%
	Royal	5,050	18.10%	10.00%	5.15%	4.40%	1.88%	10.87%
	SWAH	1,244	11.74%	7.80%	4.10%	2.65%	2.49%	7.07%
	Ulster	3,968	11.42%	8.39%	7.28%	2.52%	2.37%	8.22%
	Home	29	6.90%	0.00%	0.00%	0.00%	0.00%	3.45%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
Trust of residence of mother	Belfast	4,290	17.51%	9.00%	5.57%	3.87%	2.10%	10.00%
	Northern	5,366	14.39%	9.75%	4.10%	2.65%	1.60%	6.58%
	South Eastern	3,878	12.45%	8.59%	6.37%	3.27%	1.91%	8.61%
	Southern	5,317	11.59%	6.24%	4.68%	3.20%	1.64%	6.07%
	Western	3,854	13.28%	8.69%	4.00%	3.37%	2.08%	7.06%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**
Council area (2014)	Antrim and Newtownabbey	1,640	14.82%	8.23%	4.21%	2.50%	1.16%	8.78%
	Ards and North Down	1,464	12.70%	9.15%	7.86%	2.94%	1.64%	10.31%
	Armagh City, Banbridge and Craigavon	2,827	12.49%	7.39%	4.60%	3.18%	1.45%	7.07%
	Belfast	4,155	19.37%	9.03%	5.13%	4.36%	2.00%	10.57%
	Causeway Coast and Glens	1,562	14.02%	9.67%	3.27%	3.07%	1.73%	5.70%
	Derry City and Strabane	1,938	15.63%	9.18%	4.28%	3.72%	2.01%	7.22%
	Fermanagh and Omagh	1,476	11.11%	8.54%	3.66%	2.85%	2.44%	6.64%
	Lisburn and Castlereagh	1,708	7.55%	8.90%	6.21%	2.46%	2.40%	7.14%
	Mid and East Antrim	1,476	15.24%	10.37%	4.61%	2.51%	1.76%	6.71%
	Mid Ulster	2,061	11.55%	8.64%	5.09%	2.91%	1.70%	4.66%
	Newry, Mourne and Down	2,398	11.22%	4.92%	4.80%	3.29%	1.92%	5.55%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**

Table 6.2 continued: Mothers resident in Northern Ireland, by maternal risk factor, 2017/18

			% mothers by risk factor					
		Total mothers	Smoking	Diabetes	Pregnancy induced hypertension	Anaemia	Antepartum haemorrhage (APH)	History of psychiatric illness
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	5,071	25.71%	9.01%	4.46%	4.56%	2.09%	11.20%
	2	4,916	14.79%	8.62%	4.68%	3.30%	1.48%	7.49%
	3	4,691	11.19%	8.25%	4.41%	2.96%	1.81%	6.91%
	4	4,414	8.88%	7.73%	5.26%	2.61%	1.74%	5.66%
	Least deprived	3,613	5.15%	8.30%	5.92%	2.44%	2.10%	5.56%
	All mothers	**22,705**	**13.80%**	**8.41%**	**4.88%**	**3.24%**	**1.84%**	**7.54%**

Source: NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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

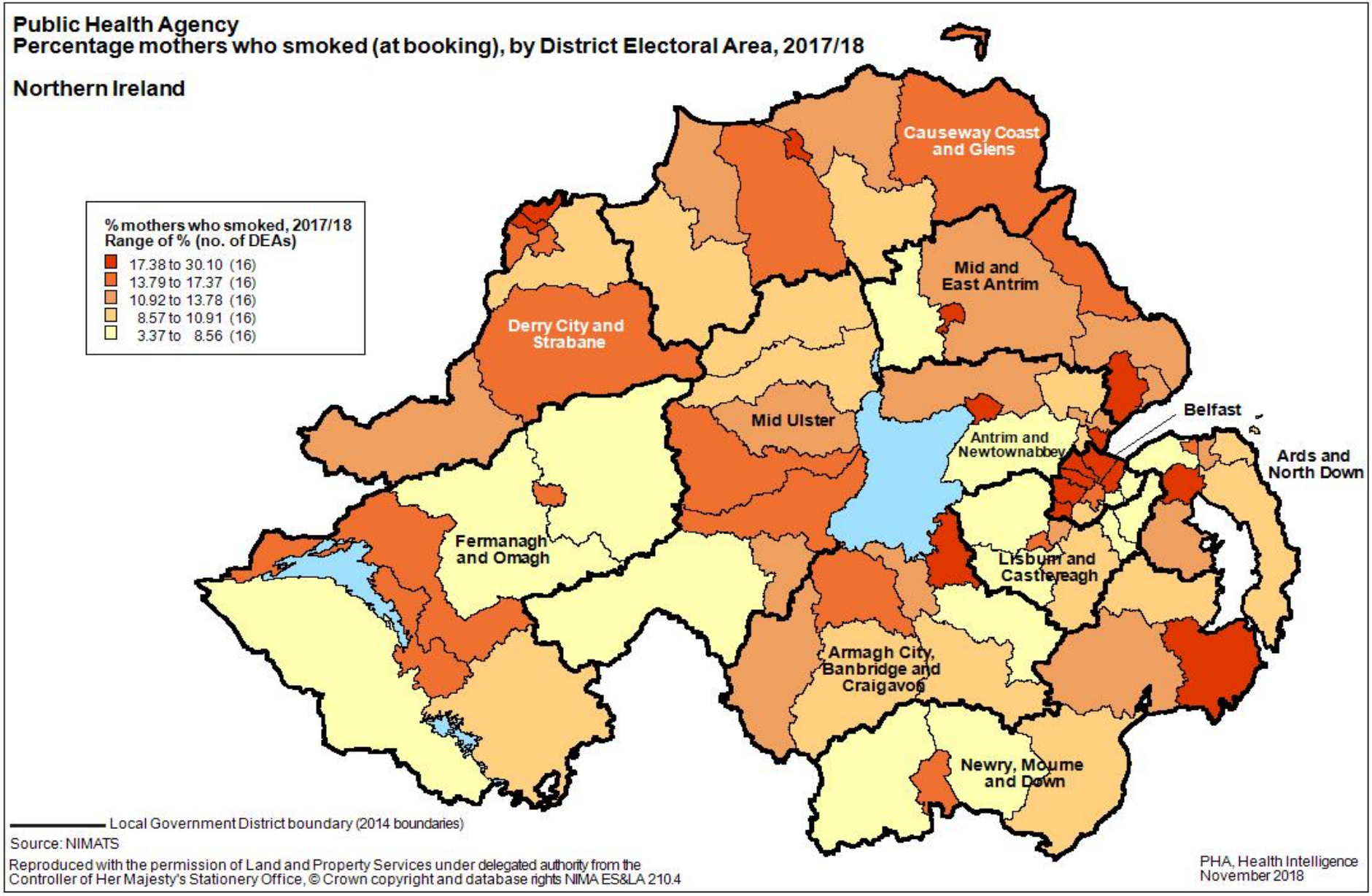
Table 6.3: Mothers resident in Northern Ireland, by maternal risk factor - smoking and diabetes, by District Electoral Area, 2017/18

			% mothers by risk factor	
Council (2014)	**District Electoral Area**	**Total mothers**	**Smoking**	**Diabetes**
Antrim and Newtownabbey	Airport	263	6.84%	4.94%
	Antrim	292	25.34%	14.38%
	Ballyclare	211	10.43%	7.11%
	Dunsilly	197	11.68%	6.60%
	Glengormley Urban	250	10.80%	7.60%
	Macedon	217	24.88%	6.45%
	Three Mile Water	210	11.90%	9.05%
	Total	**1,640**	**14.82%**	**8.23%**
Ards and North Down	Ards Peninsula	213	10.80%	8.45%
	Bangor Central	293	10.92%	8.87%
	Bangor East and Donaghadee	173	9.83%	11.56%
	Bangor West	197	14.72%	9.64%
	Comber	149	13.42%	7.38%
	Holywood and Clandeboye	171	5.85%	9.94%
	Newtownards	268	20.52%	8.58%
	Total	**1,464**	**12.70%**	**9.15%**
Armagh, Banbridge and Craigavon	Armagh	474	13.50%	7.38%
	Banbridge	438	10.73%	5.71%
	Craigavon	381	11.55%	8.40%
	Cusher	324	8.64%	7.72%
	Lagan River	275	8.36%	8.73%
	Lurgan	495	17.37%	6.26%
	Portadown	440	13.86%	8.41%
	Total	**2,827**	**12.49%**	**7.39%**
Belfast	Balmoral	250	8.80%	12.00%
	Black Mountain	499	23.05%	8.62%
	Botanic	401	15.71%	10.97%
	Castle	376	21.81%	10.37%
	Collin	484	18.18%	7.85%
	Court	454	28.63%	7.49%
	Lisnasharragh	327	6.42%	6.42%
	Oldpark	485	30.10%	8.87%
	Ormiston	362	6.08%	9.94%
	Titanic	517	22.44%	9.09%
	Total	**4,155**	**19.37%**	**9.03%**

			% mothers by risk factor	
Council (2014)	**District Electoral Area**	**Total mothers**	**Smoking**	**Diabetes**
Causeway Coast and Glens	Ballymoney	303	10.23%	9.90%
	Bann	173	13.87%	12.14%
	Benbradagh	264	9.47%	5.68%
	Causeway	214	13.55%	8.88%
	Coleraine	258	25.58%	12.40%
	Limavady	176	11.36%	9.09%
	The Glens	174	13.79%	10.34%
	Total	**1,562**	**14.02%**	**9.67%**
Derry City and Strabane	Ballyarnett	357	19.05%	7.84%
	Derg	225	12.89%	7.56%
	Faughan	211	9.48%	9.48%
	Foyleside	209	18.18%	10.05%
	Sperrin	335	16.72%	10.15%
	The Moor	249	15.66%	10.44%
	Waterside	352	15.06%	9.09%
	Total	**1,938**	**15.63%**	**9.18%**
Fermanagh and Omagh	Enniskillen	202	16.83%	11.39%
	Erne East	191	10.47%	10.47%
	Erne North	185	14.05%	9.19%
	Erne West	198	7.07%	9.60%
	Mid Tyrone	245	6.94%	7.76%
	Omagh	227	15.86%	5.73%
	West Tyrone	228	7.46%	6.58%
	Total	**1,476**	**11.11%**	**8.54%**
Lisburn and Castlereagh	Castlereagh East	253	5.53%	7.91%
	Castlereagh South	297	3.37%	8.42%
	Downshire East	175	8.57%	9.71%
	Downshire West	168	5.95%	7.14%
	Killultagh	285	3.86%	9.12%
	Lisburn North	248	11.69%	9.27%
	Lisburn South	282	14.18%	10.28%
	Total	**1,708**	**7.55%**	**8.90%**
Mid and East Antrim	Ballymena	280	25.00%	11.79%
	Bannside	222	6.76%	9.91%
	Braid	277	11.91%	9.39%
	Carrick Castle	199	12.56%	11.06%
	Coast Road	159	16.98%	10.69%
	Knockagh	172	19.19%	5.81%
	Larne Lough	167	13.17%	13.77%
	Total	**1,476**	**15.24%**	**10.37%**
Mid Ulster	Carntogher	256	9.77%	10.55%
	Clogher Valley	329	8.21%	5.78%
	Cookstown	309	13.92%	8.41%
	Dungannon	371	12.40%	7.55%
	Magherafelt	244	11.48%	9.84%
	Moyola	224	8.93%	10.27%
	Torrent	328	14.94%	9.45%
	Total	**2,061**	**11.55%**	**8.64%**
Newry, Mourne and Down	Crotlieve	373	5.09%	4.56%
	Downpatrick	263	20.91%	9.13%
	Newry	406	16.26%	2.96%
	Rowallane	236	9.75%	6.36%
	Slieve Croob	263	11.41%	5.70%
	Slieve Gullion	499	8.42%	3.01%
	The Mournes	358	9.50%	5.59%
	Total	**2,398**	**11.22%**	**4.92%**
Northern Ireland	**All mothers**	**22,705**	**13.80%**	**8.41%**

Source: NIMATS

Figure 6.2: Percentage mothers resident in Northern Ireland who smoked (at booking), by District Electoral Area, 2017/18



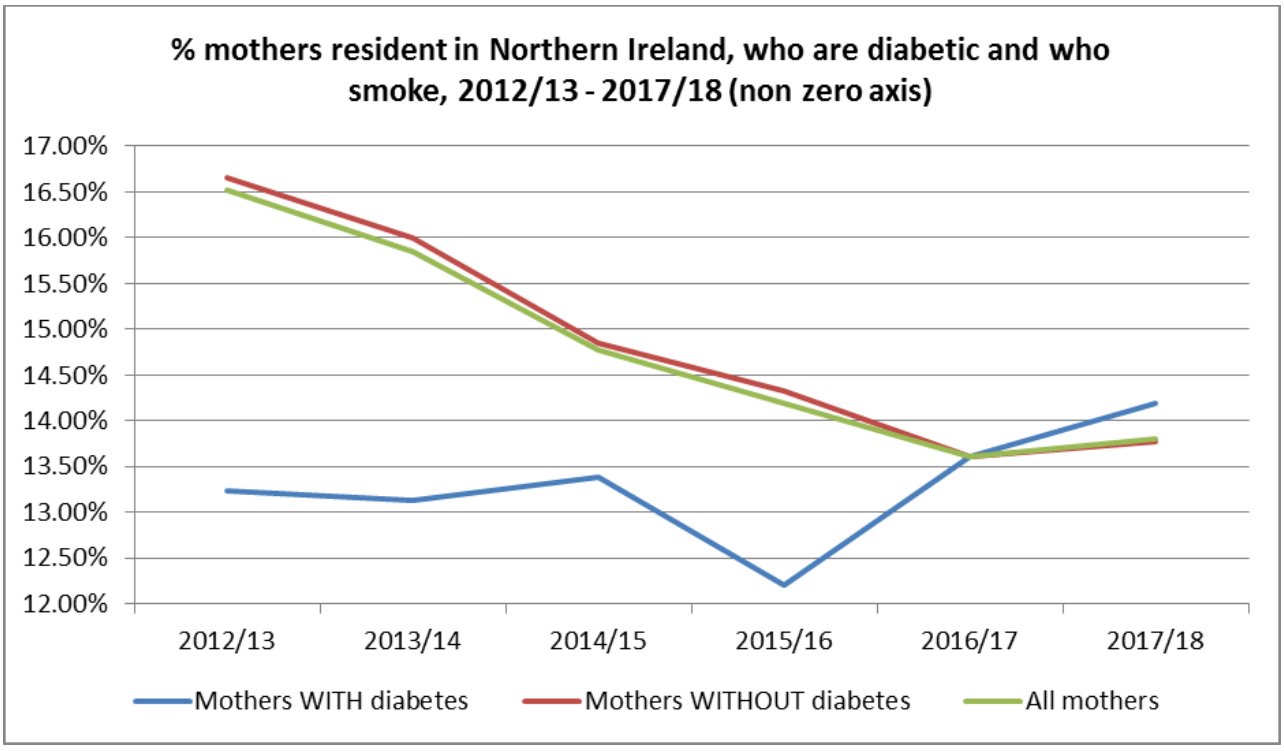
Diabetes and smoking

Table 6.4: Mothers resident in Northern Ireland, who are diabetic and who smoke, 2012/13 - 2017/18

	Year of birth	Mothers giving birth	Mothers who smoke	
		n	n	%
Mothers WITH diabetes (any type)	2012/13	899	119	13.24%
	2013/14	1,234	162	13.13%
	2014/15	1,352	181	13.39%
	2015/16	1,525	186	12.20%
	2016/17	1,837	250	13.61%
	2017/18	1,909	271	14.20%
Mothers WITHOUT diabetes	2012/13	23,637	3,936	16.65%
	2013/14	22,596	3,615	16.00%
	2014/15	22,615	3,359	14.85%
	2015/16	22,518	3,224	14.32%
	2016/17	21,867	2,974	13.60%
	2017/18	20,796	2,863	13.77%
All mothers	2012/13	24,536	4,055	16.53%
	2013/14	23,830	3,777	15.85%
	2014/15	23,967	3,540	14.77%
	2015/16	24,043	3,410	14.18%
	2016/17	23,704	3,224	13.60%
	2017/18	22,705	3,134	13.80%

Source: NIMATS

Figure 6.3: Mothers resident in Northern Ireland, who are diabetic and who smoke, 2012/13 - 2017/18



Carbon Monoxide Screening (Antenatal booking appointment)

Carbon monoxide (CO) is a poisonous gas produced when tobacco products are burnt. Carbon monoxide is found in inhaled, exhaled and passive smoke, however it can be produced also by e.g. car exhaust fumes or emitted from malfunctioning fossil/wood fuelled heating. Exposure to carbon monoxide is dangerous during pregnancy, as it deprives the baby of oxygen, slows its growth and increases the risk of e.g. miscarriage and still birth. All pregnant women in Northern Ireland are offered carbon monoxide breath testing at their antenatal booking appointment. Carbon monoxide levels will be higher in those women who smoke, or who have been exposed to unsafe levels of CO from another source. Following testing, women with a result of 4ppm (parts per million) or higher, and who smoke, are provided with information on support services, which are available in Northern Ireland to help her stop smoking. If the woman does not smoke and is not exposed to second hand smoke, advice is given to reduce exposure to environmental sources of CO e.g. check for faulty home heating appliances etc.

Figure 6.4: % mothers who gave birth, who had a carbon monoxide reading of 4ppm or more at their booking appointment, age of mother and deprivation quintile, 2017/18

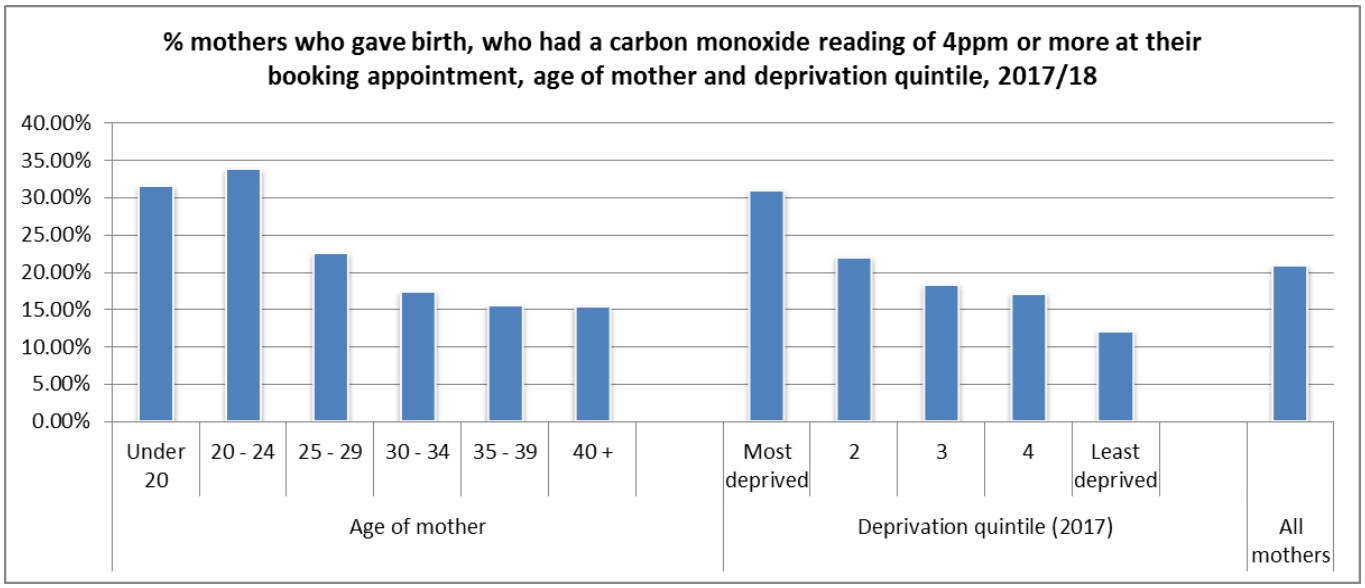


Figure 6.5: % mothers who gave birth, who had a carbon monoxide reading of 4ppm or more at their booking appointment, smoking status and number of cigarettes smoked, 2017/18

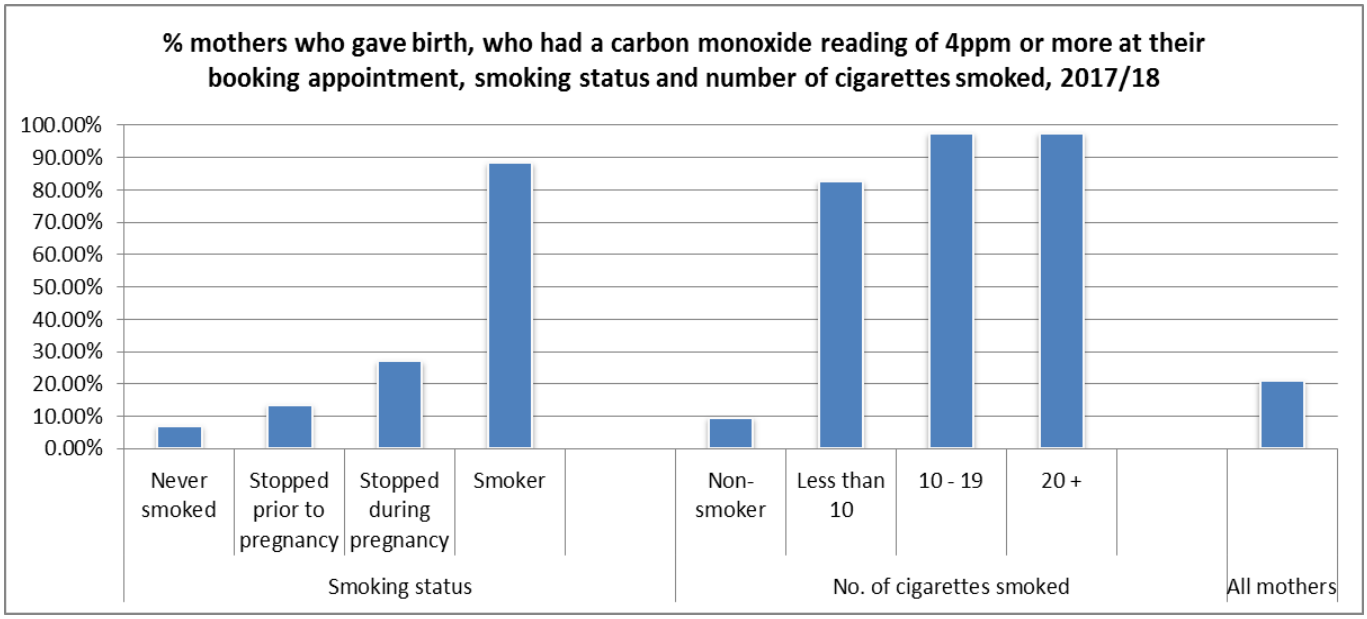


Table 6.5: Mothers resident in Northern Ireland who gave birth, by carbon monoxide reading taken at their booking appointment, 2017/18

		Exhaled carbon monoxide reading (ppm)						% 4ppm or more
		0-3	4-9	10 - 19	20+	Not known	Total	
Age Group of mother	Under 20	363	126	≤40	≤5	141	**672**	>20.9%
	20 - 24	1,453	441	246	58	609	**2,807**	33.9%
	25 - 29	3,662	617	349	103	1,440	**6,171**	22.6%
	30 - 34	4,975	658	314	79	1,822	**7,848**	17.4%
	35 - 39	2,829	334	137	50	974	**4,324**	15.6%
	40 +	583	66	≤40	≤10	164	**853**	<20.9%
	Not known	0	0	0	0	0	**0**	-
	All mothers	**13,865**	**2,242**	**1,116**	**302**	**5,150**	**22,675**	**20.9%**
Smoking status of mother (at booking)	Never smoked	10,547	738	≤40	≤5	84	**11,409**	6.9%
	No - stopped prior to this pregnancy	2,198	295	≤40	≤10	14	**2,553**	13.4%
	No - stopped during this pregnancy	826	231	64	10	4	**1,135**	27.0%
	Smoker	294	978	976	282	12	**2,542**	88.4%
	Not known	0	0	0	0	5,036	**5,036**	-
	All mothers	**13,865**	**2,242**	**1,116**	**302**	**5,150**	**22,675**	**20.9%**
Number of cigarettes smoked (per day) (recorded at booking)	0	13,571	1,264	141	20	102	**15,098**	9.5%
	Less than 10	271	729	488	86	4	**1,578**	82.8%
	10 - 19	≤20	228	424	156	≤10	**834**	97.6%
	20 +	≤5	21	63	40	≤5	**129**	97.6%
	Not known	0	0	0	0	5,036	**5,036**	-
	All mothers	**13,865**	**2,242**	**1,116**	**302**	**5,150**	**22,675**	**20.9%**
Trust of residence of mother	Belfast	2,808	497	280	108	587	**4,280**	24.0%
	Northern	2,926	673	281	83	1,399	**5,362**	26.2%
	South Eastern	2,278	258	155	40	1,143	**3,874**	16.6%
	Southern	3,720	490	213	31	856	**5,310**	16.5%
	Western	2,133	324	187	40	1,165	**3,849**	20.5%
	All mothers	**13,865**	**2,242**	**1,116**	**302**	**5,150**	**22,675**	**20.9%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	2,829	638	478	154	965	**5,064**	31.0%
	2	2,940	522	256	54	1,138	**4,910**	22.1%
	3	2,860	414	174	55	1,183	**4,686**	18.4%
	4	2,760	407	137	29	1,077	**4,410**	17.2%
	Least deprived	2,476	261	71	10	787	**3,605**	12.1%
	All mothers	**13,865**	**2,242**	**1,116**	**302**	**5,150**	**22,675**	**20.9%**

Source: NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 2017 https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland
ppm: particles per million
30 mothers who had booking details recorded twice have been removed from the table above
CO monitoring data was not available for 22% of mothers who booked
Disclosure controls have been applied to this table. As a result, for some age groups, 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 7: Maternal BMI

Why should we be concerned?

This report highlights that over one fifth (22.2%) of mothers giving birth in Northern Ireland in 2017/18 were obese (BMI ≥ 30) (Table 7.1, page 52). Obesity is linked to the following[44,45]:

- 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 Gynaecologists[46] 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 include[47]:

- 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 children[48].

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"[49] and the Department of Health framework "A Fitter Future for All"[50] 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 healthcare during their pregnancy, at birth and postnatally. Various guidelines, recommendations and resources are available to health care professionals to encourage better weight management in pregnancy[51].

[44] "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

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

[46] 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=1B2M2Y8AsgTpgAmY7PhCfg%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-727dcfe8de07_en&_t_hit.pos=9

[47] As [43]

[48] "Maternal Obesity", Public Health England, December 2015 https://khub.net/c/document_library/get_file?uuid=a5768682-fb3d-4fda-ab4a-937a8d80f855&groupId=31798783

[49] Choose to Live Better, Public Health Agency http://www.choosetolivebetter.com/

[50] "A Fitter Future for All", Department of Health https://www.health-ni.gov.uk/articles/obesity-prevention

[51] 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/cmacercogjointguidelinemanagementwomenobesitypregnancya.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 2017/18 were measured as obese at time of booking appointment. This proportion has increased year on year since 2011/12. *[Page 52]*
- In 2017/18, over half (52.5%) of mothers at the time of booking, were considered pre-obese or obese. *[Page 52]*
- Levels of obesity in mothers, in general, increased with age e.g. in 2017/18, 40.5% of mothers aged less than twenty years were considered pre-obese/obese, compared to 57.3% of mothers aged 40 and over. *[Page 53]*
- Levels of obesity decreased as level of deprivation decreased (NIMDM 2017). In 2017/18, 56.5% of mothers from the most deprived areas were classified as pre-obese/obese compared to 45.4% from the least deprived areas (all mothers = 52.5%). *[Page 53]*

Table 7.1: Body Mass Index, at time of booking, of mothers resident in Northern Ireland who gave birth, 2011/12 - 2017/18

Year of birth		Mothers by BMI at booking								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	**Total**	
2011/12	n	487	11,540	6,753	2,733	1,032	489	947	**23,981**	**4,254**
	%	2.1%	50.1%	29.3%	11.9%	4.5%	2.1%	-	**-**	**18.5%**
2012/13	n	509	11,805	7,037	2,971	1,115	547	552	**24,536**	**4,633**
	%	2.1%	49.2%	29.3%	12.4%	4.6%	2.3%	-	**-**	**19.3%**
2013/14	n	470	11,430	6,950	2,923	1,174	515	368	**23,830**	**4,612**
	%	2.0%	48.7%	29.6%	12.5%	5.0%	2.2%	-	**-**	**19.7%**
2014/15	n	472	11,512	6,952	2,933	1,215	576	307	**23,967**	**4,724**
	%	2.0%	48.7%	29.4%	12.4%	5.1%	2.4%	-	**-**	**20.0%**
2015/16	n	472	11,216	7,178	2,970	1,271	605	331	**24,043**	**4,846**
	%	2.0%	47.3%	30.3%	12.5%	5.4%	2.6%	-	**-**	**20.4%**
2016/17	n	456	10,704	7,043	3,148	1,332	676	345	**23,704**	**5,156**
	%	2.0%	45.8%	30.2%	13.5%	5.7%	2.9%	-	**-**	**22.1%**
2017/18	n	435	10,213	6,776	3,028	1,351	595	307	**22,705**	**4,974**
	%	1.9%	45.6%	30.3%	13.5%	6.0%	2.7%	-	**-**	**22.2%**

Source: NIMATS

Figure 7.1: % mothers Obese I, II and III, Northern Ireland, 2011/12 – 2017/18

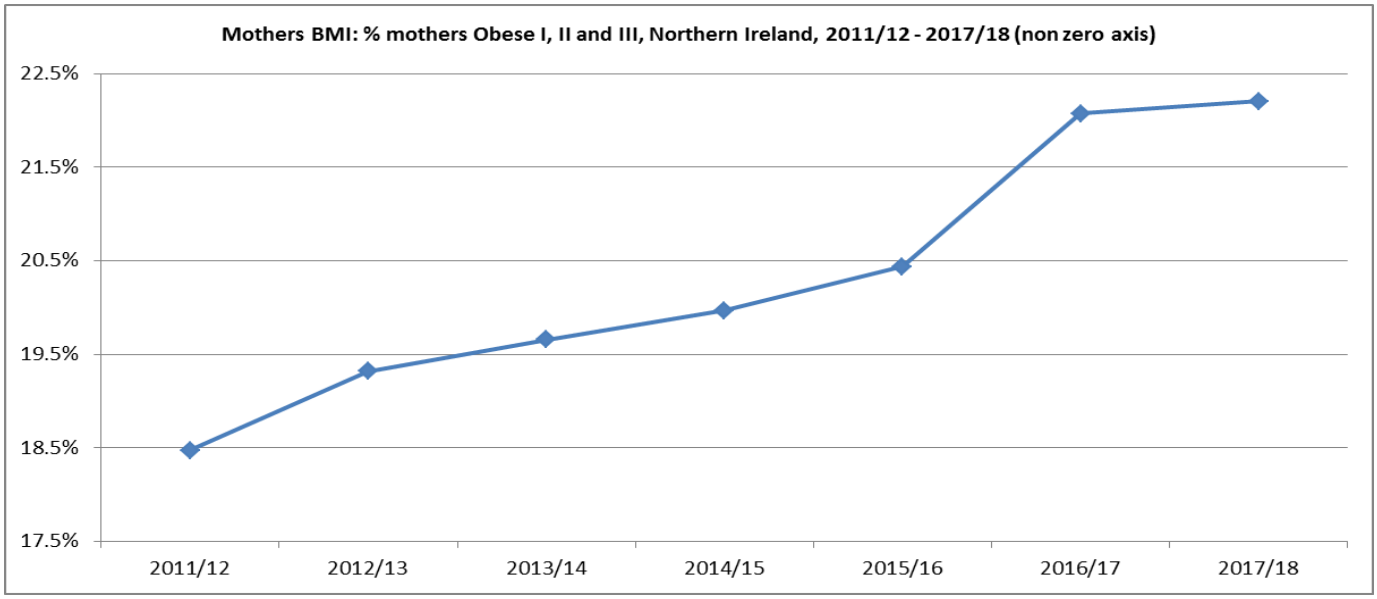


Table 7.2: Body Mass Index, at time of booking, of mothers resident in Northern Ireland who gave birth, 2017/18

		Mothers by BMI at booking								% 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	44	350	169	70	22	7	12	**674**	15.0%
	20 - 24	112	1,286	747	373	176	70	48	**2,812**	22.4%
	25 - 29	132	2,703	1,797	884	413	168	80	**6,177**	24.0%
	30 - 34	95	3,602	2,394	1,018	437	205	107	**7,858**	21.4%
	35 - 39	42	1,921	1,384	570	249	113	50	**4,329**	21.8%
	40 +	10	351	285	113	54	32	10	**855**	23.6%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Multiple births	Single	431	10,050	6,685	2,976	1,337	590	300	**22,369**	22.2%
	Multiple	4	163	91	52	14	5	7	**336**	21.6%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Ethnic group of mother	White	416	9,855	6,555	2,916	1,324	584	293	**21,943**	22.3%
	Non-white	18	340	215	111	26	11	11	**732**	20.5%
	Not stated / Blank	1	18	6	1	1	0	3	**30**	7.4%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Place of birth	Altnagelvin	54	1,049	775	409	153	90	7	**2,537**	25.8%
	Antrim	65	1,255	839	388	191	112	8	**2,858**	24.2%
	Causeway	34	460	278	100	54	7	0	**933**	17.3%
	Craigavon	86	1,847	1,182	474	243	96	18	**3,946**	20.7%
	Daisy Hill	17	834	565	220	83	24	3	**1,746**	18.8%
	Downe	≤5	19	9	≤5	0	0	1	**33**	<22.2%
	Lagan Valley	≤5	58	33	≤10	0	0	0	**100**	<22.2%
	Mater	≤5	152	77	29	≤5	0	0	**261**	<22.2%
	Royal	87	2,191	1,489	727	374	151	31	**5,050**	24.9%
	SWAH	19	584	393	172	48	24	4	**1,244**	19.7%
	Ulster	65	1,748	1,126	501	203	90	235	**3,968**	21.3%
	Home/Other	≤5	16	10	0	≤5	1	0	**29**	<22.2%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Trust of residence of mother	Belfast	82	1,945	1,236	594	286	119	28	**4,290**	23.4%
	Northern	117	2,452	1,576	681	364	159	17	**5,366**	22.5%
	South Eastern	60	1,673	1,130	511	195	90	219	**3,878**	21.8%
	Southern	101	2,468	1,641	656	303	115	33	**5,317**	20.3%
	Western	75	1,675	1,193	586	203	112	10	**3,854**	23.4%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Council area (2014)	Antrim & Newtownabbey	28	782	469	212	98	46	5	**1,640**	21.8%
	Ards & North Down	24	640	472	213	78	33	4	**1,464**	22.2%
	Armagh City, Banbridge & Craigavon	80	1,305	832	349	179	63	19	**2,827**	21.0%
	Belfast	82	1,845	1,208	592	285	116	27	**4,155**	24.1%
	Causeway Coast & Glens	38	695	445	207	111	59	7	**1,562**	24.2%
	Derry City and Strabane	47	796	610	307	111	62	5	**1,938**	24.8%
	Fermanagh and Omagh	21	712	448	199	63	29	4	**1,476**	19.8%
	Lisburn and Castlereagh	19	782	473	207	72	40	115	**1,708**	20.0%
	Mid and East Antrim	48	669	410	196	101	46	6	**1,476**	23.3%
	Mid Ulster	22	926	680	255	124	48	6	**2,061**	20.8%
	Newry, Mourne & Down	26	1,061	729	291	129	53	109	**2,398**	20.7%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	114	2,071	1,535	764	362	182	43	**5,071**	26.0%
	2	89	2,129	1,512	681	304	138	63	**4,916**	23.1%
	3	83	2,072	1,427	639	290	125	55	**4,691**	22.7%
	4	84	2,067	1,252	595	244	85	87	**4,414**	21.4%
	Least deprived	65	1,874	1,050	349	151	65	59	**3,613**	15.9%
	All mothers	**435**	**10,213**	**6,776**	**3,028**	**1,351**	**595**	**307**	**22,705**	**22.2%**

Source: NIMATS

NI Statistics and Research Agency, NI Multiple Deprivation Measure 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 (31% of births in 2017/18). 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)[52]. The main risks associated with a Caesarean section include[53]:

- 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*".[54]

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)[55] 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.

[52] National Institute for Health and Care Excellence (NICE), "Caesarean section", Clinical Guidance (CG132), https://www.nice.org.uk/guidance/CG132
[53] 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
[54] World Health Organisation, Statement on Caesarean Section Rates, 2015 http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/cs-statement/en/
[55] As [51]

Key Points

- In 2017/18, 31% of infants were delivered by Caesarian section. *[Page 55]*
- In 2017/18, mothers under 30 years of age had a higher percentage of births by emergency Caesarian section (14.6%) than by elective Caesarian section (9.7%), but the opposite is seen when the mother is over 30 years of age when 20.5% of births are by elective Caesarian section and 15.3% are by emergency Caesarian section. *[Page 56]*
- In 2017/18, there was little difference between the proportion of births by Caesarian Section in those who were first time mothers (30.7%) and those who were not first time mothers (31.1%) (All infants = 31.0%). *[Page 56]*
- In 2017/18, of those hospitals providing Caesarean Sections, the proportion of infants born by this method, ranged from 28.7% in Causeway Hospital to 34.1% in Daisy Hill Hospital. (All infants = 31.0%). *[Page 57]*

Table 8.1: Births to Northern Ireland residents, by method of delivery, 2010/11 - 2017/18

Year of birth		Infants born by method of delivery							Infants born by Caesarean Section
		Elective C/S	Emergency C/S	C/S Other	Normal	Other	Not known	**Total**	
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	3,130	110	**24,079**	**7,312**
	%	16.0%	14.5%	0.0%	56.4%	13.1%	-	**-**	**30.5%**
2017/18	n	3,677	3,458	0	13,144	2,766	0	**23,045**	**7,135**
	%	16.0%	15.0%	0.0%	57.0%	12.0%	-	**-**	**31.0%**

Source: Child Health System (2010/11 - 2016/17), NIMATS (2017/18)
Following a change in the interface between NIMATS and CHS during 2017/18, fields containing information on method of delivery, which had usually transferred from NIMATS to CHS, are not now available on CHS. As a result, the data must be sourced from NIMATS. The data from both sources were analysed and the impact of changing the source of the data was considered minimal.
Method of delivery – categories used (CHS)

- **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**

Method of delivery – categories used (NIMATS)

- **Normal: normal face to pubis or normal occiput anterior**
- **Elective Caesarean**
- **Emergency Caesarean·**
- **Other: assisted breech, Barnes-Neville forceps, breech extraction, Kielland's forceps, spontaneous breech, vacuum extraction or Wrigley's forceps**

Figure 8.1: % infants born by Caesarean Section, Northern Ireland, 2010/11 – 2017/18

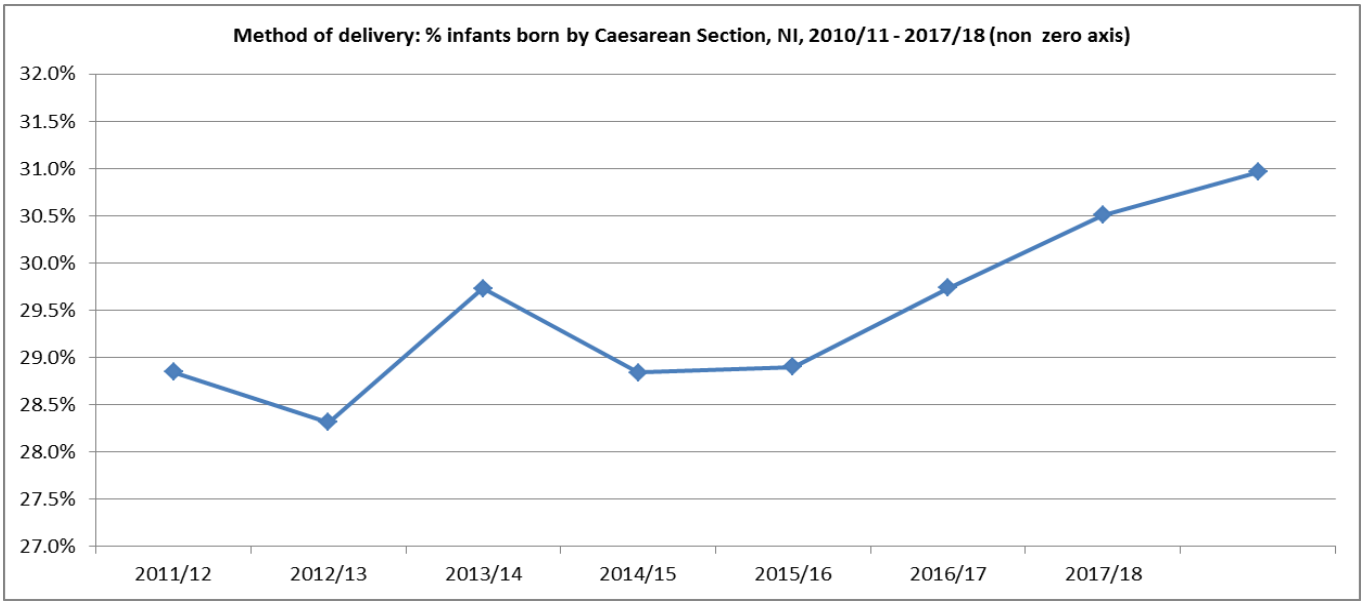


Table 8.2: Births to Northern Ireland residents, by method of delivery, 2017/18

		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	26	79	478	97	0	**680**	15.4%
	20 - 24	201	408	1,870	362	0	**2,841**	21.4%
	25 - 29	724	936	3,781	814	0	**6,255**	26.5%
	30 - 34	1,410	1,178	4,397	987	0	**7,972**	32.5%
	35 - 39	1,039	701	2,247	438	0	**4,425**	39.3%
	40 +	277	156	371	68	0	**872**	49.7%
	Not known	0	0	0	0	0	**0**	-
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
Multiple births	Single	3,481	3,202	13,040	2,646	0	**22,369**	29.9%
	Multiple	196	256	104	120	0	**676**	66.9%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
First time mothers	First time mother	648	2,025	3,963	2,068	0	**8,704**	30.7%
	Not a first time mother	3,024	1,427	9,162	687	0	**14,300**	31.1%
	Not known	5	6	19	11	0	**41**	26.8%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
Ethnic group of mother	White	3,574	3,330	12,686	2,681	0	**22,271**	31.0%
	Asian	37	52	135	31	0	**255**	34.9%
	Black	26	25	87	11	0	**149**	34.2%
	Mixed	13	15	58	7	0	**93**	30.1%
	Other	22	34	157	34	0	**247**	22.7%
	Not stated / Blank	5	2	21	2	0	**30**	23.3%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**

Table 8.2 continued: Births to Northern Ireland residents, by method of delivery, 2017/18

		Infants born by method of delivery						% infants born by Caesarean Section
		Elective C/S	Emergency C/S	Normal	Other	Not known	**Total**	
Place of birth	Altnagelvin	448	389	1,385	355	0	**2,577**	32.5%
	Antrim	470	449	1,729	250	0	**2,898**	31.7%
	Causeway	139	130	564	103	0	**936**	28.7%
	Craigavon	708	588	2,286	449	0	**4,031**	32.2%
	Daisy Hill	350	253	943	224	0	**1,770**	34.1%
	Downe	0	0	33	0	0	**33**	0.0%
	Lagan Valley	0	0	100	0	0	**100**	0.0%
	Mater	0	0	261	0	0	**261**	0.0%
	Royal	735	808	2,930	666	0	**5,139**	30.0%
	SWAH	184	201	682	184	0	**1,251**	30.8%
	Ulster	643	640	2,202	535	0	**4,020**	31.9%
	Home	0	0	29	0	0	**29**	0.0%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
Trust of residence of mother	Belfast	566	648	2,585	558	0	**4,357**	27.9%
	Northern	856	841	3,194	553	0	**5,444**	31.2%
	South Eastern	615	608	2,232	480	0	**3,935**	31.1%
	Southern	1,003	769	3,009	628	0	**5,409**	32.8%
	Western	637	592	2,124	547	0	**3,900**	31.5%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
Council area (2014)	Antrim and Newtownabbey	238	255	971	202	0	**1,666**	29.6%
	Ards and North Down	260	233	829	167	0	**1,489**	33.1%
	Armagh City, Banbridge and Craigavon	521	380	1,663	313	0	**2,877**	31.3%
	Belfast	519	619	2,553	523	0	**4,214**	27.0%
	Causeway Coast and Glens	240	253	911	182	0	**1,586**	31.1%
	Derry City and Strabane	346	295	1,052	267	0	**1,960**	32.7%
	Fermanagh and Omagh	239	233	809	212	0	**1,493**	31.6%
	Lisburn and Castlereagh	274	271	952	235	0	**1,732**	31.5%
	Mid and East Antrim	231	230	898	132	0	**1,491**	30.9%
	Mid Ulster	357	316	1,214	213	0	**2,100**	32.0%
	Newry, Mourne and Down	452	373	1,292	320	0	**2,437**	33.9%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	697	776	3,087	586	0	**5,146**	28.6%
	2	780	764	2,850	599	0	**4,993**	30.9%
	3	828	697	2,678	548	0	**4,751**	32.1%
	4	735	692	2,525	534	0	**4,486**	31.8%
	Least deprived	637	529	2,004	499	0	**3,669**	31.8%
	All infants	**3,677**	**3,458**	**13,144**	**2,766**	**0**	**23,045**	**31.0%**

Source: NIMATS

Method of delivery – categories used

- **Normal: normal face to pubis or normal occiput anterior**
- **Elective Caesarean**
- **Emergency Caesarean·**
- **Other: assisted breech, Barnes-Neville forceps, breech extraction, Kielland's forceps, spontaneous breech, vacuum extraction or Wrigley's forceps**

NI Statistics and Research Agency, NI Multiple Deprivation Measure 2017 https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland

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 2017/18, 6.4% 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[56,57,58,59]:

- 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[60,61,62,63,64]:

- 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 2016-21 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 infant[65].

[56] 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/
[57] 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-analyses. Int J Epidemiol 2011;40(1):65–101 http://ije.oxfordjournals.org/content/40/1/65.long
[58] 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-analyses. BJOG 2011;118:1411–1421 http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0528.2011.03050.x/epdf
[59] 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
[60] 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
[61] Diabetes UK, https://www.diabetes.org.uk/About_us/News_Landing_Page/2008/Underweight-babies-at-higher-risk-of-Type-2-diabetes/
[62] 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
[63] Institute of Health Economics, Canada, "Determinants and Prevention of Low Birth Weight: A Synopsis of the Evidence", 2008 https://www.ihe.ca/publications/determinants-and-prevention-of-low-birth-weight-a-synopsis-of-the-evidence
[64] 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
[65] 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 2017/18, 6.4% of all births were measured as low birth weight i.e. less than 2,500g (6.1% of live and 69.3% of still births). 13.7% of live infants were born with a higher birth weight of 4,000g+ and 1.8% with a birth weight of 4,500g+. *[Page 60, 61]*

- In 2017/18, 7.4% of births to mothers aged under 20 and 8.1% 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 6.4%. *[Page 61]*

- A higher proportion (13.9%) of mothers in 2017/18 who were of a white ethnic group had infants with a higher birth weight (≥4,000g) than those of a non-white ethnic group (6.3%). *[Page 61]*

- The proportion of low birth weight infants born to mothers residing in the most deprived areas (NIMDM 2017) in 2017/18 was higher at 7.5% than to mothers from least deprived areas (5.5%). *[Page 62]*

- Data at District Electoral Area level for 2017/18 show that 10.5% of infants born to mothers living in Bangor East and Donaghadee DEA in Ards and North Down LGD, were born with a low birth weight, compared to 2.6% in Erne East DEA (Fermanagh and Omagh LGD). *[Page 63]*

Figure 9.1: Percentage low birth weight infants, Northern Ireland, 2010/11 – 2017/18

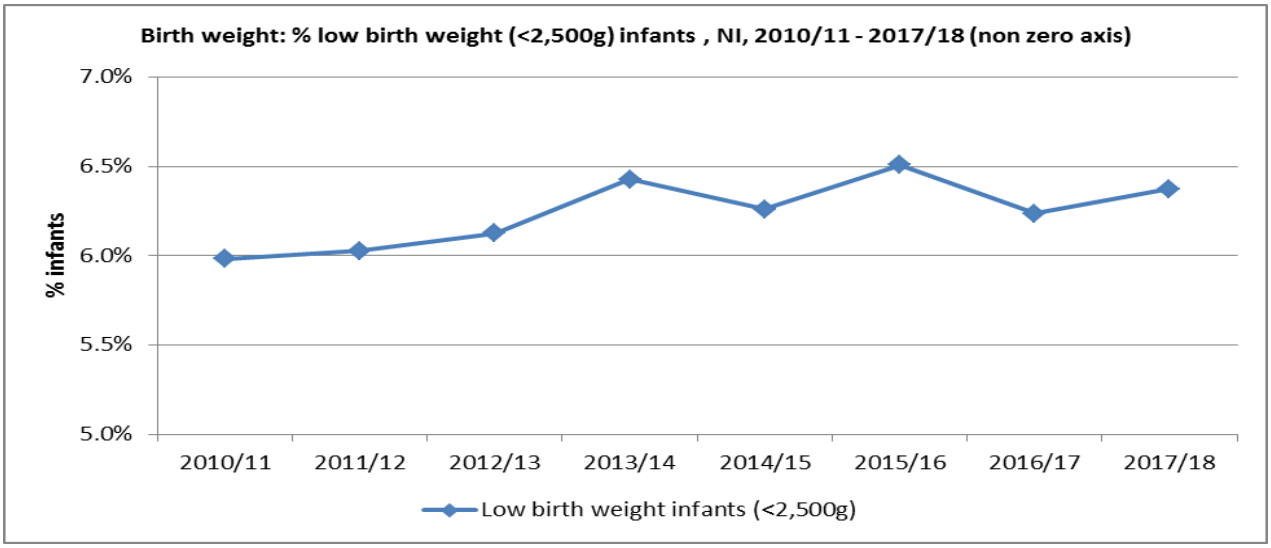


Figure 9.2: Percentage high birth weight infants, Northern Ireland, 2010/11 – 2017/18

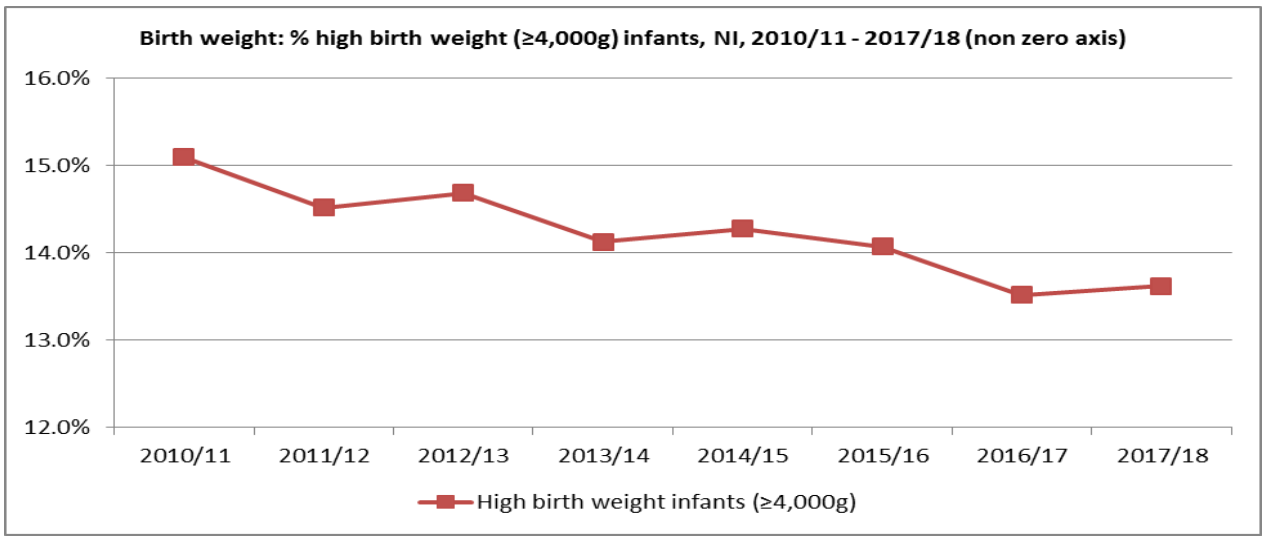


Table 9.1: Births to Northern Ireland residents, by birth weight, 2010/11 - 2017/18

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%**
2017/18	n	208	1,187	18,361	2,711	416	20	**22,903**	**1,395**	**3,127**	**416**
	%	0.9%	5.2%	80.2%	11.8%	1.8%	-	**-**	**6.10%**	**13.67%**	**1.82%**

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%**
2017/18	n	46	24	31		**101**	**70**
	%	45.5%	23.8%	30.7%	-	**-**	**69.31%**

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

Table 9.1 continued: Births to Northern Ireland residents, by birth weight, 2010/11 - 2017/18

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%**
2017/18	n	254	1,211	18,389	2,713	417	20	**23,004**	**1,465**	**3,130**	**417**
	%	1.1%	5.3%	80.0%	11.8%	1.8%	-	**-**	**6.37%**	**13.62%**	**1.81%**

Source: Child Health System

Table 9.2: Births to Northern Ireland residents, by birth weight, 2017/18

		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	10	40	564	58	8	0	**680**	7.35%	9.71%
	20 - 24	33	159	2,362	252	27	2	**2,835**	6.78%	9.85%
	25 - 29	65	322	5,094	689	98	6	**6,274**	6.17%	12.56%
	30 - 34	74	382	6,287	1,036	178	6	**7,963**	5.73%	15.26%
	35 - 39	58	253	3,370	613	95	6	**4,395**	7.09%	16.13%
	40 +	14	55	708	65	11	0	**853**	8.09%	8.91%
	Not known	0	0	4	0	0	0	**4**	0.00%	0.00%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.62%**
Multiple births	Single	183	878	18,117	2,713	417	20	**22,328**	4.76%	14.03%
	Multiple	71	333	272	0	0	0	**676**	59.76%	0.00%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.62%**
Ethnic group of mother (NIMATS)	White	242	1,147	17,778	2,682	414	8	**22,271**	6.24%	13.91%
	Non-white	8	59	630	41	6	0	**744**	9.01%	6.32%
	Not stated / Blank	0	3	26	1	0	0	**30**	10.00%	3.33%
	All infants	**250**	**1,209**	**18,434**	**2,724**	**420**	**0**	**23,045**	**6.33%**	**13.65%**
Ethnic group of infant (CHS)	White	235	1,130	17,453	2,643	407	17	**21,885**	6.24%	13.95%
	Non-white	11	72	903	68	10	2	**1,066**	7.80%	7.33%
	Not stated / Blank	8	9	33	2	0	1	**53**	32.69%	3.85%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.62%**

Table 9.2 continued: Births to Northern Ireland residents, by birth weight, 2017/18

		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**		
Place of birth	Altnagelvin	25	158	2,023	279	51	0	**2,536**	7.22%	13.0%
	Antrim	33	149	2,339	329	48	0	**2,898**	6.28%	13.0%
	Causeway	7	19	751	139	19	0	**935**	2.78%	16.9%
	Craigavon	37	264	3,182	462	71	9	**4,025**	7.50%	13.3%
	Daisy Hill	9	83	1,352	282	45	1	**1,772**	5.19%	18.5%
	Downe	0	0	≤40	≤5	0	0	**36**	0.00%	<13.6%
	Lagan Valley	0	0	78	≤30	≤5	0	**103**	0.00%	>13.6%
	Mater	0	0	231	25	≤5	≤5	**261**	0.00%	<13.6%
	Royal	104	274	4,178	526	64	2	**5,148**	7.35%	11.5%
	SWAH	≤5	51	992	164	23	≤5	**1,235**	4.46%	>13.6%
	Ulster	29	210	3,214	478	90	4	**4,025**	5.94%	14.1%
	Home/Other	≤10	3	≤20	2	0	2	**30**	32.14%	7.1%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.6%**
Trust of residence of mother	Belfast	57	210	3,578	431	62	2	**4,340**	6.15%	11.4%
	Northern	70	265	4,369	669	93	1	**5,467**	6.13%	13.9%
	South Eastern	43	224	3,142	461	74	7	**3,951**	6.77%	13.6%
	Southern	51	309	4,244	692	113	9	**5,418**	6.66%	14.9%
	Western	33	203	3,056	460	75	1	**3,828**	6.17%	14.0%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.6%**
Council area (2014)	Antrim & Newtownabbey	25	76	1,358	190	30	0	**1,679**	6.02%	13.1%
	Ards & North Down	17	95	1,175	175	28	3	**1,493**	7.52%	13.6%
	Armagh City, Banbridge & Craigavon	29	164	2,281	348	55	6	**2,883**	6.71%	14.0%
	Belfast	55	206	3,494	386	58	1	**4,200**	6.22%	10.6%
	Causeway Coast & Glens	29	80	1,216	224	35	0	**1,584**	6.88%	16.4%
	Derry City & Strabane	22	104	1,557	202	35	0	**1,920**	6.56%	12.3%
	Fermanagh & Omagh	8	72	1,167	190	29	1	**1,467**	5.46%	14.9%
	Lisburn & Castlereagh	20	75	1,382	229	29	2	**1,737**	5.48%	14.9%
	Mid & East Antrim	17	66	1,211	180	17	0	**1,491**	5.57%	13.2%
	Mid Ulster	7	130	1,680	248	38	3	**2,106**	6.51%	13.6%
	Newry, Mourne & Down	25	143	1,868	341	63	4	**2,444**	6.89%	16.6%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.6%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	70	314	4,146	507	62	1	**5,100**	7.53%	11.2%
	2	49	280	3,974	583	87	5	**4,978**	6.62%	13.5%
	3	40	227	3,779	605	98	7	**4,756**	5.62%	14.8%
	4	60	223	3,585	540	88	4	**4,500**	6.29%	14.0%
	Least deprived	35	167	2,905	478	82	3	**3,670**	5.51%	15.3%
	All infants	**254**	**1,211**	**18,389**	**2,713**	**417**	**20**	**23,004**	**6.37%**	**13.6%**

Source: Child Health System and NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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.
Ethnic group of mother is not available from CHS, therefore data from NIMATS has been provided. However, data by ethnic group will differ between the two systems.

Table 9.3: Births to Northern Ireland residents, by birth weight and gestation at delivery, 2013-14 - 2017/18

	Infants born by birth weight							% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)
Gestation at delivery (completed wks)	<1500g	1500 - 2499g	2500- 3999g	4000- 4499g	4500g+	Not known	Total		
Less than 31 weeks	1,125	360	15	0	0	18	**1,518**	99.00%	0.00%
32 - 36 weeks	180	3,923	3,675	67	11	10	**7,866**	52.23%	0.99%
37 - 38 weeks	6	1,648	21,708	1,149	183	17	**24,711**	6.70%	5.39%
39+ weeks	5	336	70,235	13,127	2,171	95	**85,969**	0.40%	17.81%
TOTAL	**1,316**	**6,267**	**95,633**	**14,343**	**2,365**	**140**	**120,064**	6.32%	13.93%

Source: NIMATS **Due to small numbers, data had to be provided over a 5 year period**

Table 9.4: Births to Northern Ireland residents, by birth weight, District Electoral Area, 2017/18

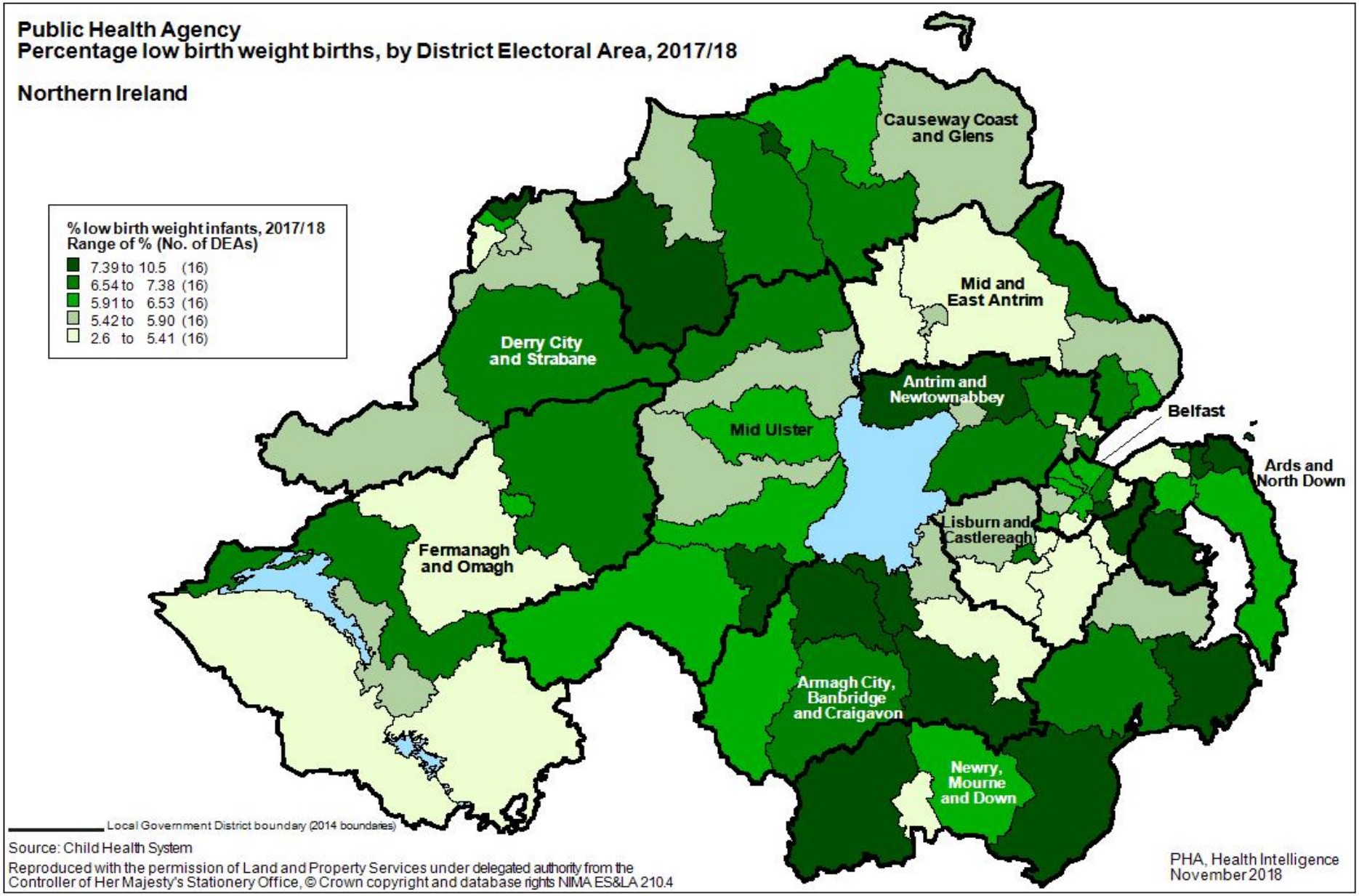
		Infants born by birth weight					% low birth weight infants (<2,500g)	% high birth weight infants (≥4,000g)
Council (2014)	**District Electoral Area**	< 2,500g	2,500 - 3,999g	4,000+ g	Not known	**Total**		
Antrim and Newtownabbey	Airport	18	217	39	0	**274**	6.57%	14.23%
	Antrim	16	250	27	0	**293**	5.46%	9.22%
	Ballyclare	14	166	34	0	**214**	6.54%	15.89%
	Dunsilly	15	159	29	0	**203**	7.39%	14.29%
	Glengormley Urban	14	209	35	0	**258**	5.43%	13.57%
	Macedon	15	172	33	0	**220**	6.82%	15.00%
	Three Mile Water	9	185	23	0	**217**	4.15%	10.60%
	Total	**101**	**1,358**	**220**	**0**	**1,679**	**6.02%**	**13.10%**
Ards and North Down	Ards Peninsula	13	165	32	1	**211**	6.19%	15.24%
	Bangor Central	27	240	35	0	**302**	8.94%	11.59%
	Bangor East and Donaghadee	19	134	28	0	**181**	10.50%	15.47%
	Bangor West	13	155	29	1	**198**	6.60%	14.72%
	Comber	15	120	17	0	**152**	9.87%	11.18%
	Holywood and Clandeboye	8	133	29	1	**171**	4.71%	17.06%
	Newtownards	17	228	33	0	**278**	6.12%	11.87%
	Total	**112**	**1,175**	**203**	**3**	**1,493**	**7.52%**	**13.62%**
Armagh, Banbridge and Craigavon	Armagh	31	398	59	1	**489**	6.35%	12.09%
	Banbridge	34	331	82	2	**449**	7.61%	18.34%
	Craigavon	29	312	46	0	**387**	7.49%	11.89%
	Cusher	24	250	57	2	**333**	7.25%	17.22%
	Lagan River	12	227	40	0	**279**	4.30%	14.34%
	Lurgan	29	411	62	1	**503**	5.78%	12.35%
	Portadown	34	352	57	0	**443**	7.67%	12.87%
	Total	**193**	**2,281**	**403**	**6**	**2,883**	**6.71%**	**14.01%**
Belfast	Balmoral	13	213	28	0	**254**	5.12%	11.02%
	Black Mountain	27	413	57	0	**497**	5.43%	11.47%
	Botanic	25	343	37	0	**405**	6.17%	9.14%
	Castle	24	314	37	0	**375**	6.40%	9.87%
	Collin	30	414	47	0	**491**	6.11%	9.57%
	Court	28	390	41	1	**460**	6.10%	8.93%
	Lisnasharragh	27	258	53	0	**338**	7.99%	15.68%
	Oldpark	31	408	56	0	**495**	6.26%	11.31%
	Ormiston	19	300	43	0	**362**	5.25%	11.88%
	Titanic	37	441	45	0	**523**	7.07%	8.60%
	Total	**261**	**3,494**	**444**	**1**	**4,200**	**6.22%**	**10.57%**
Causeway Coast and Glens	Ballymoney	21	233	55	0	**309**	6.80%	17.80%
	Bann	13	135	29	0	**177**	7.34%	16.38%
	Benbradagh	20	201	39	0	**260**	7.69%	15.00%
	Causeway	13	176	31	0	**220**	5.91%	14.09%
	Coleraine	22	210	30	0	**262**	8.40%	11.45%
	Limavady	10	131	40	0	**181**	5.52%	22.10%
	The Glens	10	130	35	0	**175**	5.71%	20.00%
	Total	**109**	**1,216**	**259**	**0**	**1,584**	**6.88%**	**16.35%**

Table 9.4 continued: Births to Northern Ireland residents, by birth weight, District Electoral Area, 2017/18

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**		
Derry City and Strabane	Ballyarnett	34	290	34	0	**358**	9.50%	9.50%
	Derg	12	174	35	0	**221**	5.43%	15.84%
	Faughan	12	171	30	0	**213**	5.63%	14.08%
	Foyleside	13	165	21	0	**199**	6.53%	10.55%
	Sperrin	23	276	44	0	**343**	6.71%	12.83%
	The Moor	12	199	32	0	**243**	4.94%	13.17%
	Waterside	20	282	41	0	**343**	5.83%	11.95%
	Total	**126**	**1,557**	**237**	**0**	**1,920**	**6.56%**	**12.34%**
Fermanagh and Omagh	Enniskillen	11	159	25	0	**195**	5.64%	12.82%
	Erne East	5	153	34	0	**192**	2.60%	17.71%
	Erne North	13	151	21	0	**185**	7.03%	11.35%
	Erne West	10	155	32	1	**198**	5.08%	16.24%
	Mid Tyrone	16	182	42	0	**240**	6.67%	17.50%
	Omagh	13	182	24	0	**219**	5.94%	10.96%
	West Tyrone	12	185	41	0	**238**	5.04%	17.23%
	Total	**80**	**1,167**	**219**	**1**	**1,467**	**5.46%**	**14.94%**
Lisburn and Castlereagh	Castlereagh East	22	203	37	0	**262**	8.40%	14.12%
	Castlereagh South	9	238	53	1	**301**	3.00%	17.67%
	Downshire East	7	149	26	0	**182**	3.85%	14.29%
	Downshire West	9	134	27	1	**171**	5.29%	15.88%
	Killultagh	17	225	48	0	**290**	5.86%	16.55%
	Lisburn North	12	203	30	0	**245**	4.90%	12.24%
	Lisburn South	19	230	37	0	**286**	6.64%	12.94%
	Total	**95**	**1,382**	**258**	**2**	**1,737**	**5.48%**	**14.87%**
Mid and East Antrim	Ballymena	16	231	36	0	**283**	5.65%	12.72%
	Bannside	8	180	38	0	**226**	3.54%	16.81%
	Braid	14	226	37	0	**277**	5.05%	13.36%
	Carrick Castle	13	167	20	0	**200**	6.50%	10.00%
	Coast Road	11	134	18	0	**163**	6.75%	11.04%
	Knockagh	12	143	21	0	**176**	6.82%	11.93%
	Larne Lough	9	130	27	0	**166**	5.42%	16.27%
	Total	**83**	**1,211**	**197**	**0**	**1,491**	**5.57%**	**13.21%**
Mid Ulster	Carntogher	19	200	42	0	**261**	7.28%	16.09%
	Clogher Valley	21	274	46	1	**342**	6.16%	13.49%
	Cookstown	18	262	40	0	**320**	5.63%	12.50%
	Dungannon	29	300	44	0	**373**	7.77%	11.80%
	Magherafelt	16	195	35	1	**247**	6.50%	14.23%
	Moyola	13	184	30	0	**227**	5.73%	13.22%
	Torrent	21	265	49	1	**336**	6.27%	14.63%
	Total	**137**	**1,680**	**286**	**3**	**2,106**	**6.51%**	**13.60%**
Newry, Mourne and Down	Crotlieve	23	298	62	1	**384**	6.01%	16.19%
	Downpatrick	24	218	24	1	**267**	9.02%	9.02%
	Newry	22	319	72	0	**413**	5.33%	17.43%
	Rowallane	14	188	39	1	**242**	5.81%	16.18%
	Slieve Croob	18	206	42	0	**266**	6.77%	15.79%
	Slieve Gullion	39	360	106	0	**505**	7.72%	20.99%
	The Mournes	28	279	59	1	**367**	7.65%	16.12%
	Total	**168**	**1,868**	**404**	**4**	**2,444**	**6.89%**	**16.56%**
Northern Ireland	**All infants**	**1,465**	**18,389**	**3,130**	**20**	**23,004**	**6.37%**	**13.62%**

Source: Child Health System

Figure 9.3: Percentage <u>low</u> birth weight births, by District Electoral Area, 2017/18



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*[66]. 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:[67,68,]

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

The 2016 Lancet review[69] 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 NI 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 Survey[70]:

- 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.[71] 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.

[66] Department of Health, "Breastfeeding – A Great Start. A Strategy for Northern Ireland 2013 – 2023 https://www.health-ni.gov.uk/publications/breastfeeding-strategy
[67] As [63]
[68] Health Service Executive, Republic of Ireland, 2008 "*The Evidence for Breastfeeding*" https://www.breastfeeding.ie/Uploads/The-evidence-for-breastfeeding.pdf
[69] 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
[70] UK Infant Feeding Survey 2010. Available at http://digital.nhs.uk/catalogue/PUB08694 Table 3.7
[71] UK Infant Feeding Survey 2010. Available at http://digital.nhs.uk/catalogue/PUB08694 Table 6.6

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. [72,73]

The NI Breastfeeding Strategy details the following four strategic outcomes to help increase breastfeeding rates in Northern Ireland:

> *Outcome 1 - Supportive environments for breastfeeding exist throughout Northern Ireland.*
> *Outcome 2 - Health and Social Care has the necessary knowledge, skills and leadership to protect, promote, support and normalise breastfeeding.*
> *Outcome 3 - High quality information systems in place that underpin the development of policy and programmes, and which support Strategy delivery.*
> *Outcome 4 - An informed and supportive public.*

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*"[74]. However, currently progress has stalled due to the absence of a Northern Ireland Executive which would be required to approve a potential Breastfeeding Bill.

In January 2018, the PHA launched a new public information campaign *#NotSorryMums* which aims to highlight the health benefits of breastfeeding, and support mums to feel more comfortable breastfeeding in public. Evaluation found that three quarters (75%) of respondents in a representative survey of the public were aware of the campaign, with a similar proportion (74%) agreeing that the advertising would encourage them to think more positively about mums who breastfeed in public.

Initiatives such as the WHO/UNICEF Baby Friendly Initiative (BFI)[75] 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", and four of our five Health and Social Care Trust health visiting services are also fully accredited as 'Baby Friendly'. Launched by UK BFI in 2016, the Achieving Sustainability Standards are designed to support longer term implementation of best practice standards. In 2018, NHSCT maternity and health visiting services achieved the first joint UK Baby Friendly Initiative Gold Standard in recognition of their long standing commitment to best practice and implementation of the standards.

In May 2018, the Department of Health published a Mid-Term Review of the breastfeeding strategy.[76] The review outlined the progress made to date through the Strategy action plan, assessed and made recommendations on new actions to keep the Strategy fresh and current.

[72] Glass K. Breastfeeding and maternity care research: final report Spring. Report prepared for the Public Health Agency. Belfast: Ipsos MORI, 2015.
[73] Glass K. Breastfeeding and maternity care research: final report Autumn. Report prepared for the Public Health Agency. Belfast: Ipsos MORI, 2016.
[74] Department of Health, Statement by Minister, 9 January 2017 Available at www.health-ni.gov.uk/news/oneill-law-protect-breastfeeding-mothers-be-introduced-0
[75] WHO/UNICEF, The Baby Friendly Initiative Available at www.unicef.org.uk/BabyFriendly/
[76] Department of Health. Breastfeeding – A great start. A strategy for NI 2013-2023. Mid-Term Review. Belfast: DOH, 2018. Available at www.health-ni.gov.uk/sites/default/files/publications/health/draft-mid-term-review-breastfeeding-strategy.pdf

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. Therefore the figures shown may not reflect the true numbers of children being breastfed.

- In 2017/18, 48.1% of live infants were breastfed (total/partial feeding) at discharge (feeding status known). *[Page 69].*

- Only 24.9% of infants born to mothers under 20 were breastfed at discharge, compared to 57.6% of infants to mothers aged 40 and over. *[Page 70].*

- Breastfeeding rates were slightly higher for infants born to first time mothers at 52.2%. Mothers who have previously given birth = 45.6%. *[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 of residence of mother, ranging from 43.5% of infants born to mothers from WHSCT, to 51.4% in SEHSCT. *[Page 70].*

- The proportion breastfeeding was markedly lower in more deprived areas (NIMDM 2017). In 2017/18, 33% of mothers from most deprived areas were breastfeeding at discharge compared to 64.8% 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 24.2% in Court DEA (Belfast LGD) to 68.7% in Balmoral DEA (Belfast LGD). *[Page 72].*

Breastfeeding duration

- Prevalence of breastfeeding at various stages during the first year of life is not yet available for 2017/18.

- Of mothers who delivered in 2016/17, the proportion breastfeeding gradually decreased with time e.g. only 13% of mothers were still breastfeeding 12 months after the baby was born. This percentage increased with age of mother – 2.1% of mothers aged less than 20 years up to 18.6% 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 2017), when compared to mothers from more deprived areas. In 2016/17, prevalence of breastfeeding at 12 months old was higher at 20.1% in the least deprived areas, than in the most deprived areas of Northern Ireland (7.7%). *[Page 75]*

Breastfeeding data on the Child Health System is recorded as either 'Total', 'Partial' or 'Not at all'. Total – where the child receives breast milk only, with no other type of milk, liquids or food given. Partial – where the child receives breast milk, as well as formula milk and other liquids or food. Not at all - where the child does not receive any breast milk 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 - 2017/18

Year of birth		Infant breastfeeding status at discharge					% infants breastfed (partial/total - feeding status known)
		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%**
2017/18	n	8,343	2,507	11,704	349	**22,903**	**10,850**
	%	37.0%	11.1%	51.9%	-	**-**	**48.11%**

Source: Child Health System

Figure 10.1: % infants' breastfed (total/partial) at discharge, Northern Ireland, 2010/11 – 2017/18

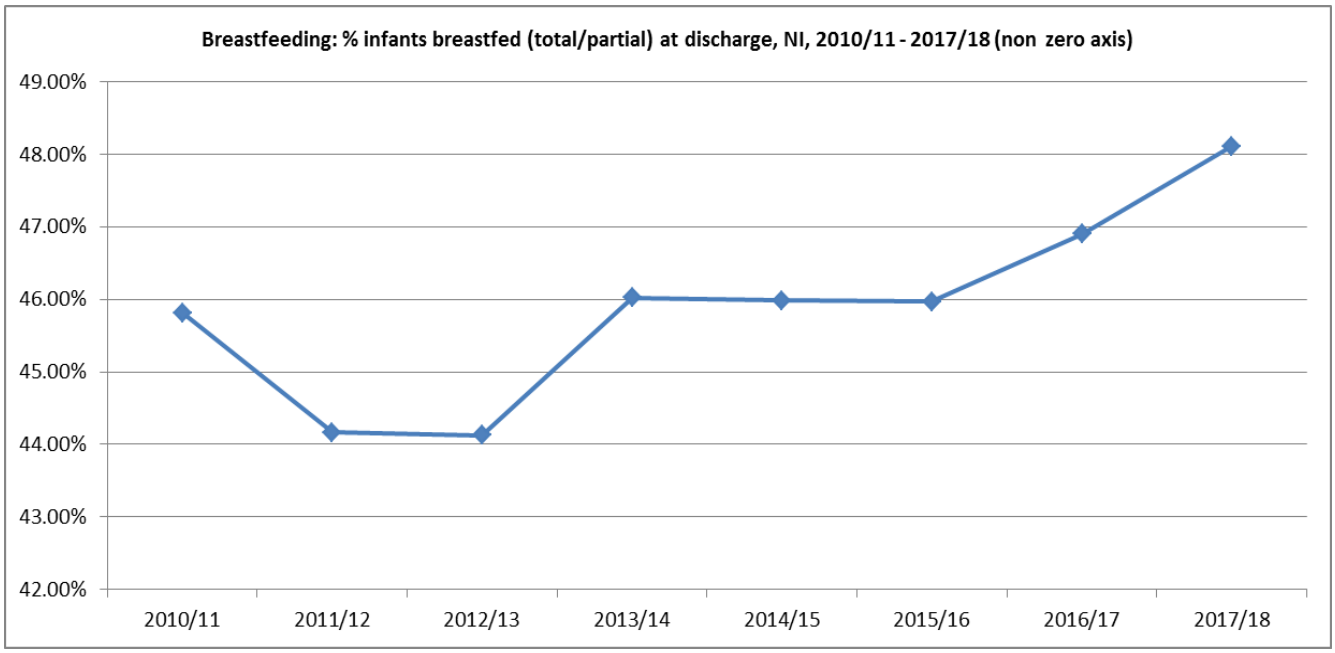


Table 10.2: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, 2017/18

		Infant breastfeeding status at discharge					% infants breastfed (partial/total - feeding status known)
		Total	Partial	Not at all	Other / Not known	**Total**	
Age Group of mother	Under 20	119	46	497	17	**679**	24.92%
	20 - 24	622	234	1,917	47	**2,820**	30.87%
	25 - 29	2,021	620	3,514	86	**6,241**	42.91%
	30 - 34	3,276	950	3,594	116	**7,936**	54.04%
	35 - 39	1,943	540	1,827	64	**4,374**	57.61%
	40 +	362	117	353	17	**849**	57.57%
	Not known	0	0	2	2	**4**	0.00%
	All ages	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
Multiple births	Single	8,264	2,352	11,319	306	**22,241**	48.40%
	Multiple	79	155	385	43	**662**	37.80%
	All infants	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
First time mothers	First time mother	3,245	1,213	4,082	132	**8,672**	52.20%
	Not a first time mother	5,025	1,274	7,526	206	**14,031**	45.56%
	Not known	73	20	96	11	**200**	49.21%
	All infants	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
Ethnic group of mother (NIMATS)	White	8,037	2,336	11,650	156	**22,179**	47.10%
	Asian	117	86	44	5	**252**	82.19%
	Black	62	59	23	2	**146**	84.03%
	Mixed/Other	169	84	84	2	**339**	75.07%
	Not stated / Blank	15	5	9	1	**30**	68.97%
	All ethnic groups	**8,400**	**2,570**	**11,810**	**166**	**22,946**	**48.16%**
Ethnic group of infant (CHS)	White	7,819	2,235	11,432	312	**21,798**	46.79%
	Asian	90	76	37	6	**209**	81.77%
	Black	53	56	17	4	**130**	86.51%
	Mixed	177	60	116	6	**359**	67.14%
	Other	192	78	80	8	**358**	77.14%
	Not stated / Blank	12	2	22	13	**49**	38.89%
	All ethnic groups	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
Place of birth	Altnagelvin	737	235	1,521	29	**2,522**	38.99%
	Antrim	1,041	283	1,536	33	**2,893**	46.29%
	Causeway	389	49	484	6	**928**	47.51%
	Craigavon	1,545	446	1,971	49	**4,011**	50.25%
	Daisy Hill	626	216	895	29	**1,766**	48.47%
	Downe	19	≤5	12	≤5	**36**	>48.11%
	Lagan Valley	59	≤5	35	≤10	**103**	>48.11%
	Mater	124	19	115	3	**261**	55.43%
	Royal	1,561	668	2,760	124	**5,113**	44.68%
	SWAH	477	161	583	11	**1,232**	52.25%
	Ulster	1,760	423	1,785	42	**4,010**	55.02%
	Home/Other	5	2	7	14	**28**	50.00%
	All places of birth	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
Trust of residence of mother	Belfast	1,481	520	2,239	78	**4,318**	47.19%
	Northern	2,063	529	2,781	72	**5,445**	48.24%
	South Eastern	1,558	433	1,885	55	**3,931**	51.37%
	Southern	2,007	623	2,673	97	**5,400**	49.59%
	Western	1,234	402	2,126	47	**3,809**	43.49%
	All infants	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**

Table 10.2 continued: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, 2017/18

		Infant breastfeeding status at discharge					% infants breastfed (partial/total - feeding status known)
		Total	Partial	Not at all	Other / Not known	**Total**	
Council area (2014)	Antrim and Newtownabbey	665	202	775	30	**1,672**	52.80%
	Ards and North Down	642	160	663	20	**1,485**	54.74%
	Armagh City, Banbridge and Craigavon	1,065	314	1,452	44	**2,875**	48.71%
	Belfast	1,314	486	2,302	76	**4,178**	43.88%
	Causeway Coast and Glens	568	113	871	23	**1,575**	43.88%
	Derry City and Strabane	518	169	1,197	26	**1,910**	36.46%
	Fermanagh and Omagh	569	197	679	15	**1,460**	53.01%
	Lisburn and Castlereagh	774	217	715	23	**1,729**	58.09%
	Mid and East Antrim	572	157	742	14	**1,485**	49.56%
	Mid Ulster	801	204	1,067	28	**2,100**	48.50%
	Newry, Mourne and Down	855	288	1,241	50	**2,434**	47.94%
	All infants	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	1,165	484	3,344	81	**5,074**	33.03%
	2	1,692	498	2,672	88	**4,950**	45.04%
	3	1,764	518	2,386	77	**4,745**	48.89%
	4	1,860	531	2,031	60	**4,482**	54.07%
	Least deprived	1,862	476	1,271	43	**3,652**	64.78%
	All infants	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**

Source: Child Health System and NIMATS
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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, 2017/18

		Infant breastfeeding status at discharge					% infants breastfed (partial/total - feeding status known)
Council (2014)	**District Electoral Area**	Total	Partial	Not at all	Not known	**Total**	
Antrim and Newtownabbey	Airport	128	35	102	7	**272**	61.51%
	Antrim	111	31	147	3	**292**	49.13%
	Ballyclare	90	24	95	4	**213**	54.55%
	Dunsilly	80	23	96	4	**203**	51.76%
	Glengormley Urban	105	43	106	4	**258**	58.27%
	Macedon	68	21	125	5	**219**	41.59%
	Three Mile Water	83	25	104	3	**215**	50.94%
	Total	**665**	**202**	**775**	**30**	**1,672**	**52.80%**
Ards and North Down	Ards Peninsula	82	17	106	6	**211**	48.29%
	Bangor Central	145	34	119	3	**301**	60.07%
	Bangor East and Donaghadee	91	26	59	2	**178**	66.48%
	Bangor West	83	13	101	1	**198**	48.73%
	Comber	66	17	66	0	**149**	55.70%
	Holywood and Clandeboye	91	22	54	4	**171**	67.66%
	Newtownards	84	31	158	4	**277**	42.12%
	Total	**642**	**160**	**663**	**20**	**1,485**	**54.74%**
Armagh, Banbridge and Craigavon	Armagh	176	58	247	7	**488**	48.65%
	Banbridge	158	54	224	12	**448**	48.62%
	Craigavon	150	39	189	6	**384**	50.00%
	Cusher	114	35	179	5	**333**	45.43%
	Lagan River	121	25	128	5	**279**	53.28%
	Lurgan	177	51	268	5	**501**	45.97%
	Portadown	169	52	217	4	**442**	50.46%
	Total	**1,065**	**314**	**1,452**	**44**	**2,875**	**48.71%**
Belfast	Balmoral	130	41	78	2	**251**	68.67%
	Black Mountain	104	39	343	10	**496**	29.42%
	Botanic	170	79	146	5	**400**	63.04%
	Castle	108	57	200	8	**373**	45.21%
	Collin	119	38	321	11	**489**	32.85%
	Court	78	31	342	8	**459**	24.17%
	Lisnasharragh	170	51	107	10	**338**	67.38%
	Oldpark	79	43	364	7	**493**	25.10%
	Ormiston	189	43	126	3	**361**	64.80%
	Titanic	167	64	275	12	**518**	45.65%
	Total	**1,314**	**486**	**2,302**	**76**	**4,178**	**43.88%**
Causeway Coast and Glens	Ballymoney	123	12	169	5	**309**	44.41%
	Bann	68	14	89	3	**174**	47.95%
	Benbradagh	100	18	137	4	**259**	46.27%
	Causeway	108	19	90	2	**219**	58.53%
	Coleraine	65	18	174	3	**260**	32.30%
	Limavady	47	18	113	2	**180**	36.52%
	The Glens	57	14	99	4	**174**	41.76%
	Total	**568**	**113**	**871**	**23**	**1,575**	**43.88%**
Derry City and Strabane	Ballyarnett	79	27	246	4	**356**	30.11%
	Derg	60	23	132	5	**220**	38.60%
	Faughan	68	23	120	2	**213**	43.13%
	Foyleside	54	17	121	3	**195**	36.98%
	Sperrin	97	21	220	4	**342**	34.91%
	The Moor	59	17	160	6	**242**	32.20%
	Waterside	101	41	198	2	**342**	41.76%
	Total	**518**	**169**	**1,197**	**26**	**1,910**	**36.46%**

Table 10.3 continued: Breastfeeding status (at discharge) of live infants born to Northern Ireland residents, District Electoral Area, 2017/18

		Infant breastfeeding status at discharge					% infants breastfed (partial/total - feeding status known)
Council (2014)	**District Electoral Area**	Total	Partial	Not at all	Not known	**Total**	
Fermanagh and Omagh	Enniskillen	80	24	88	2	**194**	54.17%
	Erne East	74	18	97	2	**191**	48.68%
	Erne North	65	29	87	3	**184**	51.93%
	Erne West	73	33	92	0	**198**	53.54%
	Mid Tyrone	103	24	107	3	**237**	54.27%
	Omagh	70	38	107	3	**218**	50.23%
	West Tyrone	104	31	101	2	**238**	57.20%
	Total	**569**	**197**	**679**	**15**	**1,460**	**53.01%**
Lisburn and Castlereagh	Castlereagh East	106	32	119	3	**260**	53.70%
	Castlereagh South	159	38	96	8	**301**	67.24%
	Downshire East	93	21	66	1	**181**	63.33%
	Downshire West	86	24	60	1	**171**	64.71%
	Killultagh	118	35	132	2	**287**	53.68%
	Lisburn North	110	30	100	3	**243**	58.33%
	Lisburn South	102	37	142	5	**286**	49.47%
	Total	**774**	**217**	**715**	**23**	**1,729**	**58.09%**
Mid and East Antrim	Ballymena	107	32	140	3	**282**	49.82%
	Bannside	71	30	124	0	**225**	44.89%
	Braid	107	25	143	2	**277**	48.00%
	Carrick Castle	80	18	100	2	**200**	49.49%
	Coast Road	54	13	93	2	**162**	41.88%
	Knockagh	70	18	82	4	**174**	51.76%
	Larne Lough	83	21	60	1	**165**	63.41%
	Total	**572**	**157**	**742**	**14**	**1,485**	**49.56%**
Mid Ulster	Carntogher	97	20	140	3	**260**	45.53%
	Clogher Valley	145	38	152	6	**341**	54.63%
	Cookstown	109	27	181	3	**320**	42.90%
	Dungannon	178	42	143	7	**370**	60.61%
	Magherafelt	92	22	132	1	**247**	46.34%
	Moyola	81	13	129	4	**227**	42.15%
	Torrent	99	42	190	4	**335**	42.60%
	Total	**801**	**204**	**1,067**	**28**	**2,100**	**48.50%**
Newry, Mourne and Down	Crotlieve	151	51	171	11	**384**	54.16%
	Downpatrick	66	28	168	3	**265**	35.88%
	Newry	129	51	223	7	**410**	44.67%
	Rowallane	97	28	114	2	**241**	52.30%
	Slieve Croob	115	19	125	6	**265**	51.74%
	Slieve Gullion	173	57	263	11	**504**	46.65%
	The Mournes	124	54	177	10	**365**	50.14%
	Total	**855**	**288**	**1,241**	**50**	**2,434**	**47.94%**
Northern Ireland	**All infants**	**8,343**	**2,507**	**11,704**	**349**	**22,903**	**48.11%**

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, 2016/17

		% infants breastfed (total/partial) by time period (feeding status known)					
		Discharge	Primary visit (10-14 days old)	6 weeks	3 months	6 months	12 months
Age Group of mother	Under 20	21.1%	16.7%	9.2%	6.3%	4.0%	2.1%
	20 - 24	29.6%	23.2%	15.9%	11.9%	8.9%	5.2%
	25 - 29	41.0%	34.0%	26.5%	21.7%	17.5%	10.1%
	30 - 34	54.3%	45.3%	37.7%	31.8%	25.6%	15.5%
	35 - 39	56.2%	48.6%	40.6%	34.1%	27.9%	18.4%
	40 +	56.3%	49.6%	42.3%	36.2%	30.2%	18.6%
	Not known	0.0%	0.0%	50.0%	50.0%	0.0%	50.0%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
Multiple births	Single	47.3%	39.5%	32.2%	26.9%	21.7%	13.2%
	Multiple	35.0%	33.1%	21.1%	14.9%	8.3%	4.1%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
First time mothers	First time mother	50.2%	41.4%	32.5%	26.0%	20.4%	12.1%
	Not a first time mother	44.8%	38.0%	31.5%	26.7%	21.7%	13.5%
	Not known	48.7%	40.9%	33.5%	29.1%	25.9%	14.1%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
Ethnic group of infant (CHS)	White	45.6%	37.8%	30.4%	25.2%	20.2%	12.3%
	Asian	83.7%	83.5%	76.1%	67.2%	57.7%	35.2%
	Black	85.2%	87.6%	83.8%	74.8%	55.7%	32.4%
	Mixed	67.5%	62.2%	53.0%	46.6%	34.9%	25.6%
	Other	78.1%	73.9%	64.3%	51.9%	44.7%	28.9%
	Not stated / Blank	42.6%	37.6%	29.0%	21.8%	20.7%	12.5%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
Place of birth	Altnagelvin	36.2%	30.2%	22.1%	17.6%	14.2%	8.4%
	Antrim	43.6%	35.6%	27.1%	21.8%	18.0%	11.4%
	Causeway	45.3%	36.9%	28.1%	22.8%	16.3%	11.2%
	Craigavon	51.6%	41.8%	33.0%	26.8%	20.9%	13.9%
	Daisy Hill	46.0%	37.7%	28.8%	22.8%	21.2%	11.1%
	Downe	69.8%	54.7%	54.5%	42.3%	31.0%	32.1%
	Lagan Valley	58.6%	48.4%	38.0%	32.5%	32.1%	14.6%
	Mater	52.7%	42.9%	47.4%	44.2%	35.0%	20.6%
	Royal	43.6%	38.1%	34.8%	29.5%	22.7%	12.3%
	SWAH	51.1%	41.3%	31.2%	26.3%	22.8%	12.8%
	Ulster	54.0%	47.2%	38.4%	33.3%	27.6%	17.0%
	Home/Other	66.7%	64.3%	55.2%	58.8%	61.3%	43.3%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
Trust of residence of mother	Belfast	46.4%	41.1%	43.5%	39.2%	30.1%	16.6%
	Northern	45.8%	37.7%	28.6%	23.5%	18.7%	12.0%
	South Eastern	50.2%	42.2%	33.1%	27.6%	21.1%	13.8%
	Southern	50.0%	41.0%	32.0%	25.8%	21.5%	12.8%
	Western	41.3%	34.4%	25.0%	20.3%	17.0%	9.8%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**
Council area (2014)	Antrim and Newtownabbey	49.6%	41.7%	30.2%	25.9%	20.3%	12.8%
	Ards and North Down	52.8%	45.0%	34.6%	29.4%	22.1%	15.6%
	Armagh City, Banbridge and Craigavon	49.9%	41.1%	31.9%	26.1%	20.0%	13.5%
	Belfast	43.1%	37.4%	39.8%	35.4%	28.1%	15.2%
	Causeway Coast and Glens	41.5%	33.8%	25.8%	20.5%	15.9%	10.9%
	Derry City and Strabane	34.4%	28.9%	20.5%	16.3%	12.9%	7.7%
	Fermanagh and Omagh	51.7%	43.6%	32.1%	26.6%	22.6%	12.0%
	Lisburn and Castlereagh	57.2%	50.0%	40.9%	34.4%	28.2%	15.4%
	Mid and East Antrim	45.4%	38.7%	30.1%	25.0%	20.7%	13.9%
	Mid Ulster	49.2%	37.5%	30.1%	24.1%	19.8%	10.8%
	Newry, Mourne and Down	46.8%	39.1%	29.3%	23.5%	20.6%	11.7%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**

Table 10.4 continued: Prevalence of breastfeeding of live infants born to Northern Ireland residents, at various stages during first year of life, 2016/17

		% infants breastfed (total/partial) by time period (feeding status known)					
		Discharge	Primary visit (10-14 days old)	6 weeks	3 months	6 months	12 months
Deprivation 2017 quintile (SOA) based on residence of mother	Most deprived	31.5%	26.9%	22.1%	17.3%	13.2%	7.7%
	2	43.7%	35.6%	27.4%	22.5%	18.9%	10.8%
	3	46.8%	38.2%	29.5%	24.5%	19.6%	12.2%
	4	54.0%	45.0%	37.1%	30.9%	24.9%	15.5%
	Least deprived	64.1%	56.4%	46.7%	40.2%	32.3%	20.1%
	All infants	**46.9%**	**39.3%**	**31.9%**	**26.5%**	**21.3%**	**13.0%**

Source: Child Health System
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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

Table 10.5: Prevalence of breastfeeding of live infants born to Northern Ireland residents, at various stages during first year of life, by Sure Start area, 2016/17

Sure Start area	% infants breastfed (total/partial) by time period (where feeding status is known)					
	Discharge	Primary visit (10-14 days old)	6 weeks	3 months	6 months	12 months
Abbey	39.3%	32.1%	24.1%	19.1%	13.1%	9.5%
Antrim	36.6%	27.0%	21.9%	14.3%	13.4%	10.0%
Ards	45.7%	34.6%	26.7%	22.3%	15.2%	11.0%
ArKe	48.8%	37.4%	26.9%	19.5%	13.4%	16.7%
Ballymena	39.9%	30.4%	20.0%	15.9%	14.1%	7.4%
Bangor	37.5%	31.3%	20.0%	15.9%	13.7%	8.0%
Beechmount	19.8%	17.9%	15.7%	15.2%	11.9%	7.1%
Blossom	52.0%	43.7%	35.9%	27.0%	16.1%	5.4%
Cherish	47.4%	40.4%	32.4%	28.2%	21.9%	11.2%
Clan Mor	25.2%	16.8%	17.3%	14.5%	9.7%	3.4%
Clogher Valley	53.1%	42.5%	34.9%	30.8%	27.9%	11.3%
Coleraine	37.5%	29.3%	19.1%	13.4%	10.1%	6.1%
Colin	25.3%	18.6%	12.7%	10.2%	6.8%	4.5%
Dalriada	28.6%	25.4%	19.0%	17.0%	12.3%	9.6%
Downpatrick	43.9%	36.6%	27.9%	21.5%	15.2%	13.1%
Dungannon	62.2%	52.0%	43.2%	35.7%	31.0%	20.5%
Dungiven	33.9%	26.7%	19.9%	16.8%	8.6%	10.1%
East Belfast	39.0%	36.8%	32.3%	26.8%	21.8%	13.1%
Edenballymore	25.1%	20.9%	10.8%	7.8%	5.4%	4.4%
Glenbrook	25.1%	21.5%	53.3%	51.3%	22.4%	10.7%
Gold	44.6%	32.2%	23.7%	20.2%	14.6%	10.2%
Horizon	35.4%	31.3%	21.7%	19.0%	15.6%	12.8%
Kilkeel	38.2%	26.8%	23.2%	19.6%	20.5%	11.8%
LAST	49.2%	41.3%	26.4%	20.2%	18.4%	9.6%
Lisburn	33.9%	22.2%	12.3%	11.2%	4.2%	4.6%
Little Hands	26.4%	25.6%	16.2%	13.2%	11.8%	5.3%
Newry City	47.6%	39.8%	29.8%	24.2%	23.3%	10.9%
Outer West Belfast	36.2%	29.4%	22.2%	18.1%	14.4%	8.3%
Rainbow	41.9%	36.2%	21.5%	18.5%	19.0%	9.9%
Saol Ur	23.8%	16.9%	14.9%	13.8%	12.7%	6.5%
Shankill	22.5%	18.4%	24.4%	22.3%	12.9%	4.4%
Shantallow	31.8%	25.6%	19.3%	15.2%	8.4%	6.8%
Smile	31.4%	29.5%	78.3%	67.6%	34.6%	11.8%
South Armagh	39.8%	30.5%	21.7%	18.6%	16.5%	9.6%
South Belfast	50.8%	49.8%	44.1%	38.6%	32.0%	22.2%
Splash	32.6%	27.0%	19.0%	14.7%	12.5%	7.8%
Star	35.3%	32.8%	22.7%	15.9%	12.3%	10.3%
Strabane	30.2%	24.4%	15.5%	12.2%	10.0%	5.5%
Waterside	37.8%	33.8%	28.3%	19.8%	16.9%	9.2%
Children living in Sure Start areas	37.8%	31.1%	25.2%	20.5%	16.2%	9.4%
Children not living in Sure Start areas	52.9%	44.6%	36.0%	30.1%	24.3%	15.1%
All children	46.9%	39.3%	31.9%	26.5%	21.3%	13.0%

Source: Child Health System
Note that some percentages above are based on small numbers

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*"[77].

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*".

A child who is obese may have a greater risk of the following as they move into adulthood[78]:

- 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) states[79]: "The causes of obesity in childhood are multifaceted…….there is therefore no single intervention or policy approach that can be implemented to deal with the issue.

When implementing initiatives it is important to consider the multitude of stakeholders involved, including parents, children, businesses and civil society actors, in addition to government. It is also important to consider the social and cultural context of childhood obesity and, in particular, address the growing inequality in childhood obesity.

The report "*Taking action on childhood obesity*" published by the World Health Organisation in 2018[80] emphasises the need for coordinated approaches and a strong focus on interventions in pregnancy and early life.

Further reading:
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/

[77] World Health Organisation http://www.who.int/dietphysicalactivity/childhood/en/
[78] Royal College of Paediatrics and Child Health, https://www.rcpch.ac.uk/key-topics/nutrition-obesity/about-childhood-obesity
[79] As [74]
[80] "Taking action on childhood obesity", World Health Organisation, 2018 http://www.who.int/end-childhood-obesity/en/

Classification of Growth Measurements in Northern Ireland

In this report, in the past, growth measurements have been classified using the International Obesity Task Force Classification (IOTF) only. However, from 2017/18 onwards a further classification will be provided - the British 1990 (UK90) growth reference. In other countries of the UK, the British 1990 growth reference (UK90) is recommended for population monitoring and clinical assessment in children aged 4 years and over.

International Obesity Task Force (IOTF)
The IOTF thresholds are derived from BMI data from six large, nationally representative, cross-sectional surveys from Brazil, Great Britain, Hong Kong, the Netherlands, Singapore, and the United States. These samples include 192,727 children aged 0 to 25 years. Each data set has over 10,000 subjects, with age ranges covering at least the period from 6 to 18 years. Age and sex specific cut-off points are extrapolated from the adult BMI cut-offs of 25kg/m2 and 30kg/m2 for overweight and obesity respectively. Three grades of thinness are defined from equivalent adult BMIs of 16, 17 and 18.5.

British 1990 Growth Reference (UK90)
The UK90 BMI reference provides centile curves for BMI for British children from birth to 23 years. They are based on a sample of 32,222 measurements from 12 distinct surveys collected between 1978 and 1994. The sample was rebased to 1990 levels and the data were then used to express BMI as a centile based on the BMI distribution, adjusted for skewness, age and sex using Cole's LMS method (*'Growth monitoring with the British 1990 growth reference'. Cole Arch Dis Child.1997; 76: 47-49*.)
The BMI classification of each child is derived by calculating the child's BMI centile and assigning the BMI classification based on the following thresholds:

- Underweight is defined as a BMI centile less than or equal to the 2nd centile
- Healthy weight is defined as a BMI centile greater than the 2nd centile but less than the 85th centile
- Overweight is defined as a BMI centile greater than or equal to the 85th centile but less than the 95th centile (i.e. overweight but not obese)
- Obese is defined as a BMI centile greater than or equal to the 95th centile.

Further information on classifications:
National Obesity Observatory (PHE), "A simple guide to classifying body mass index in children", June 2011
https://khub.net/documents/31798783/32039025/A+simple+guide+to+classifying+body+mass+index+in+children/ced23256-6f8d-43c7-9f44-222e2beebf97?version=1.0

International Obesity Task Force Classification

Key Points

Primary 1

- Of those children measured in Primary 1 in 2017/18, 20.5% were considered overweight or obese, a slight decrease on the previous year (21.1%) *[Page 79].*
- In 2017/18, a higher proportion of girls were overweight/obese (24.3%) compared to boys (16.9%) *[Page 80].*
- The proportion of children overweight/obese by Council area ranges from 17.7% (Armagh, Banbridge and Craigavon LGD) to 24.9% (Antrim and Newtownabbey LGD) *[Page 80].*
- 23.4% of children living in the most deprived areas of Northern Ireland (NIMDM 2017) were measured as overweight/obese, compared to 17.9% of children from the least deprived areas *[Page 80].*

Year 8

- In 2017/18, just less than 28% of children in Year 8 were measured as overweight/obese, a decrease on the previous year *[Page 82].*
- At this age, there is little difference in the proportion overweight/obese between the two genders (27.4% male, 28.3% female) *[Page 83].*
- Based on the Trust of residence of the child, 28.9% of children in WHSCT were measured as overweight/obese, dropping to 26% in SEHSCT *[Page 83].*
- A larger proportion of children from more deprived areas in Northern Ireland (NIMDM 2017) were measured as overweight/obese (33.7%) in 2017/18, compared to those living in the least deprived areas (21.8%) *[Page 83].*

PRIMARY 1 (IOTF)

Table 11.1: BMI levels in Primary 1 children across Northern Ireland (IOTF), 2008/09 - 2017/18

	% Primary 1 children									
BMI category	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Number of children	**18,514**	**19,749**	**19,469**	**21,223**	**21,934**	**23,048**	**21,780**	**23,778**	**24,042**	**23,314**
Thinness grade 1 to 3	3.02%	3.24%	2.79%	3.54%	4.59%	3.44%	3.97%	3.69%	4.55%	4.51%
Normal	75.19%	75.12%	74.75%	75.30%	73.66%	74.81%	74.82%	74.42%	74.37%	74.95%
Overweight	16.72%	16.49%	17.04%	15.74%	16.51%	16.52%	15.71%	16.09%	15.59%	15.48%
Obese	5.07%	5.15%	5.42%	5.43%	5.24%	5.23%	5.50%	5.81%	5.49%	5.06%
% children overweight/obese	**21.79%**	**21.64%**	**22.46%**	**21.17%**	**21.75%**	**21.75%**	**21.21%**	**21.90%**	**21.08%**	**20.54%**

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 (IOTF), 2008/09 – 2017/18

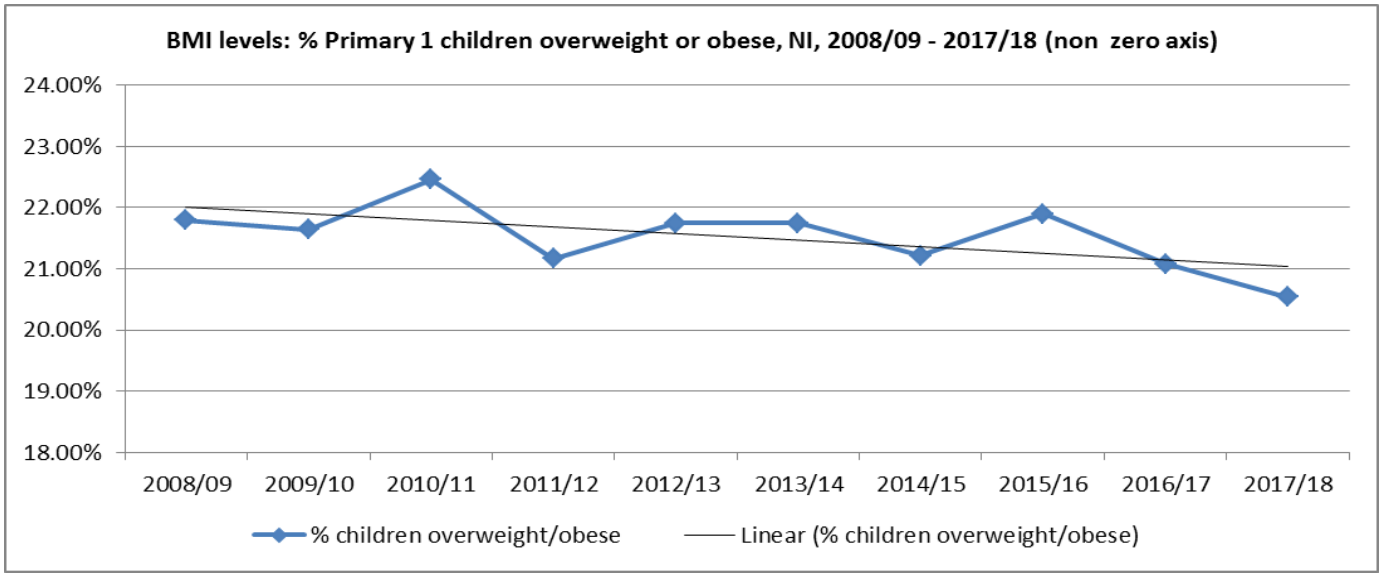


Table 11.2: BMI levels in Primary 1 children across Northern Ireland (IOTF), 2017/18

		No. of children by BMI category					% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	**Total**	
Gender	Male	608	9,222	1,507	491	**11,828**	16.89%
	Female	443	8,253	2,101	689	**11,486**	24.29%
	All persons	**1,051**	**17,475**	**3,608**	**1,180**	**23,314**	**20.54%**
Trust of residence of child	Belfast	189	3,042	640	235	**4,106**	21.31%
	Northern	233	4,251	989	301	**5,774**	22.34%
	South Eastern	175	3,411	642	194	**4,422**	18.91%
	Southern	284	4,032	729	214	**5,259**	17.93%
	Western	167	2,694	597	229	**3,687**	22.40%
	Not known	3	45	11	7	**66**	27.27%
	All persons	**1,051**	**17,475**	**3,608**	**1,180**	**23,314**	**20.54%**
Council area (2014)	Antrim and Newtownabbey	58	1,224	322	104	**1,708**	24.94%
	Ards and North Down	77	1,375	249	83	**1,784**	18.61%
	Armagh City, Banbridge and Craigavon	166	2,096	371	115	**2,748**	17.69%
	Belfast	181	2,997	628	234	**4,040**	21.34%
	Causeway Coast and Glens	74	1,223	293	83	**1,673**	22.47%
	Derry City and Strabane	72	1,370	292	121	**1,855**	22.26%
	Fermanagh and Omagh	87	1,032	213	88	**1,420**	21.20%
	Lisburn and Castlereagh	80	1,370	254	64	**1,768**	17.99%
	Mid and East Antrim	70	1,181	245	80	**1,576**	20.62%
	Mid Ulster	86	1,643	354	107	**2,190**	21.05%
	Newry, Mourne and Down	97	1,919	376	94	**2,486**	18.91%
	Not known	3	45	11	7	**66**	27.27%
	All persons	**1,051**	**17,475**	**3,608**	**1,180**	**23,314**	**20.54%**
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	204	3,515	815	323	**4,857**	23.43%
	2	233	3,622	759	255	**4,869**	20.83%
	3	225	3,778	760	239	**5,002**	19.97%
	4	210	3,535	725	208	**4,678**	19.94%
	Least deprived	176	2,980	538	148	**3,842**	17.86%
	Not known	3	45	11	7	**66**	27.27%
	All persons	**1,051**	**17,475**	**3,608**	**1,180**	**23,314**	**20.54%**

Source: Child Health System
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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 (IOTF), 2017/18

Sure Start area	Total children	% children by BMI category				% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	
Abbey	285	5.6%	71.2%	17.2%	6.0%	23.2%
Antrim	<100	1.3%	64.5%	22.4%	11.8%	34.2%
Ards	255	5.9%	77.3%	11.8%	5.1%	16.9%
ArKe	170	2.9%	74.7%	15.9%	6.5%	22.4%
Ballymena	204	4.9%	77.0%	11.8%	6.4%	18.1%
Bangor	107	2.8%	74.8%	18.7%	3.7%	22.4%
Beechmount	<100	4.1%	73.0%	13.5%	9.5%	23.0%
Blossom	252	11.1%	75.0%	11.5%	2.4%	13.9%
Cherish	250	8.8%	76.0%	12.0%	3.2%	15.2%
Clan Mor	112	7.1%	67.9%	15.2%	9.8%	25.0%
Clogher Valley	194	4.1%	80.9%	11.3%	3.6%	14.9%
Coleraine	188	4.3%	69.7%	17.6%	8.5%	26.1%
Colin	327	3.4%	74.0%	17.1%	5.5%	22.6%
Dalriada	196	6.1%	73.0%	15.3%	5.6%	20.9%
Downpatrick	333	4.2%	76.0%	15.0%	4.8%	19.8%
Dungannon	326	5.5%	73.0%	15.3%	6.1%	21.5%
Dungiven	214	0.9%	69.6%	24.3%	5.1%	29.4%
East Belfast	432	3.9%	73.6%	14.6%	7.9%	22.5%
Edenballymore	191	3.7%	72.8%	17.8%	5.8%	23.6%
Glenbrook	276	3.6%	71.7%	18.5%	6.2%	24.6%
Gold	261	4.2%	70.1%	22.6%	3.1%	25.7%
Horizon	172	2.9%	74.4%	18.6%	4.1%	22.7%
Kilkeel	<100	9.7%	85.5%	4.8%	0.0%	4.8%
LAST	237	5.1%	70.9%	16.9%	7.2%	24.1%
Lisburn	<100	3.0%	74.7%	16.2%	6.1%	22.2%
Little Hands	177	3.4%	76.8%	11.9%	7.9%	19.8%
Newry City	271	5.5%	74.5%	14.8%	5.2%	19.9%
Outer West Belfast	306	5.9%	73.9%	17.0%	3.3%	20.3%
Rainbow	144	6.9%	68.1%	16.7%	8.3%	25.0%
Saol Ur	231	2.2%	68.8%	21.6%	7.4%	29.0%
Shankill	385	2.6%	71.2%	19.5%	6.8%	26.2%
Shantallow	306	4.2%	71.9%	14.7%	9.2%	23.9%
Smile	219	5.0%	71.2%	16.9%	6.8%	23.7%
South Armagh	393	2.8%	77.9%	17.0%	2.3%	19.3%
South Belfast	281	3.9%	77.2%	15.3%	3.6%	18.9%
Splash	243	5.3%	76.5%	12.3%	5.8%	18.1%
Star	<100	4.5%	77.3%	16.7%	1.5%	18.2%
Strabane	269	4.1%	73.6%	14.9%	7.4%	22.3%
Waterside	206	3.4%	70.9%	19.9%	5.8%	25.7%
Children living in Sure Start areas	**8,790**	**4.5%**	**73.6%**	**16.2%**	**5.7%**	**21.8%**
Children not living in Sure Start areas	**14,458**	**4.5%**	**75.8%**	**15.1%**	**4.7%**	**19.7%**
Children - address not known	**66**	**4.5%**	**68.2%**	**16.7%**	**10.6%**	**27.3%**
All children	**23,314**	**4.5%**	**75.0%**	**15.5%**	**5.1%**	**20.5%**

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 (IOTF)

Table 11.4: BMI levels in Year 8 children across Northern Ireland (IOTF), 2010/11 - 2017/18

	% Year 8 children							
BMI category	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Number of children	**17,873**	**17,836**	**16,618**	**14,789**	**15,490**	**17,832**	**18,108**	**18,465**
Thinness grade 1 to 3	6.18%	6.36%	7.74%	6.05%	6.87%	6.16%	6.81%	6.64%
Normal	64.89%	64.98%	65.44%	64.56%	65.38%	65.41%	64.69%	65.50%
Overweight	21.53%	21.60%	20.00%	21.76%	20.61%	21.60%	21.35%	21.83%
Obese	7.41%	7.05%	6.82%	7.64%	7.14%	6.82%	7.15%	6.03%
% children overweight/obese	**28.94%**	**28.65%**	**26.82%**	**29.40%**	**27.75%**	**28.42%**	**28.50%**	**27.86%**

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 (IOTF), 2010/11 – 2017/18

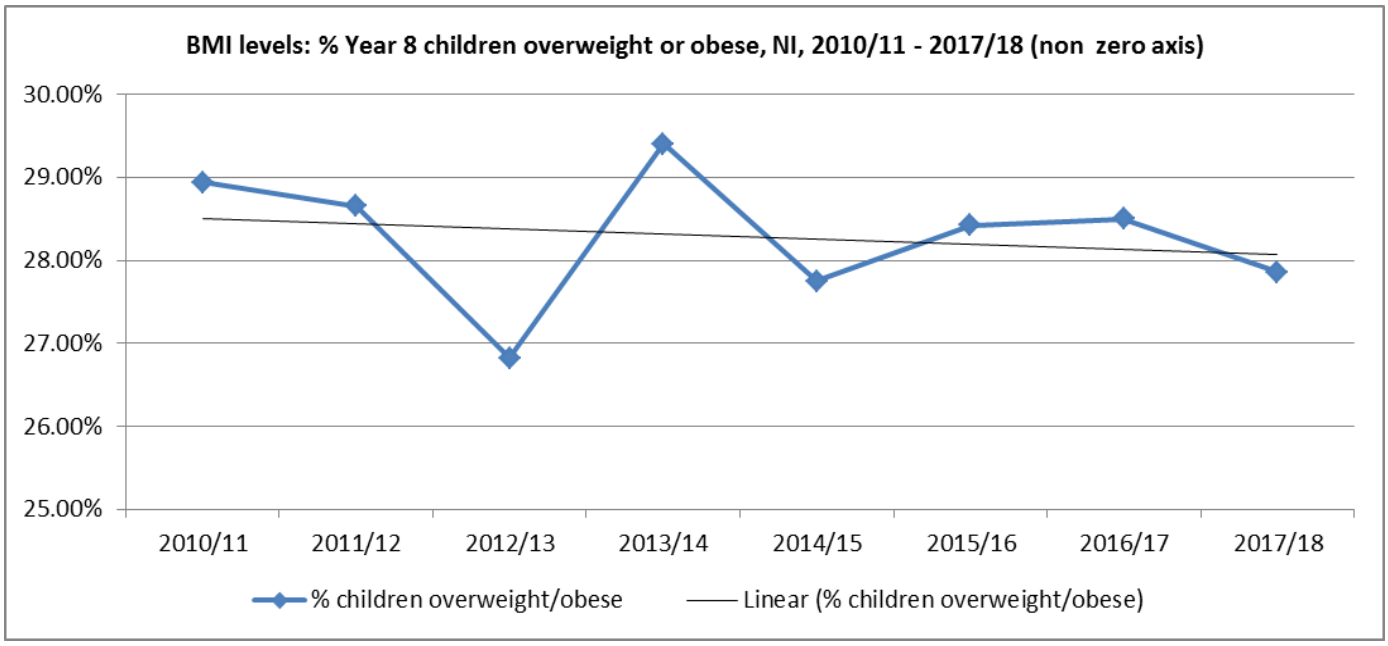


Table 11.5: BMI levels in Year 8 children across Northern Ireland (IOTF), 2017/18

		No. of children by BMI category					% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	**Total**	
Gender	Male	605	6,119	1,932	609	**9,265**	27.43%
	Female	621	5,975	2,099	505	**9,200**	28.30%
	All persons	**1,226**	**12,094**	**4,031**	**1,114**	**18,465**	**27.86%**
Trust of residence of child	Belfast	202	1,992	668	210	**3,072**	28.58%
	Northern	322	3,383	1,165	329	**5,199**	28.74%
	South Eastern	233	2,048	644	157	**3,082**	25.99%
	Southern	296	2,682	862	238	**4,078**	26.97%
	Western	165	1,929	675	174	**2,943**	28.85%
	Not known	8	60	17	6	**91**	25.27%
	All persons	**1,226**	**12,094**	**4,031**	**1,114**	**18,465**	**27.86%**
Council area (2014)	Antrim and Newtownabbey	76	1,037	319	95	**1,527**	27.11%
	Ards and North Down	107	907	281	61	**1,356**	25.22%
	Armagh City, Banbridge and Craigavon	176	1,478	432	134	**2,220**	25.50%
	Belfast	177	1,903	660	210	**2,950**	29.49%
	Causeway Coast and Glens	97	959	349	103	**1,508**	29.97%
	Derry City and Strabane	74	923	353	94	**1,444**	30.96%
	Fermanagh and Omagh	72	761	244	53	**1,130**	26.28%
	Lisburn and Castlereagh	115	864	248	69	**1,296**	24.46%
	Mid and East Antrim	102	961	359	92	**1,514**	29.79%
	Mid Ulster	103	1,086	386	114	**1,689**	29.60%
	Newry, Mourne and Down	119	1,155	383	83	**1,740**	26.78%
	Not known	8	60	17	6	**91**	25.27%
	All persons	**1,226**	**12,094**	**4,031**	**1,114**	**18,465**	**27.86%**
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	186	1,986	824	278	**3,274**	33.66%
	2	242	2,407	813	262	**3,724**	28.87%
	3	235	2,542	844	220	**3,841**	27.70%
	4	295	2,710	914	227	**4,146**	27.52%
	Least deprived	260	2,389	619	121	**3,389**	21.84%
	Not known	8	60	17	6	**91**	25.27%
	All persons	**1,226**	**12,094**	**4,031**	**1,114**	**18,465**	**27.86%**

Source: Child Health System
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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 (IOTF), 2017/18

Sure Start area	Total children	% children by BMI category				% children overweight or obese
		Thinness grade 1 to 3	Normal	Overweight	Obese	
Abbey	258	2.7%	68.2%	22.9%	6.2%	29.1%
Antrim	<100	5.9%	58.8%	29.4%	5.9%	35.3%
Ards	213	6.1%	63.8%	23.0%	7.0%	30.0%
ArKe	<100	11.4%	50.6%	29.1%	8.9%	38.0%
Ballymena	168	7.1%	67.9%	18.5%	6.5%	25.0%
Bangor	<100	3.6%	69.6%	23.2%	3.6%	26.8%
Beechmount	<100	1.9%	64.2%	24.5%	9.4%	34.0%
Blossom	175	8.0%	64.6%	20.6%	6.9%	27.4%
Cherish	219	7.3%	62.6%	24.7%	5.5%	30.1%
Clan Mor	<100	8.7%	59.4%	18.8%	13.0%	31.9%
Clogher Valley	127	4.7%	70.9%	18.9%	5.5%	24.4%
Coleraine	131	6.9%	55.7%	24.4%	13.0%	37.4%
Colin	221	5.0%	60.6%	28.1%	6.3%	34.4%
Dalriada	141	8.5%	60.3%	24.1%	7.1%	31.2%
Downpatrick	173	4.6%	57.8%	27.2%	10.4%	37.6%
Dungannon	237	5.9%	61.2%	24.5%	8.4%	32.9%
Dungiven	177	5.6%	68.4%	19.2%	6.8%	26.0%
East Belfast	266	7.9%	61.7%	22.6%	7.9%	30.5%
Edenballymore	131	3.1%	59.5%	29.0%	8.4%	37.4%
Glenbrook	216	4.6%	56.0%	29.6%	9.7%	39.4%
Gold	210	7.1%	63.8%	22.9%	6.2%	29.0%
Horizon	120	8.3%	53.3%	30.0%	8.3%	38.3%
Kilkeel	<100	9.7%	74.2%	12.9%	3.2%	16.1%
LAST	148	6.1%	65.5%	21.6%	6.8%	28.4%
Lisburn	<100	1.6%	73.4%	23.4%	1.6%	25.0%
Little Hands	124	4.8%	57.3%	29.0%	8.9%	37.9%
Newry City	186	6.5%	66.1%	22.0%	5.4%	27.4%
Outer West Belfast	202	5.0%	64.4%	21.3%	9.4%	30.7%
Rainbow	118	5.1%	61.0%	25.4%	8.5%	33.9%
Saol Ur	159	3.8%	57.2%	30.2%	8.8%	39.0%
Shankill	276	4.7%	56.9%	26.8%	11.6%	38.4%
Shantallow	223	4.5%	61.4%	27.4%	6.7%	34.1%
Smile	162	4.9%	60.5%	24.1%	10.5%	34.6%
South Armagh	298	4.7%	66.1%	23.2%	6.0%	29.2%
South Belfast	194	10.3%	61.3%	23.7%	4.6%	28.4%
Splash	226	6.6%	62.4%	24.8%	6.2%	31.0%
Star	<100	14.3%	69.0%	9.5%	7.1%	16.7%
Strabane	244	3.7%	64.8%	23.4%	8.2%	31.6%
Waterside	161	5.0%	60.2%	28.6%	6.2%	34.8%
Children living in Sure Start areas	**6,349**	**5.8%**	**62.3%**	**24.3%**	**7.6%**	**31.9%**
Children not living in Sure Start areas	**12,025**	**7.1%**	**67.2%**	**20.5%**	**5.2%**	**25.8%**
Children - address not known	**91**	**8.8%**	**65.9%**	**18.7%**	**6.6%**	**25.3%**
All children	**18,465**	**6.6%**	**65.5%**	**21.8%**	**6.0%**	**27.9%**

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

British 1990 Growth Reference (UK90) Classification

Key Points

Primary 1

- Based on the UK90 classification, in 2017/18, 24.6% of children in Northern Ireland measured in Primary 1 were considered overweight or obese. This compares to 22.4% in England and 22.4% in Scotland (Wales figure for 2017/18 was not available, equivalent figure for 2016/17 = 27.1%) *[Page 86].*

- Of those children measured in Primary 1 across NI in 2017/18, 10.7% were considered obese. This figure has fluctuated only slightly over the last ten years *[Page 86].*

- There was little difference between the genders in those children measured during 2017/18 (males = 24.2%, females = 25.0%) *[Page 87].*

- Based on this classification, over a quarter of children in WHSCT were considered overweight/obese (26.7%). SHSCT had the lowest proportion at 22.1% *[Page 87].*

- The proportion of children overweight/obese by Council area ranged from 21.4% (Lisburn and Castlereagh LGD) to 29.6% (Antrim and Newtownabbey LGD) *[Page 87].*

- Levels of overweight/obesity decreased as deprivation level decreased. 27.7% of children living in the most deprived areas of Northern Ireland (NIMDM 2017) were measured as overweight/obese, compared to 21.8% of children from the least deprived areas *[Page 87].*

Year 8

- In 2017/18, more than 1 in 3 children in Year 8 were measured as overweight/obese (35.6%), a slight increase on the previous year (35.0%) *[Page 89].*

- At this age, more males than females were considered overweight/obese (37.5% male, 33.7% female) *[Page 90].*

- Based on the Trust of residence of the child, 37.3% of children in WHSCT were measured as overweight/obese, dropping to 34.0% in SEHSCT *[Page 90].*

- There was a clear difference in levels of overweight/obesity between children living in the most and least deprived areas of NI. 41.1% of children from more deprived areas in Northern Ireland (NIMDM 2017) were measured as overweight/obese in 2017/18, compared to 29.6% of those living in the least deprived areas *[Page 90].*

PRIMARY 1 (UK90)

Table 11.7: Levels of obesity in Primary 1/Reception aged children, by UK country (UK90), 2012/13 - 2017/18

Country	Year measured (school year)	Number measured (with a valid height and weight)	% children in each BMI category (UK90)				
			Underweight	Healthy	Overweight	Obese	Overweight and obese
Northern Ireland	2012/13	21,934	0.5%	73.7%	15.0%	10.8%	25.8%
	2013/14	23,048	0.5%	73.5%	15.4%	10.7%	26.1%
	2014/15	21,780	0.6%	74.2%	14.3%	10.8%	25.1%
	2015/16	23,778	0.5%	73.5%	14.7%	11.2%	25.9%
	2016/17	24,042	0.7%	74.1%	14.5%	10.7%	25.2%
	2017/18	23,314	0.8%	74.6%	14.0%	10.7%	24.6%
England	2012/13	587,678	0.9%	76.9%	13.0%	9.3%	22.2%
	2013/14	587,336	0.9%	76.5%	13.1%	9.5%	22.5%
	2014/15	610,636	1.0%	77.2%	12.8%	9.1%	21.9%
	2015/16	625,326	1.0%	76.9%	12.8%	9.3%	22.1%
	2016/17	629,359	1.0%	76.4%	13.0%	9.6%	22.6%
	2017/18	610,435	1.0%	76.6%	12.8%	9.5%	22.4%
Scotland	2012/13	54,423	1.2%	77.6%	12.0%	9.3%	21.3%
	2013/14	55,003	1.0%	76.4%	12.5%	10.1%	22.6%
	2014/15	54,955	1.1%	77.1%	12.0%	9.8%	21.8%
	2015/16	53,720	1.1%	76.8%	12.2%	9.9%	22.1%
	2016/17	52,531	1.0%	76.2%	12.4%	10.4%	22.8%
	2017/18	52,534	1.1%	76.5%	12.3%	10.1%	22.4%
Wales	2012/13	29,238	0.6%	73.2%	14.9%	11.3%	26.2%
	2013/14	30,669	0.8%	72.7%	14.6%	11.8%	26.4%
	2014/15	32,889	0.9%	72.9%	14.5%	11.6%	26.1%
	2015/16	33,327	1.0%	72.9%	14.5%	11.7%	26.2%
	2016/17	33,226	0.8%	72.2%	14.7%	12.4%	27.1%
	2017/18	Not available					

Source:
Northern Ireland: Child Health System (Health Trusts)
Figures above are categorised using British 1990 (UK90) Growth Reference thresholds
England: National Child Measurement Programme, NHS Digital/Public Health England https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme
Scotland: Information Services Division, National Services Scotland (NHS Scotland) http://www.isdscotland.org/Health-Topics/Child-Health/Child-Weight-and-Growth/
Wales: Child Measurement Programme for Wales, Public Health Wales www.publichealthwales.org/childmeasurement

Table 11.8: BMI levels in Primary 1 children across Northern Ireland (UK90), 2008/09 - 2017/18

	% Primary 1 children									
BMI category	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Number of children	**18,514**	**19,749**	**19,469**	**21,223**	**21,934**	**23,048**	**21,780**	**23,778**	**24,042**	**23,314**
Underweight	0.4%	0.5%	0.4%	0.5%	0.5%	0.5%	0.6%	0.5%	0.7%	0.8%
Healthy	73.6%	73.8%	72.8%	74.2%	73.7%	73.5%	74.2%	73.5%	74.1%	74.6%
Overweight	15.2%	15.1%	15.4%	14.5%	15.0%	15.4%	14.3%	14.7%	14.5%	14.0%
Obese	10.8%	10.7%	11.5%	10.7%	10.8%	10.7%	10.8%	11.2%	10.7%	10.7%
% children overweight/obese	**25.95%**	**25.77%**	**26.86%**	**25.27%**	**25.77%**	**26.07%**	**25.15%**	**25.94%**	**25.19%**	**24.64%**

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 British 1990 (UK90) Growth Reference thresholds
Note that in any year all children may not be measured and so coverage may not be complete

Figure 11.3: % Primary 1 children overweight or obese, Northern Ireland (UK90), 2008/09 – 2017/18

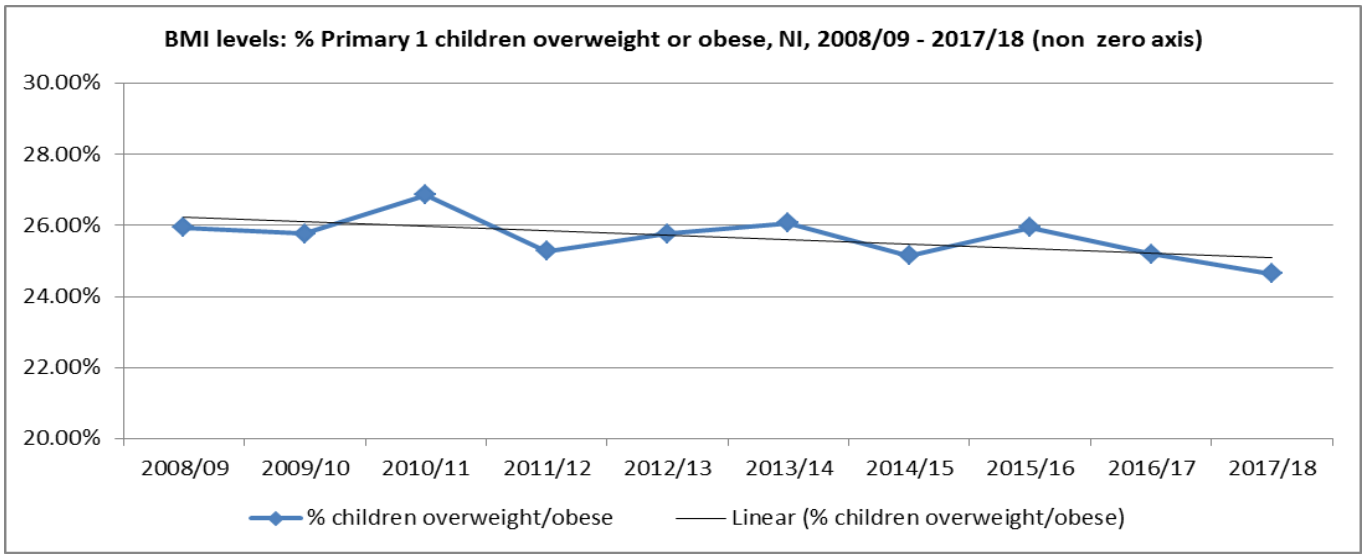


Table 11.9: BMI levels in Primary 1 children across Northern Ireland (UK90), 2017/18

		No. of children by BMI category					% children overweight or obese
		Underweight	Healthy	Overweight	Obese	**Total**	
Gender	Male	61	8,641	1,591	1,193	**11,486**	24.24%
	Female	114	8,752	1,662	1,300	**11,828**	25.04%
	All persons	**175**	**17,393**	**3,253**	**2,493**	**23,314**	**24.65%**
Trust of residence of child	Belfast	34	3,035	573	464	**4,106**	25.26%
	Northern	30	4,227	855	662	**5,774**	26.27%
	South Eastern	29	3,371	598	424	**4,422**	23.11%
	Southern	54	4,042	677	486	**5,259**	22.11%
	Western	28	2,673	538	448	**3,687**	26.74%
	Not known	0	45	12	9	**66**	31.82%
	All persons	**175**	**17,393**	**3,253**	**2,493**	**23,314**	**24.65%**
Council area (2014)	Antrim and Newtownabbey	4	1,199	274	231	**1,708**	29.57%
	Ards and North Down	9	1,368	225	182	**1,784**	22.81%
	Armagh City, Banbridge and Craigavon	33	2,113	342	260	**2,748**	21.91%
	Belfast	33	2,973	571	463	**4,040**	25.59%
	Causeway Coast and Glens	14	1,227	245	187	**1,673**	25.82%
	Derry City and Strabane	8	1,351	270	226	**1,855**	26.74%
	Fermanagh and Omagh	19	1,043	193	165	**1,420**	25.21%
	Lisburn and Castlereagh	16	1,373	235	144	**1,768**	21.44%
	Mid and East Antrim	8	1,184	218	166	**1,576**	24.37%
	Mid Ulster	18	1,618	321	233	**2,190**	25.30%
	Newry, Mourne and Down	13	1,899	347	227	**2,486**	23.09%
	Not known	0	45	12	9	**66**	31.82%
	All persons	**175**	**17,393**	**3,253**	**2,493**	**23,314**	**24.65%**
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	39	3,474	719	625	**4,857**	27.67%
	2	29	3,638	657	545	**4,869**	24.69%
	3	42	3,742	700	518	**5,002**	24.35%
	4	33	3,523	653	469	**4,678**	23.98%
	Least deprived	32	2,971	512	327	**3,842**	21.84%
	Not known	0	45	12	9	**66**	31.82%
	All persons	**175**	**17,393**	**3,253**	**2,493**	**23,314**	**24.65%**

Source: Child Health System
NI Statistics and Research Agency, NI Multiple Deprivation Measure 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 British 1990 (UK90) Growth Reference thresholds
Note that in any year all children may not be measured and so coverage may not be complete

Table 11.10: BMI levels in Primary 1 children across Northern Ireland, by Sure Start area (UK90), 2017/18

Sure Start area	Total children	% children by BMI category				% children overweight or obese
		Underweight	Healthy	Overweight	Obese	
Abbey	285	0.7%	72.6%	15.1%	11.6%	26.7%
Antrim	<100	0.0%	64.5%	11.8%	23.7%	35.5%
Ards	255	0.8%	79.2%	8.6%	11.4%	20.0%
ArKe	170	0.0%	71.2%	16.5%	12.4%	28.8%
Ballymena	204	0.0%	77.9%	10.8%	11.3%	22.1%
Bangor	107	0.9%	72.9%	15.0%	11.2%	26.2%
Beechmount	<100	0.0%	73.0%	13.5%	13.5%	27.0%
Blossom	252	2.0%	82.1%	7.5%	8.3%	15.9%
Cherish	250	2.8%	79.2%	10.8%	7.2%	18.0%
Clan Mor	112	0.9%	68.8%	14.3%	16.1%	30.4%
Clogher Valley	194	1.0%	83.5%	8.2%	7.2%	15.5%
Coleraine	188	1.1%	70.2%	13.8%	14.9%	28.7%
Colin	327	0.6%	70.9%	15.9%	12.5%	28.4%
Dalriada	196	1.0%	75.0%	14.3%	9.7%	24.0%
Downpatrick	333	0.6%	75.4%	14.1%	9.9%	24.0%
Dungannon	326	1.8%	71.8%	15.6%	10.7%	26.4%
Dungiven	214	0.0%	66.4%	18.2%	15.4%	33.6%
East Belfast	432	0.9%	73.8%	12.7%	12.5%	25.2%
Edenballymore	191	0.0%	72.3%	18.8%	8.9%	27.7%
Glenbrook	276	0.7%	70.3%	16.7%	12.3%	29.0%
Gold	261	0.0%	71.3%	18.8%	10.0%	28.7%
Horizon	172	0.0%	72.1%	15.7%	12.2%	27.9%
Kilkeel	<100	1.6%	87.1%	9.7%	1.6%	11.3%
LAST	237	0.8%	72.2%	15.2%	11.8%	27.0%
Lisburn	<100	0.0%	76.8%	13.1%	10.1%	23.2%
Little Hands	177	0.0%	76.8%	10.2%	13.0%	23.2%
Newry City	271	0.7%	75.6%	13.3%	10.3%	23.6%
Outer West Belfast	306	1.3%	74.8%	14.1%	9.8%	23.9%
Rainbow	144	0.0%	70.1%	16.0%	13.9%	29.9%
Saol Ur	231	0.4%	65.8%	19.0%	14.7%	33.8%
Shankill	385	0.0%	69.9%	14.8%	15.3%	30.1%
Shantallow	306	0.7%	70.9%	13.7%	14.7%	28.4%
Smile	219	0.5%	69.9%	15.5%	14.2%	29.7%
South Armagh	393	0.5%	75.1%	17.3%	7.1%	24.4%
South Belfast	281	0.7%	76.9%	10.0%	12.5%	22.4%
Splash	243	1.2%	75.7%	11.9%	11.1%	23.0%
Star	<100	1.5%	75.8%	18.2%	4.5%	22.7%
Strabane	269	1.1%	73.2%	11.2%	14.5%	25.7%
Waterside	206	0.5%	69.9%	16.0%	13.6%	29.6%
Children living in Sure Start areas	**8,790**	**0.7%**	**73.5%**	**14.1%**	**11.7%**	**25.7%**
Children not living in Sure Start areas	**14,458**	**0.8%**	**75.3%**	**13.9%**	**10.1%**	**23.9%**
Children - address not known	**66**	**0.0%**	**68.2%**	**18.2%**	**13.6%**	**31.8%**
All children	**23,314**	**0.8%**	**74.6%**	**14.0%**	**10.7%**	**24.6%**

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 British 1990 (UK90) Growth Reference thresholds
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 (UK90)

Table 11.11: BMI levels in Year 8 children across Northern Ireland (UK90), 2010/11 - 2017/18

	% Year 8 children							
BMI category	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Number of children	**17,873**	**17,836**	**16,618**	**14,789**	**15,490**	**17,832**	**18,108**	**18,465**
Underweight	1.1%	1.3%	1.3%	1.1%	1.5%	1.2%	1.6%	1.5%
Healthy	63.2%	62.8%	63.3%	62.9%	64.2%	63.6%	63.4%	62.9%
Overweight	15.2%	15.7%	15.4%	15.0%	15.5%	15.3%	14.9%	15.2%
Obese	20.6%	20.3%	20.1%	20.9%	18.8%	19.9%	20.2%	20.5%
% children overweight/obese	**35.72%**	**35.97%**	**35.46%**	**35.93%**	**34.32%**	**35.16%**	**35.05%**	**35.64%**

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 British 1990 (UK90) Growth Reference thresholds
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 11.4: % Year 8 children overweight or obese, Northern Ireland (UK90), 2010/11 – 2017/18

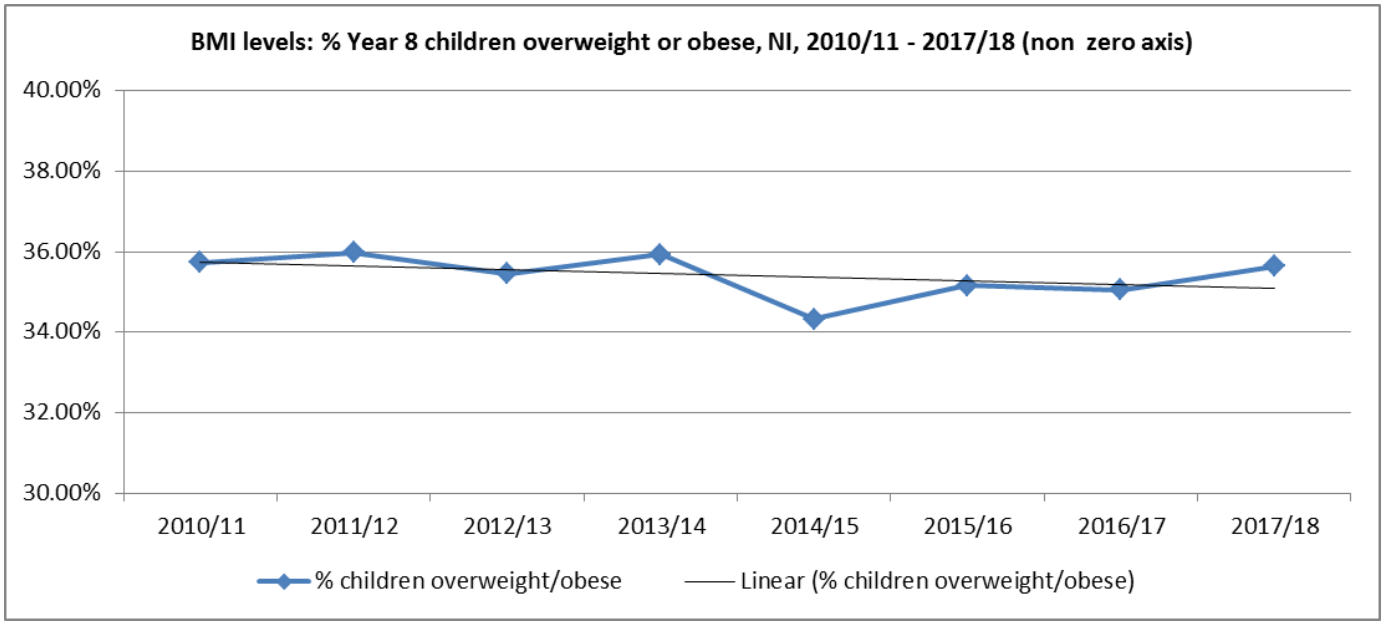


Table 11.12: BMI levels in Year 8 children across Northern Ireland (UK90), 2017/18

		No. of children by BMI category					% children overweight or obese
		Underweight	Healthy	Overweight	Obese	**Total**	
Gender	Male	124	5664	1377	2100	**9,265**	37.53%
	Female	147	5949	1424	1680	**9,200**	33.74%
	All persons	**271**	**11,613**	**2,801**	**3,780**	**18,465**	**35.64%**
Trust of residence of child	Belfast	36	1928	463	645	**3,072**	36.07%
	Northern	77	3231	786	1105	**5,199**	36.37%
	South Eastern	43	1992	446	601	**3,082**	33.97%
	Southern	68	2599	618	793	**4,078**	34.60%
	Western	45	1801	477	620	**2,943**	37.27%
	Not known	2	62	11	16	**91**	29.67%
	All persons	**271**	**11,613**	**2,801**	**3,780**	**18,465**	**35.64%**
Council area (2014)	Antrim and Newtownabbey	23	976	223	305	**1,527**	34.58%
	Ards and North Down	14	896	183	263	**1,356**	32.89%
	Armagh City, Banbridge and Craigavon	44	1444	326	406	**2,220**	32.97%
	Belfast	33	1823	454	640	**2,950**	37.08%
	Causeway Coast and Glens	22	921	229	336	**1,508**	37.47%
	Derry City and Strabane	19	861	229	335	**1,444**	39.06%
	Fermanagh and Omagh	19	718	187	206	**1,130**	34.78%
	Lisburn and Castlereagh	24	852	184	236	**1,296**	32.41%
	Mid and East Antrim	25	915	239	335	**1,514**	37.91%
	Mid Ulster	19	1036	270	364	**1,689**	37.54%
	Newry, Mourne and Down	27	1109	266	338	**1,740**	34.71%
	Not known	2	62	11	16	**91**	29.67%
	All persons	**271**	**11,613**	**2,801**	**3,780**	**18,465**	**35.64%**
Deprivation 2017 quintile (SOA) based on residence of child	Most deprived	37	1892	518	827	**3,274**	41.08%
	2	61	2300	553	810	**3,724**	36.60%
	3	54	2408	595	784	**3,841**	35.90%
	4	65	2618	641	822	**4,146**	35.29%
	Least deprived	52	2333	483	521	**3,389**	29.63%
	Not known	2	62	11	16	**91**	29.67%
	All persons	**271**	**11,613**	**2,801**	**3,780**	**18,465**	**35.64%**

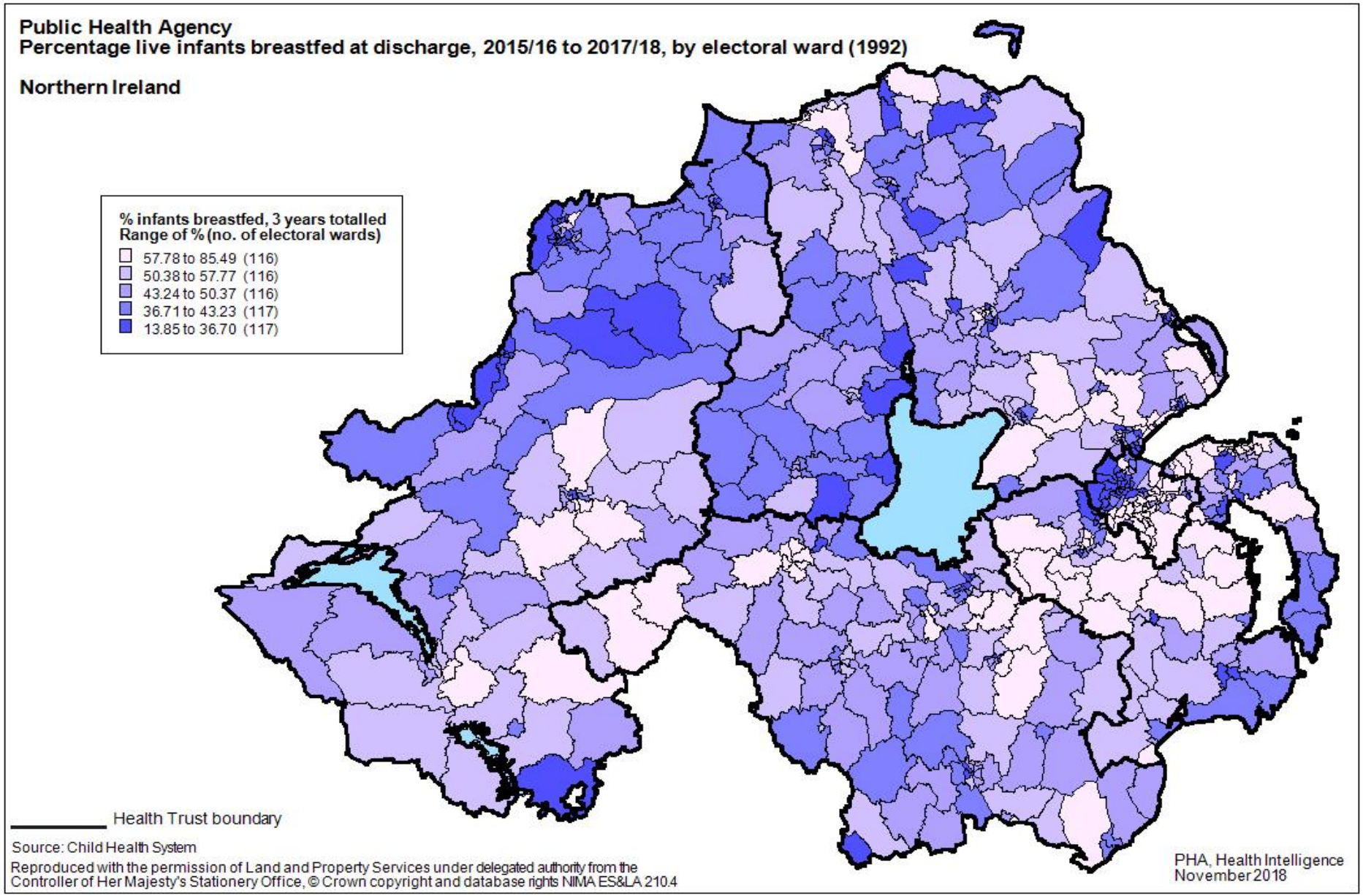
Source: Child Health System
NI Statistics and Research Agency, NI Multiple Deprivation Measure 2017 https://www.nisra.gov.uk/news/nisra-releases-updated-deprivation-measures-northern-ireland
Year refers to school year
Children measured are typically between 11½ and 12½ years of age
Figures above are categorised using British 1990 (UK90) Growth Reference thresholds
Note that in any year all children may not be measured and so coverage may not be complete

Table 11.13: BMI levels in Year 8 children across Northern Ireland, by Sure Start area (UK90), 2017/18

Sure Start area	Total children	% children by BMI category				% children overweight or obese
		Underweight	Healthy	Overweight	Obese	
Abbey	258	1.6%	62.0%	15.9%	20.5%	36.4%
Antrim	<100	2.0%	60.8%	13.7%	23.5%	37.3%
Ards	213	0.0%	62.9%	13.1%	23.9%	37.1%
ArKe	<100	2.5%	50.6%	20.3%	26.6%	46.8%
Ballymena	168	3.6%	63.7%	13.7%	19.0%	32.7%
Bangor	<100	1.8%	67.9%	8.9%	21.4%	30.4%
Beechmount	<100	0.0%	52.8%	18.9%	28.3%	47.2%
Blossom	175	0.6%	63.4%	14.9%	21.1%	36.0%
Cherish	219	1.4%	59.8%	19.6%	19.2%	38.8%
Clan Mor	<100	1.4%	59.4%	11.6%	27.5%	39.1%
Clogher Valley	127	1.6%	66.9%	13.4%	18.1%	31.5%
Coleraine	131	0.8%	55.7%	10.7%	32.8%	43.5%
Colin	221	1.4%	52.9%	21.7%	24.0%	45.7%
Dalriada	141	0.0%	63.1%	16.3%	20.6%	36.9%
Downpatrick	173	1.2%	54.3%	14.5%	30.1%	44.5%
Dungannon	237	0.8%	58.6%	16.9%	23.6%	40.5%
Dungiven	177	1.7%	62.7%	17.5%	18.1%	35.6%
East Belfast	266	1.1%	62.0%	14.7%	22.2%	36.8%
Edenballymore	131	0.8%	56.5%	16.8%	26.0%	42.7%
Glenbrook	216	0.5%	53.7%	17.1%	28.7%	45.8%
Gold	210	1.4%	62.4%	12.4%	23.8%	36.2%
Horizon	120	0.8%	50.8%	20.8%	27.5%	48.3%
Kilkeel	<100	3.2%	71.0%	9.7%	16.1%	25.8%
LAST	148	1.4%	64.2%	16.2%	18.2%	34.5%
Lisburn	<100	0.0%	65.6%	10.9%	23.4%	34.4%
Little Hands	124	1.6%	52.4%	15.3%	30.6%	46.0%
Newry City	186	1.6%	62.9%	11.8%	23.7%	35.5%
Outer West Belfast	202	0.5%	62.4%	15.8%	21.3%	37.1%
Rainbow	118	0.0%	56.8%	18.6%	24.6%	43.2%
Saol Ur	159	0.0%	54.1%	17.0%	28.9%	45.9%
Shankill	276	1.4%	53.6%	13.8%	31.2%	44.9%
Shantallow	223	0.9%	54.7%	19.3%	25.1%	44.4%
Smile	162	1.9%	54.9%	15.4%	27.8%	43.2%
South Armagh	298	1.0%	61.7%	15.4%	21.8%	37.2%
South Belfast	194	1.5%	63.4%	16.5%	18.6%	35.1%
Splash	226	1.3%	62.4%	11.9%	24.3%	36.3%
Star	<100	4.8%	73.8%	9.5%	11.9%	21.4%
Strabane	244	1.6%	57.8%	17.2%	23.4%	40.6%
Waterside	161	0.6%	60.9%	12.4%	26.1%	38.5%
Children living in Sure Start areas	**6,349**	**1.2%**	**59.4%**	**15.5%**	**23.8%**	**39.4%**
Children not living in Sure Start areas	**12,025**	**1.6%**	**64.7%**	**15.0%**	**18.7%**	**33.7%**
Children - address not known	**91**	**2.2%**	**68.1%**	**12.1%**	**17.6%**	**29.7%**
All children	**18,465**	**1.5%**	**62.9%**	**15.2%**	**20.5%**	**35.6%**

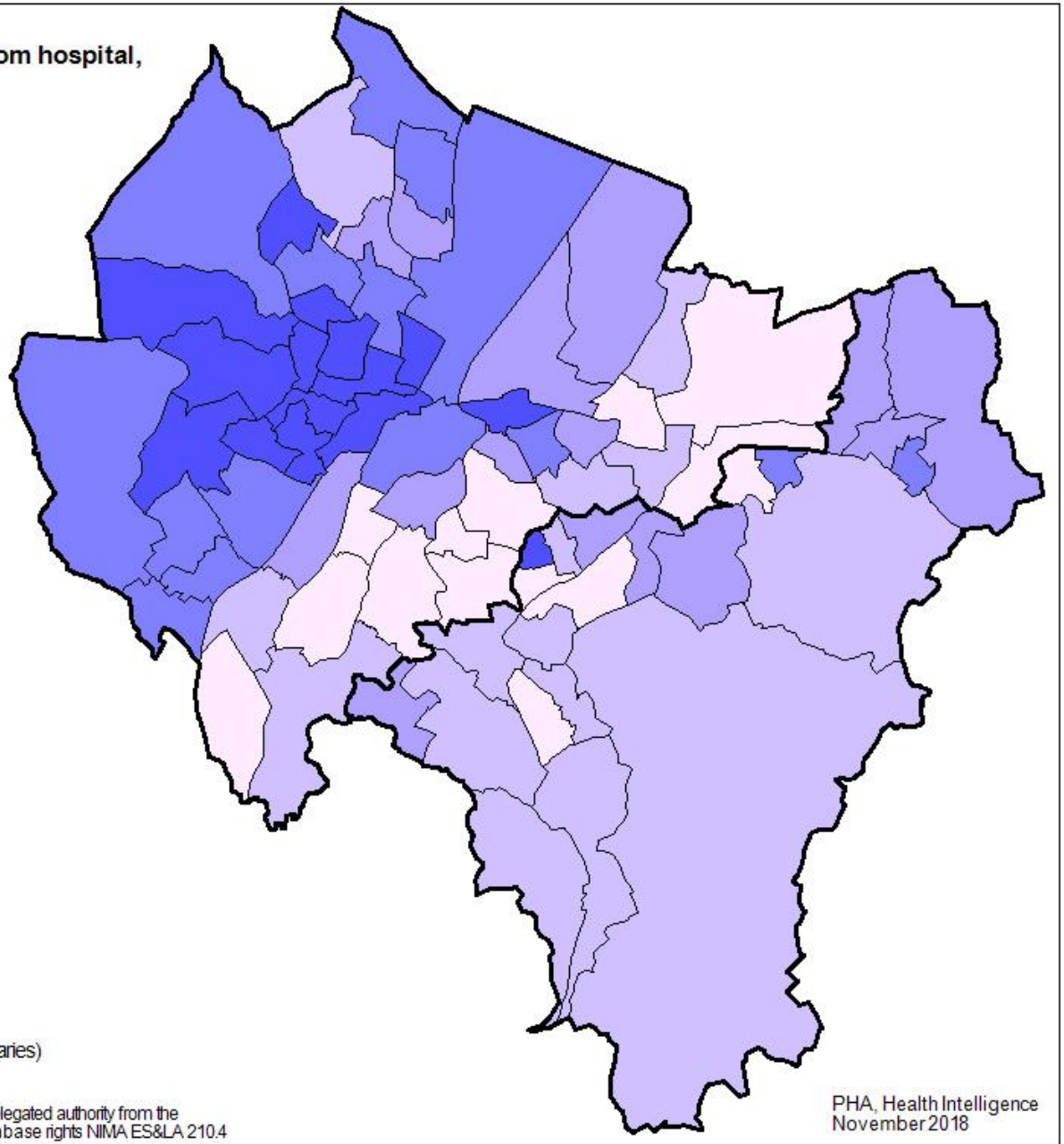
Source: Child Health System
Year refers to school year
Children measured are typically between 11½ and 12½ years of age
Figures above are categorised using British 1990 (UK90) Growth Reference thresholds
Figures above exclude children whose area of residence is not known
Note that in any year all children 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 live infants breastfed at discharge from hospital, 2015/16 to 2017/18, by electoral ward (1992)

Belfast Health and Social Care Trust



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

- 67.44 to 85.49 (14)
- 58.79 to 67.43 (15)
- 40.38 to 58.78 (15)
- 29.44 to 40.37 (15)
- 13.85 to 29.43 (15)

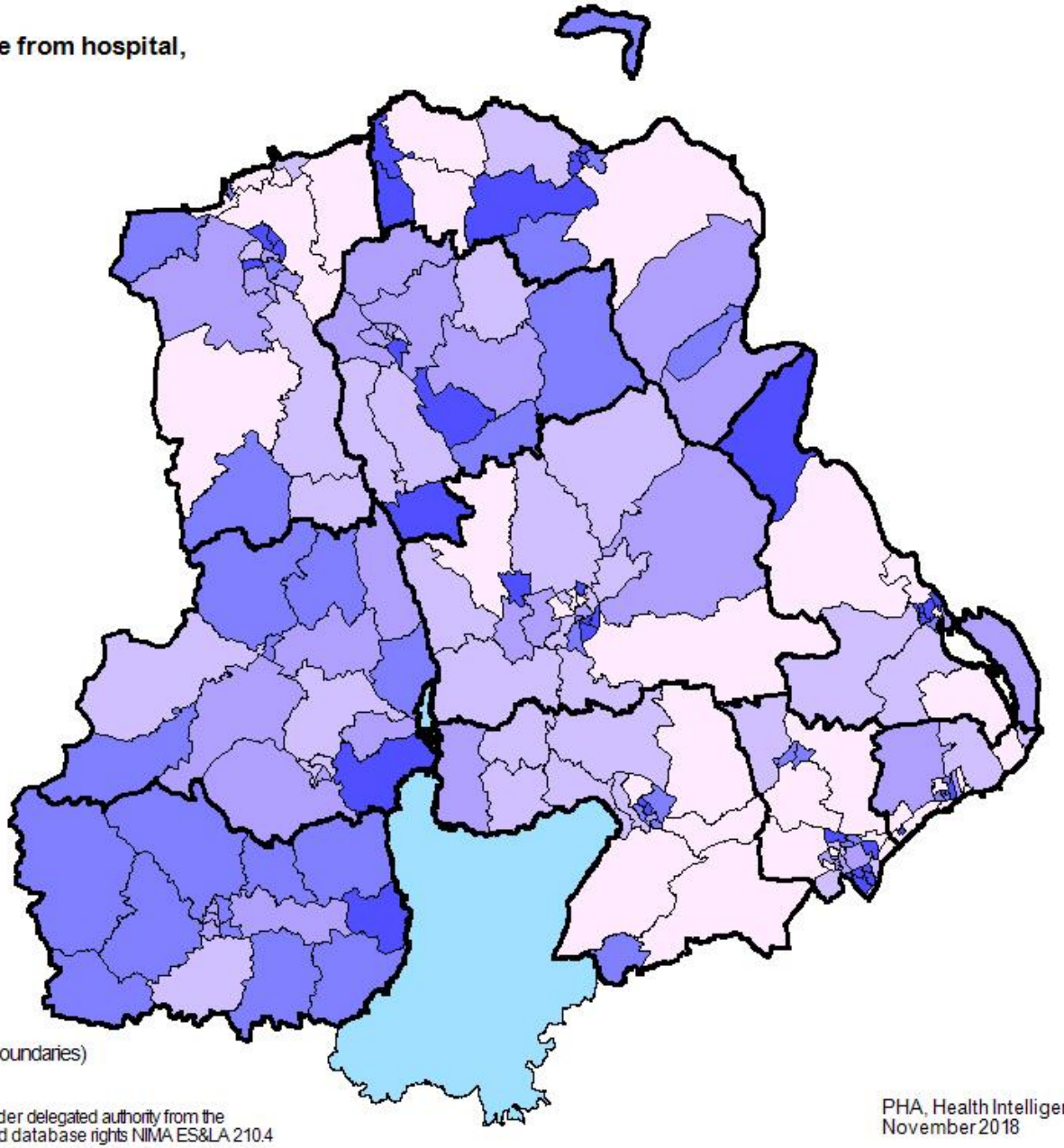
Local Government District boundary (1992 boundaries)

Source: Child Health System

PHA, Health Intelligence
November 2018

Public Health Agency
Percentage live infants breastfed at discharge from hospital, 2015/16 to 2017/18, by electoral ward (1992)

Northern Health and Social Care Trust



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

- 55.81 to 73.77 (37)
- 47.22 to 55.80 (37)
- 41.59 to 47.21 (37)
- 35.24 to 41.58 (37)
- 17.28 to 35.23 (37)

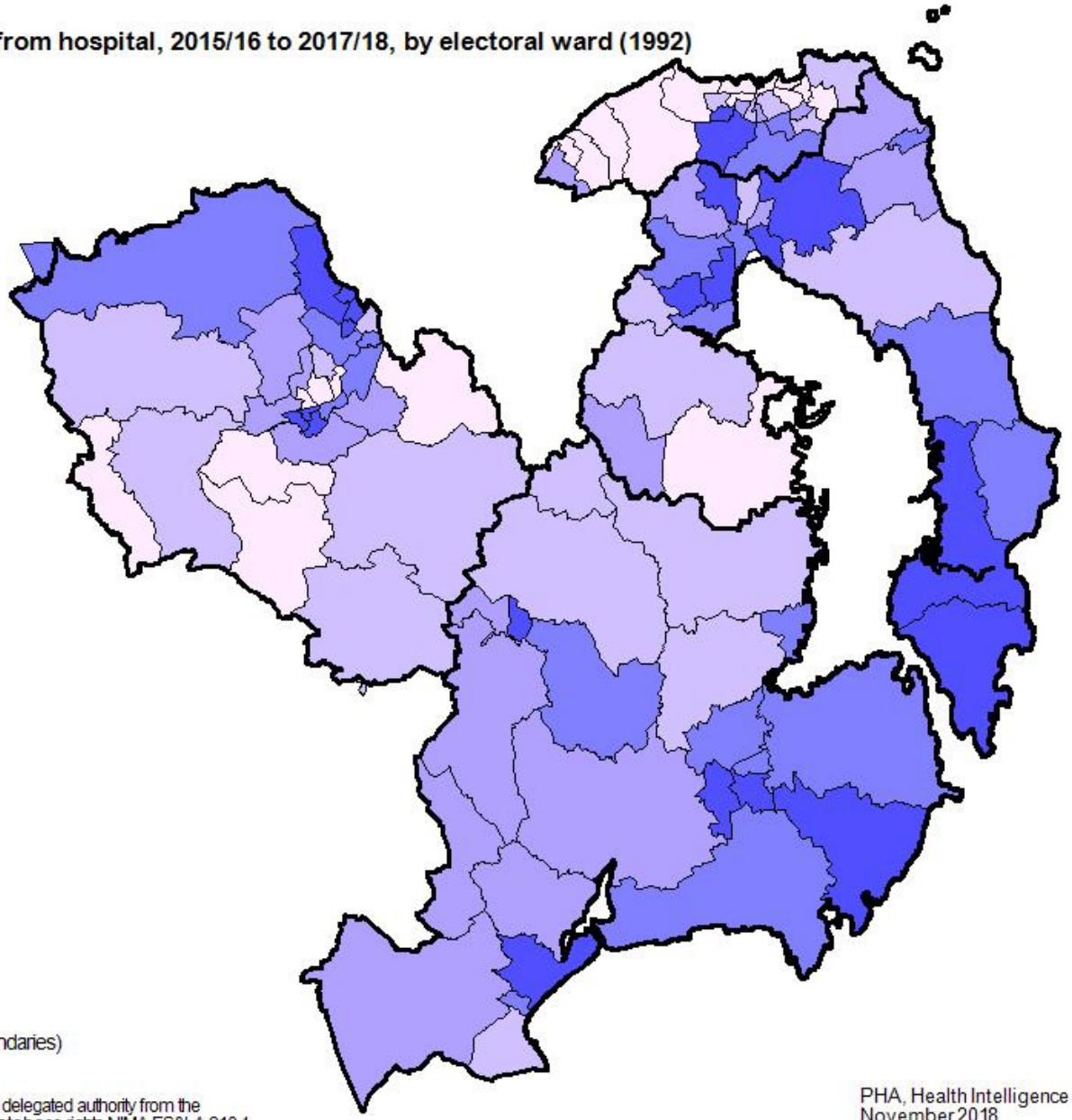
Local Government District boundary (1992 boundaries)

Source: Child Health System

PHA, Health Intelligence
November 2018

Public Health Agency
Percentage live infants breastfed at discharge from hospital, 2015/16 to 2017/18, by electoral ward (1992)

South Eastern Health and Social Care Trust



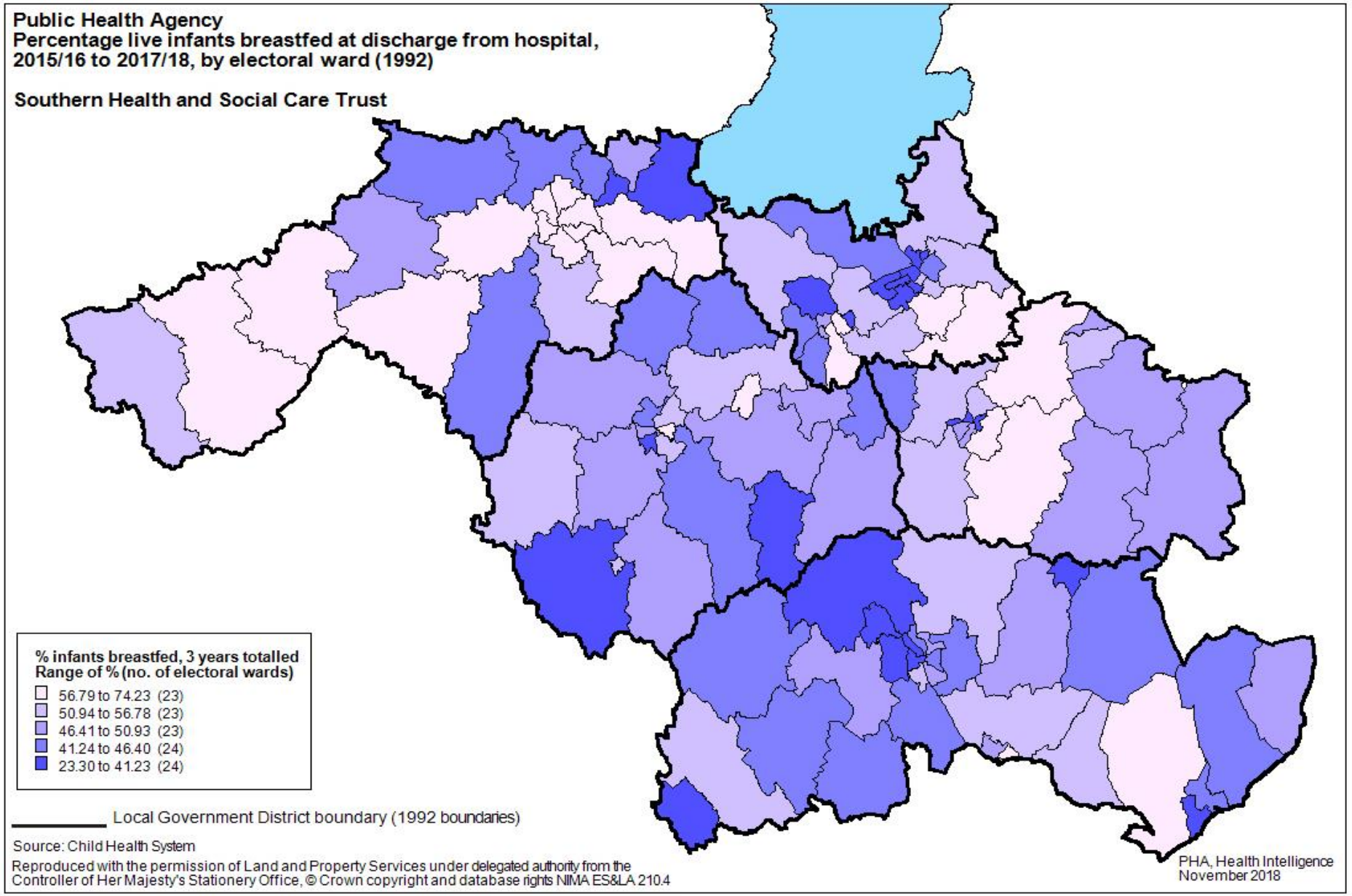
% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)

- 63.38 to 85.42 (20)
- 55.48 to 63.37 (20)
- 49.29 to 55.47 (20)
- 41.67 to 49.28 (20)
- 15.00 to 41.66 (21)

Local Government District boundary (1992 boundaries)

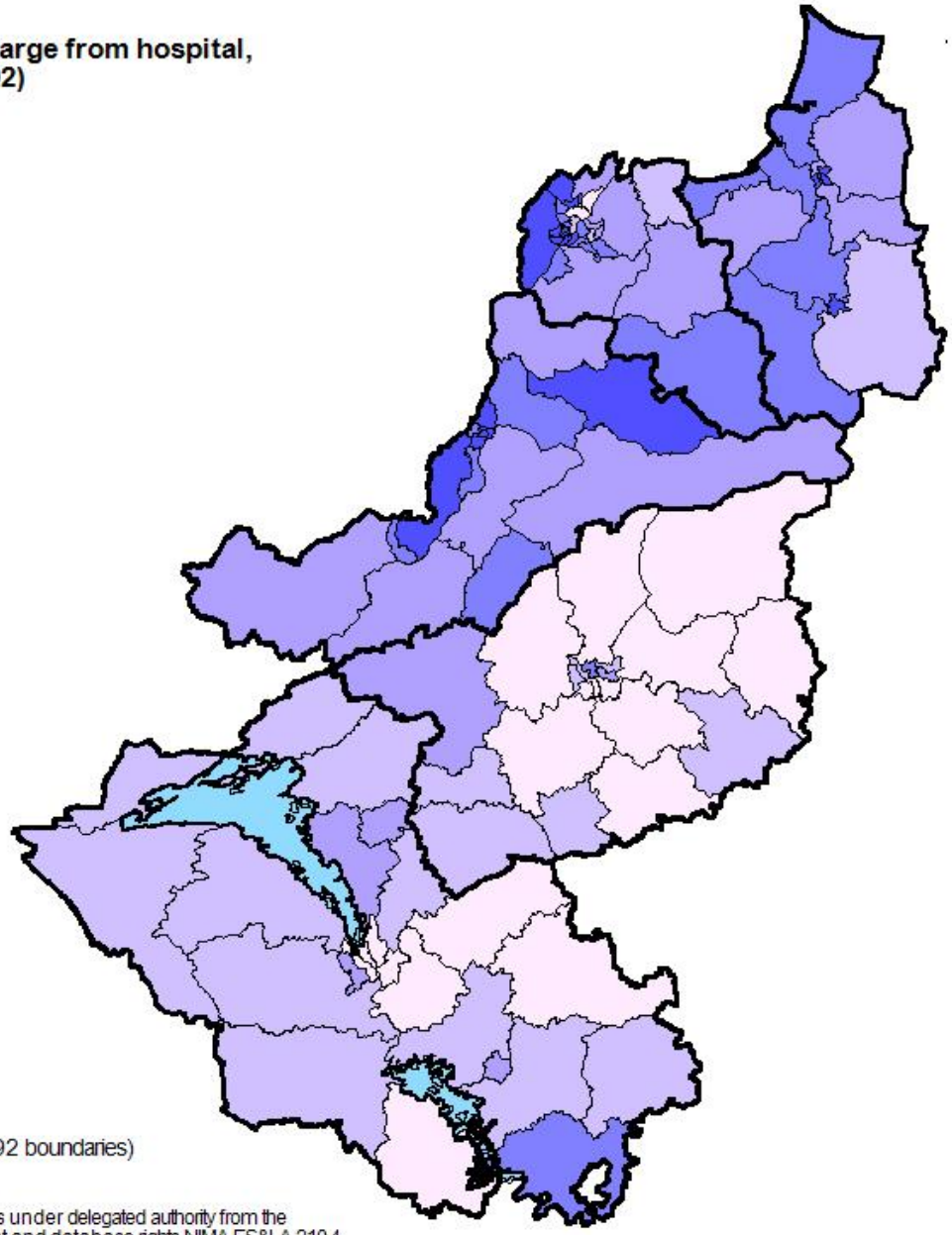
Source: Child Health System

PHA, Health Intelligence
November 2018


Public Health Agency
Percentage live infants breastfed at discharge from hospital, 2015/16 to 2017/18, by electoral ward (1992)
Southern Health and Social Care Trust
% infants breastfed, 3 years totalled
Range of % (no. of electoral wards)
56.79 to 74.23 (23)
50.94 to 56.78 (23)
46.41 to 50.93 (23)
41.24 to 46.40 (24)
23.30 to 41.23 (24)
Local Government District boundary (1992 boundaries)
Source: Child Health System
Reproduced with the permission of Land and Property Services under delegated authority from the Controller of Her Majesty's Stationery Office, © Crown copyright and database rights NIMA ES&LA 210.4
PHA, Health Intelligence
November 2018

Public Health Agency
Percentage live infants breastfed at discharge from hospital, 2015/16 to 2017/18, by electoral ward (1992)

Western Health and Social Care Trust



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

- 53.54 to 69.77 (21)
- 45.00 to 53.53 (21)
- 38.82 to 44.99 (21)
- 32.29 to 38.81 (21)
- 14.47 to 32.28 (21)

Local Government District boundary (1992 boundaries)

Source: Child Health System

PHA, Health Intelligence
November 2018

Produced by Public Health Agency
www.publichealth.hscni.net
Health Intelligence Unit
14 December 2018

For further information, please contact:
Adele Graham (adele.graham@hscni.net)
Joanne Murphy (joanne.murphy@hscni.net)