



Northern Health  
and Social Care Trust



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REFORM AND MODERNISATION PROGRAMME

## Childhood Obesity

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### Healthy Weight Pathway for School Nursing Report 2016-17

Public Health Nursing Service  
2018

## Key Findings 2016/17

- School Nurses completed 5,201 Year 8 health appraisals in 48 mainstream post primary schools in the Northern Trust in 16/17. Public Health Nursing studies trends in local rates of overweight and obesity in Year 8 pupils across the Trust on an annual basis.
- In 2016/17, the level of combined overweight and obesity in Year 8 pupils in NHSCT was 22.74%, which is an overall reduction of 6 percentage points in the Trust since 2012/13. This is the lowest rate recorded so far in the Trust, indicating a downward trend overall. The regional prevalence is 27.7%.
- The proportion of pupils identified as obese has decreased by 3% (12.84%). This is lower than previous years in the Trust, although rates remain higher than the NI prevalence of 7.14% (2014/15). The highest prevalence of obesity was found in Ballyclare/Larne (14.61%) and Ballymoney (14.56%), with levels that are double the regional average.
- Overweight has levelled out at around 10%. This is a reduction by more than half since 2012/13, when overweight in the Trust was 21.36%. This may be predictive of slower growth in obesity levels over the next few years, with fewer overweight children moving up the BMI centile range to become 'very overweight' (obese) in early adolescence.
- We identified individual schools across the Trust with very high prevalence of overweight and obesity. 60% of Year 8 pupils in one school were overweight and obese. Overweight and obesity rates of between 35-50% were identified in six other schools.

## Pathway outcomes

- School nursing teams completed 893 telephone contacts with families of pupils identified as overweight or obese.
- 99% of parents accepted telephone discussion with school nursing and received feedback on the outcome of their child's health appraisal.
- 36% of parents agreed to proceed with a school nurse-led health plan. This required formal follow-up/review with families at 3-6 months. These parents receive either telephone review, or face-to-face contact.

- 33% of parents indicated their preference to 'self-care' at home, based on information and advice provided by the school nurse during initial telephone discussion. These parents remain open to the school nursing service and can contact the school nurse for further information and support as required.
- 31% engaged in a discussion about the outcome of their child's health appraisal with the school nurse during the initial telephone discussion. These parents preferred no further action to be taken following discussion and exit the Healthy Weight Pathway. However, they remain open to the school nursing service should they wish to re-engage at any point.
- Nearly half of follow-up/reviews were achieved at 3-6 months, with families who agreed a school nurse-led health plan. Total 159 follow-ups.
- 79% of parents reported healthier eating and meal patterns. This included exclusion/reduction of sugary drinks e.g. energy, fizzy drinks. 67% of parents reported that their child had taken up a new form of physical activity, or increased activity levels.
- 46.5 % of parents either self-reported that their child had decreased weight/waist size, and/or the school nurse recorded maintenance/reduction in BMI centile range at clinic follow-up.
- The Healthy Weight Pathway is an effective universal model for school nursing that supports families to make lifestyle changes to maintain healthy weight and improve BMI over time. This is in line with 2013 NICE guidance on lifestyle weight management services for overweight and obesity among children and young people (NICE, 2013)

## Results

In the Northern Trust, 5,201 Year 8 health appraisals were completed in 48 mainstream post primary schools in academic year 2016/17. Young people were assessed by school nurses as either 'overweight' or 'very overweight' using Royal College of Paediatrics and Child Health (RCPCH) BMI centile ranges (DHSSPS, 2013). The number of overweight and very overweight children identified following school health appraisal is shown below (Table 1). The levels of overweight and very overweight (clinically obese) identified in Public Health Nursing team localities for school Year 8 2016/17, is shown in Table 2. Growth measurements exceeding 98th BMI centile threshold are described as 'very overweight', which is defined as clinically obese<sup>1</sup> (SACN/RCPCH, 2012).

Number of Y8 pupils	Number of valid measurements	Overweight and Very Overweight	Overweight	Very Overweight
NHSCT 2016/17*	5201	1183 (22.74%)	515(9.90%)	668 (12.84%)
<b>NI 2014/15**</b>	15, 816	4388 (27.7%)	3259 (20.6%)	1129 (7.1%)

Table 1: Number of Y8 pupils assessed as overweight and obese in 2016/17 \*PHN: (RCPCH/UK90); \*\*NI Source: Child Health System via PHA Health Intelligence (International Obesity Taskforce measures; refers to Year 8, school year, 2014/15)

PHN Localities 2016/17	Overweight and Obese %	Overweight >91 <sup>st</sup> Centile %	Obese >98th Centile %
Antrim	21.37	8.48	20.84
Ballymena	24.70	11.19	13.51
Ballymoney	26.05	11.49	14.56
Carrickfergus	20.80	6.60	14.2
Coleraine	23.23	9.93	13.29
Cookstown	19.24	8.93	10.30
Larne, Ballyclare	28.51	13.89	14.61
Magherafelt	16.17	6.60	9.56
Newtownabbey	25.58	11.74	13.83
<b>NHSCT Average (RCPCH)</b>	<b>22.74</b>	<b>9.90</b>	<b>12.84</b>
<b>NI Average (IOTF) 2014/15</b>	<b>27.75</b>	<b>20.61</b>	<b>7.14</b>

Table 2: Prevalence by PHN Team/Locality 2015/16

<sup>1</sup> The term 'obese/obesity' is used throughout this report to describe 'very overweight'. The term 'very overweight' refers to the clinical BMI centile range thresholds currently applied in RCPCH growth reference charts to define overweight and obesity in children (RCPCH). The term 'obese' is used in PHN reports in context of clinical management, surveillance and individual interventions.

## Overweight and Obesity

In 2016/17, the level of combined overweight and obesity in Year 8 pupils in NHSCT was 22.74%, which remains lower than the regional prevalence (27.7%). This is an overall reduction of 6 percentage points in the Trust since 2012/13. Moving averages can be predictive of wider trends; the 5-year average in NHSCT is 26%. In the last three years, rates appear to have stabilised with an average around 24%. This year was the lowest rate of obesity and overweight recorded so far in the Trust, indicating a downward trend overall. This is indicated by the linear trend line in Figure 1 below.

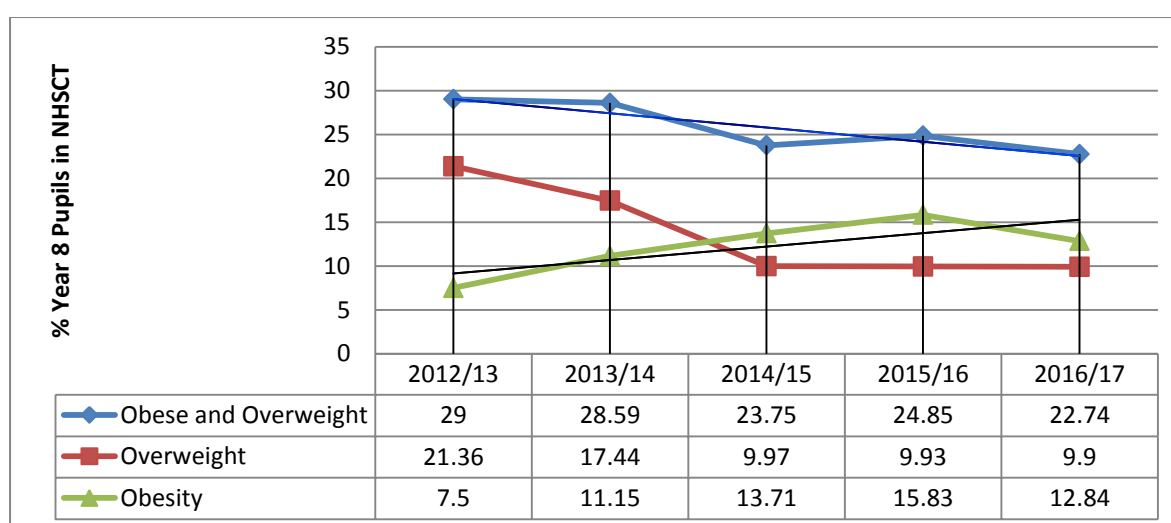


Figure 1: Comparative data for NHSCT by Year/BMI Weight Centile Category

Overweight and obesity in localities was found to be highest in Larne/Ballyclare (28.51%). There was a decrease in Newtownabbey, where levels reduced by 7% points on the previous year's findings. Overweight and obesity in Magherafelt has continued to decline by an average rate of 3.5% every year since 2013/14 and significantly, levels are now 11.5% lower than the regional average.

## Obesity

We looked at the 5-year trend in NHSCT since 2012/13. Childhood obesity rates have increased by 5 percentage points to 12.84% in 2016/17. The 5-year moving average is 12%. Ballyclare/Larne (14.61%) and Ballymoney (14.56%) had the highest prevalence overall, with levels that are double the regional average (7.14%). The variation in levels of obesity across localities in NHSCT in 2016/17 is shown below based on a four-year trend\* (Figure 2).

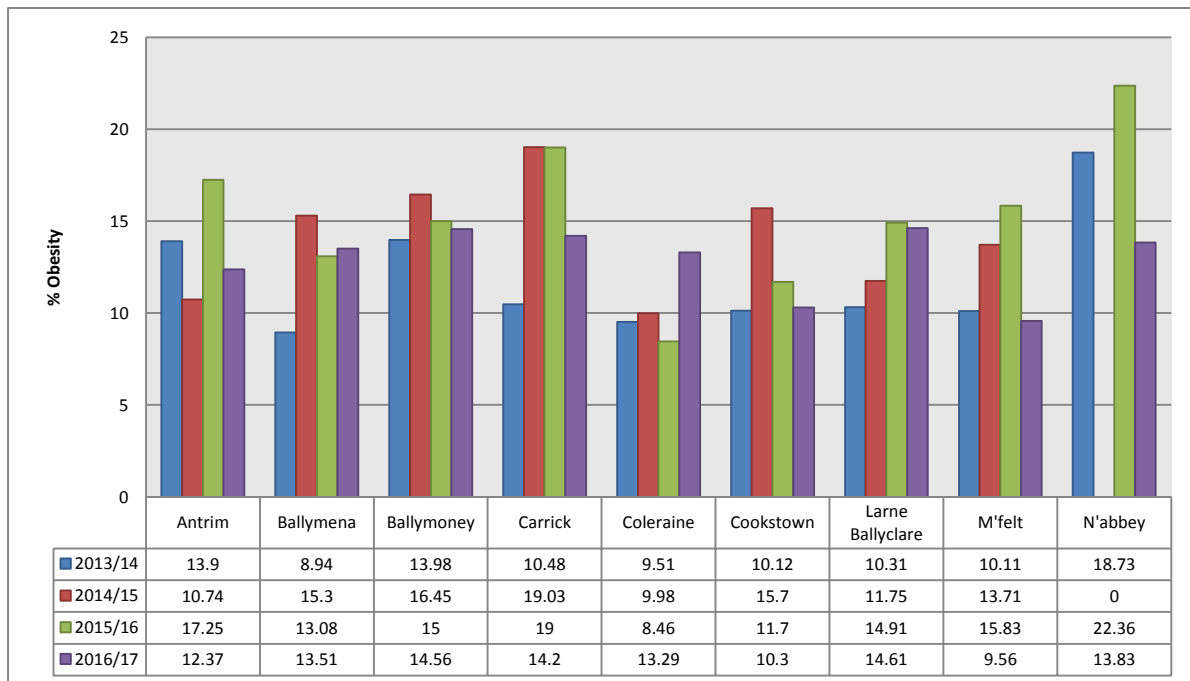


Figure 2: Four-year trends in obesity by PHN locality

\*(RCPCH growth monitoring charts were introduced for use in Northern Ireland in 2013/14- providing consistent data for comparison over four years)

However, findings show that, compared to the previous year's results, the proportion of pupils identified as obese has decreased by 3%. This is lower than previous years in the Trust but remains markedly higher than the NI prevalence of 7.14% (2014/15). This may be predictive of slower growth in obesity levels over the next few years, with fewer overweight children moving up the BMI centile range to become 'very overweight' (obese) in early adolescence.

The exception to this is Coleraine, which was the only locality in the Trust where there has been a notable rise in obesity to 13.29%. Obesity in Coleraine had remained between 8-9% since 2013/14 (Figure 2). This is consistent with a pattern of high rates of overweight recorded in schools in the area since then. If this is broadly representative of weight status in primary school, it may be that overweight children are now young people in the 'very overweight' BMI centile range in Year 8. This highlights the importance of targeting overweight children early, to halt the rise in obesity in adolescence.

## Overweight

The average overweight in 2016/17 was 9.90%. Over the last five years, rates have more than halved from 21.36%, and have levelled out at around 10%. This year, four areas exceed the Trust average, which gives a more polarised picture of overweight. For example, overweight in Larne/Ballyclare (13.89%) was two times higher than in Magherafelt (6.6%). In Coleraine, there has been a significant reduction in overweight of 8% since 2015/16 (Figure 3).

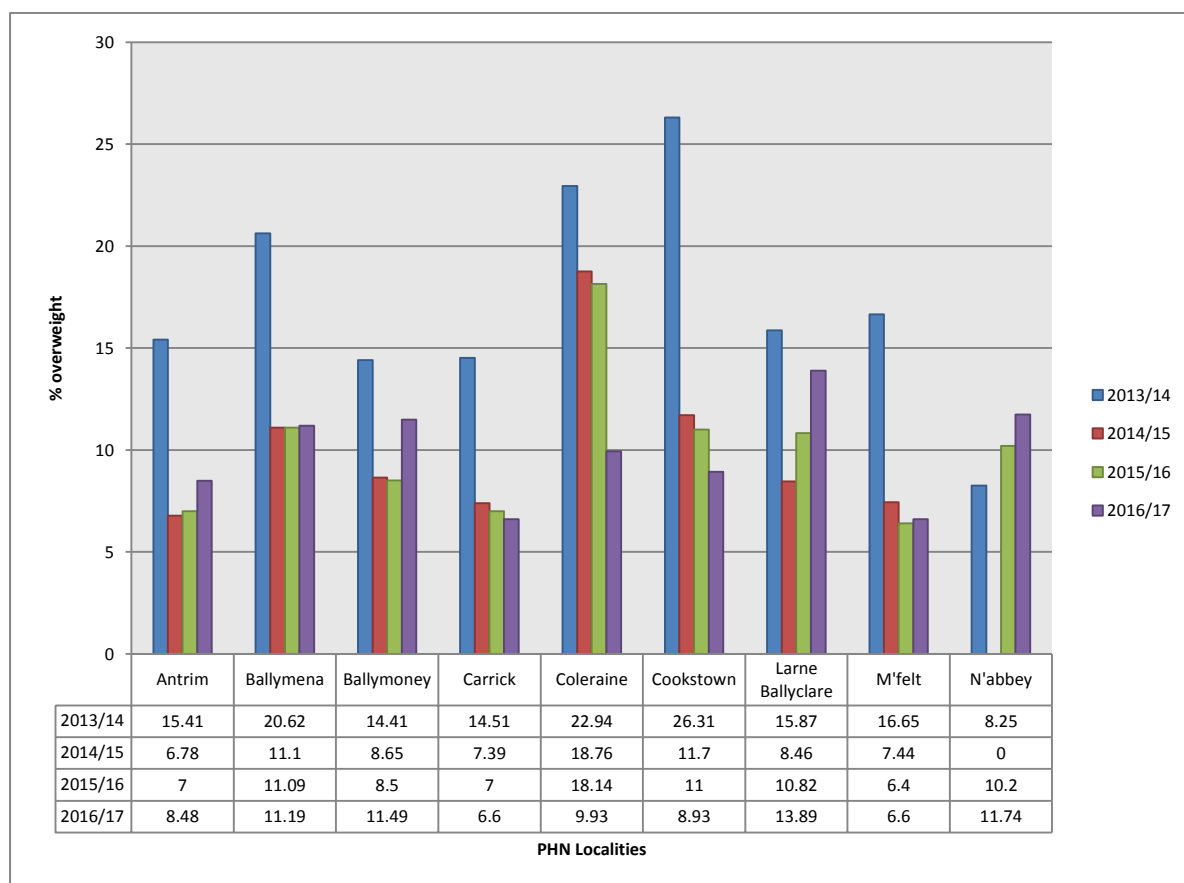


Figure 3: % of overweight pupils across NHSTC localities over four years.

## Rank by Prevalence

The proportion of children who were overweight and obese in each BMI weight centile category was ranked by highest prevalence in Table 3 below. This allows us to identify priority areas within the Trust and compares rates to the NHSTC average and the NI average. Figure 4 shows the percentage of pupils in the 'very overweight' range.

BMI Centile Range	Rank by Prevalence	%	Locality	NHSCT	NI (2014/15)
Overweight and Very Overweight	1	28.51	Larne/Ballyclare	22.74	27.75
	2	26.05	Ballymoney	22.74	27.75
	3	25.58	Newtownabbey	22.74	27.75
Very Overweight	1	14.61	Larne/Ballyclare	12.84	7.49
	2	14.56	Ballymoney	12.84	7.49
	3	14.20	Carrickfergus	12.84	7.49
Overweight	1	13.89	Larne/Ballyclare	9.90	20.61
	2	11.74	Newtownabbey	9.90	20.61
	3	11.49	Ballymoney	9.90	20.61

Table 3: Highest prevalence in each weight category ranked by locality 2016/17

## School Trends

We continue to identify individual schools which have a high prevalence of overweight and obesity. Free School Meal Entitlement (FSME) was mapped in each of these schools (EA, 2016). FSME is the only annually updated proxy indicator for deprivation which is specific to schools. We identified 26 schools in which combined overweight and very overweight rates were higher than the average in their locality. This is more than half of all post- primary schools in NHSCT. In 25 of these schools (25/26), more than 20% of pupils were in receipt of Free School Meals.

School	Locality	Locality Prevalence OW&VOW 2016/17	Combined	OW	VOW	% FSME
School 1	Newtownabbey	25.58	60.26	39.72	20.54	52.20
School 2	Ballymena	24.70	47.14	27.14	20.00	38.90
School 3* <sup>2</sup>	Antrim	21.37	42.85	14.28	28.57	38.00
School 4	Coleraine	23.23	39.80	22.41	17.39	50.90
School 5	Ballymena	24.70	39.63	16.21	23.42	24.00
School 6	Larne Ballyclare	28.51	39.25	20.00	19.25	21.20
School 7	Ballymoney DH	26.05	37.49	17.18	20.31	45.60
School 8	Ballymoney	26.05	29.26	21.95	7.31	45.30
School 9	Ballymoney	26.05	29.10	12.50	16.60	24.00
School 10	Ballymena	24.70	28.98	11.59	17.39	31.80

Table 4: Ten schools in NHSCT with (i) highest prevalence (ii) exceeds locality average for combined OW&VOW (iii) mapped to deprivation index by % Free School Meal Entitlement

<sup>2</sup> NB low number of health appraisals were carried out in school 3 (n=16)



We ranked the top 10 highest prevalence of combined weight categories in Table 4. 60% of Year 8 pupils in School 1 were overweight and obese in 2016/17, with 40% overweight. FSME in School 1 is 52% indicating that the school is in an area of deprivation.

## Healthy Weight Pathway

In 2016/17, school nurses identified 1183 Year 8 pupils who were clinically assessed as overweight or obese. School nurses completed telephone contact to inform parents of the outcome of their child's school health appraisal. When feedback is provided, school nurses initiate discussion to increase knowledge and skills. Families are supported to make lifestyle changes to maintain healthy weight and improve BMI over time. Parents indicate how they would like to proceed with the information provided, whether self-care, or a school nurse-led health plan with review at 3-6 months. Motivational tools, resources and local activities are provided or signposted.

## Outcomes

1. Initial telephone contact	
<b>Number of Y8 pupils identified as OW/VOW</b>	<b>1183</b>
Telephone contact and feedback from health appraisal	893 (75.5%)
Could not be contacted /no reply	290 (24.5%)
2. Parent response to telephone contact	
<b>Telephone contact and feedback from health appraisal</b>	<b>893</b>
Parent accepted discussion with school nursing	884 (99%)
Parent declined discussion with school nursing *negative response to telephone contact in 1% of parents overall	9 (1%) *
3. Outcomes	
<b>Parent accepted discussion with school nursing</b>	<b>893</b>
Parent agreed self-care at home with SN contact as required	294 (33%)
Parent agreed SN-led health plan with follow-up/review	324 (36%)
Child's weight centile discussed, parent declined further support/information **more than a third of parents in this subset had a child who was in 'very overweight' BMI centile range/clinically obese.	275 (31%) **

4. SN-led Health Plans Agreed	
<b>Parent agreed SN-led health plan with follow-up/review</b>	<b>324</b>
Number of follow-up/reviews achieved at 3-6 months	159 (49%)
5. SN-led Health Plan Reviews	
<b>Number of follow-up/reviews achieved at 3-6 months</b>	<b>159</b>
Self-reported healthier eating and meal patterns including exclusion/reduction sugary drinks e.g. energy, fizzy drinks	125 (79%)
Self-reported child had taken up a new form of exercise or increased physical activity levels	107 (67%)
Self-reported child decreased weight/waist size and/or reduction in BMI centile range following SN assessment	74 (46.5%)

## References

1. Education Authority, (2016) Post-Primary Schools Annual Area Profile
2. Royal College of Paediatrics and Child Health, (2013). School Age (2-18 Years) Growth Charts available at: <http://www.dhsspsni.gov.uk/hss-md-34-2013.pdf>
3. NICE, (2013). Managing overweight and obesity among children and young people: lifestyle weight management services at: [www.nice.org.uk/guidance/PH47](http://www.nice.org.uk/guidance/PH47).
4. SACN/RCPCH (2012) Consideration of issues around the use of BMI centile thresholds for defining underweight, overweight and obesity in children aged 2-18 years in the UK  
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