



Indicators of Children and Adults' Healthy Weight in North West Local Authorities

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Introduction

The importance of maintaining a 'healthy' weight cannot be underestimated, as being either underweight or overweight increases the risk of mortality and morbidity from conditions such as coronary heart disease, stroke, diabetes, impaired fertility and poor mental health. Factors that impact upon weight include diet, physical activity and family history, and there is an established link between 'unhealthy' weight and deprivation.¹

Government strategy focussing upon 'healthy' weight has included: *Choosing Health: Making healthier choices easier*²; *Healthy Weight, Healthy Lives: a Cross-Government Strategy for England*³ and regionally, *A North West Framework: To achieve healthy weight for children & families*⁴, the latter two of which have set out actions required to achieve healthy weight. Tackling obesity has also featured prominently in the *2007 Comprehensive Spending Review*.⁵

The level of obesity worldwide has now breached the critical threshold of 15% set by the World Health Organization to identify epidemics needing intervention.⁶ Over the last 20 years, the level of obesity in England has almost trebled. This places significant burden upon the NHS with estimated costs of £4.2 billion (predicted to more than double by 2050)⁷, as well as impacting upon society and the wider economy through sickness absence and reduced productivity leading to estimated indirect costs of £16 billion (predicted to reach £50 billion by 2050).⁷

Data from the 2006 Health Survey for England showed that 23% of men and 22% of women in the North West were obese, similar to the England average of 24% for both men and women.⁸ For children, new figures from the National Child Monitoring Programme show that in the North West 10.0% of Reception pupils and 18.3% of Year 6 pupils are obese, compared with 9.6% and 18.3% respectively in England.⁹

A summary of the scale of the issues in the North West can be found in the North West Public Health Observatory (NWPHO) *Healthy Weight in the North West Population* synthesis report.¹ This reviews literature (policy, evidence on the causes of obesity, interventions, and the relationship of weight with deprivation) and data on the topic of healthy weight, while providing recommendations on reversing the current trends in obesity.

North West Children and Adults' Healthy Weight Indicators (www.nwph.net/healthyweight)

The North West Public Health Group commissioned the production of a regional set of healthy weight indicators, to be presented in an online tool, from NWPHO. The dataset brings together indicators for children and adults on key themes such as food and diet, physical activity, breastfeeding and other related topics that have, or are considered to have, an established relationship with weight. After wide consultation, twenty-nine measures relating to 'healthy weight' were chosen on these subjects.

Data were obtained from a variety of sources including Office for National Statistics, Department for Children, Schools and Families, Sport England, The Dental Observatory, Department for Work and Pensions and the National Child Measurement Programme. Measures were produced for each local authority in the North West, the North West region and England.

The indicators have been collated into 'at a glance' local authority profile charts (Figure 1). The North West and England averages and interquartile range of North West local authority values are also displayed for comparison purposes and indicators that are significantly better or worse (at a 95% confidence limit) than the North West average are highlighted. Bar charts for each indicator linked from the profile illustrate the local authority's position in the region.

In addition to these indicators, *Healthy Weight, Healthy Lives*¹⁰ segmentation data for each local authority were also identified for inclusion. This dataset segments families with children under the age of ten years into six broad groups (known as clusters) according to attitudes and behaviours relating to diet and physical activity and is displayed in an accompanying bar chart. Please see the Appendix for further details of *Healthy Weight, Healthy Lives* segmentation data mapping.

Figure 1: Local profile example from North West Children and Adults' Healthy Weight Indicators online tool.



Figure 2: Healthy Weight, Healthy Lives segmentation local authority example. Obesity Segmentation



Local Authority Summary

To summarise each local authority's position, the indicators presented in the online tool have been grouped into one of four domains.

- Obese and overweight (5 indicators for children and adults).
- Physical activity (7 indicators including exercise for children and adults and mode of travel to school for children).
- Eating (2 indicators: healthy eating adults and benefits claimed due to eating related conditions).
- Other (3 indicators: two for dental health in children and one for schools achieving Healthy Schools Status).

Full details of the indicators included in each of these domains are shown in the Appendix. Indicators that were not included within the four domains were left out because there was an element of duplication with an indicator that was more appropriate to include.ⁱ

For each indicator, a rank of 1 was given to the best local authority in the North West, with a rank of 43 going to the worst local authority. For example, a rank of 1 was given to the local authority with the lowest percentage of obese or overweight children in Reception; the highest percentage of children aged 11-15 years who walk or cycle to school, or the highest percentage of adults aged 16+ years who consume five or more portions of fruit and vegetables per day, and so on. The average indicator rank for each domain was then calculated for each local authority.

Table 1 shows the average rank for each local authority across the four domains as well as an overall healthy weight ranking across all 17 indicators included. The table is colour coded to show which local authorities are placed in the best (light purple) and worst (dark purple) quartile for each domain and for the healthy weight overall average rank. Local authorities are ordered from the least deprived (top of the table) to most deprived (bottom) based on the Index of Multiple Deprivation (IMD) 2007 average score. Chester has the best healthy weight overall average rank (10.8), while Knowsley and Manchester have the worst (both 30.8).

It should also be noted that very few local authorities are consistently in the top and bottom quartile for each domain. Only Knowsley and Halton are in the worst quartile across all four domains and healthy weight overall average rank, while Congleton is the only local authority in the best quartile for all. This illustrates the spread of rankings across the local authorities. For example, every local authority in the North West, with the exception of Copeland and South Ribble, ranks in either the best or worst quartile for at least one domain. There are also instances of local authorities ranking in the best quartile for one domain and the worst for another. The most obvious examples of this are Warrington and Vale Royal, which rank within the best quartile for the healthy weight overall average rank despite being in the worst quartile for the eating domain. Further examples are highlighted within the following summaries.

ⁱ Indicator 29: *Percentage of households that do not have a car or van* was also excluded from the summary presented here as it was considered that this measure was more descriptive of an area (in particular, a component of deprivation), rather than a measure that could be considered 'good' or 'bad' in terms of healthy weight.

Table 1: Summary of indicators of children and adults' healthy weight in North West local authorities.

Local authority	IMD 2007 average score	Healthy weight overall average rank	Average rank of domains			
			Obese and overweight	Physical activity	Eating	Other*
Congleton	9.86	12.8	8.6	17.0	15.0	12.7
Ribble Valley	10.07	16.8	17.4	22.3	15.0	9.3
Macclesfield	10.67	11.4	7.4	11.9	14.5	19.7
South Lakeland	11.67	18.0	23.6	18.0	14.0	16.0
Fylde	12.86	15.7	13.2	21.0	21.0	6.7
South Ribble	14.10	19.5	20.2	19.4	25.0	19.7
Eden	14.64	22.8	34.4	22.1	13.5	16.0
Vale Royal	16.18	16.1	5.2	24.0	26.0	14.0
Chorley	16.56	21.2	21.2	23.7	32.0	11.3
Chester	16.86	10.8	7.6	10.1	21.0	15.0
Trafford	17.33	20.2	18.2	24.6	22.0	14.7
Crewe and Nantwich	17.45	19.7	22.6	22.4	17.5	12.3
Wyre	17.70	19.9	14.2	26.1	22.0	14.0
Warrington	17.89	15.7	11.4	17.1	31.5	12.0
Stockport	18.06	14.0	5.0	17.1	12.0	24.0
Ellesmere Port and Neston	19.92	21.5	33.4	13.9	26.0	18.3
West Lancashire	20.40	27.1	29.0	29.7	26.5	18.3
Bury	21.42	22.8	17.4	25.9	15.0	28.0
Allerdale	21.63	25.6	33.6	22.9	16.5	23.7
Lancaster	21.94	16.4	22.2	14.1	14.0	15.0
Carlisle	22.70	19.9	23.8	16.1	13.5	25.3
Rossendale	24.23	19.9	20.6	23.7	13.5	14.3
Sefton	25.13	20.2	23.8	17.7	20.0	17.0
Copeland	25.73	24.3	28.6	23.4	18.0	21.0
Wigan	26.91	23.2	25.2	18.4	40.0	20.0
Wirral	27.90	21.9	19.8	24.7	15.0	18.7
Tameside	28.78	26.1	27.4	26.0	23.5	22.7
Bolton	29.67	23.3	17.2	24.4	18.0	33.3
Preston	29.78	24.6	18.4	27.0	28.0	25.3
St Helens	29.82	27.7	37.8	20.9	23.5	26.0
Pendle	30.24	17.0	16.0	18.6	15.5	16.3
Oldham	30.82	25.7	22.6	24.6	23.5	34.3
Hyndburn	30.91	24.6	19.0	28.9	24.0	21.3
Halton	32.61	30.2	32.8	27.7	38.0	26.7
Barrow-in-Furness	32.69	24.7	35.0	18.6	18.0	21.0
Rochdale	33.89	25.2	29.0	22.3	22.5	27.7
Burnley	34.61	17.8	17.2	18.9	20.0	14.3
Blackburn with Darwen	35.83	28.6	20.6	31.7	23.5	34.0
Salford	36.51	29.3	29.6	27.9	22.5	32.7
Blackpool	37.66	26.1	22.4	21.1	30.0	38.0
Knowsley	43.20	30.8	30.0	26.1	34.5	36.0
Manchester	44.50	30.8	33.8	25.4	25.0	36.3
Liverpool	46.97	29.2	29.6	28.0	33.5	25.3
Min	9.9	10.8	5.0	10.1	12.0	6.7
Max	47.0	30.8	37.8	31.7	40.0	38.0
Value is in best quartile	<17.4	<17.9	<17.3	<18.5	<15.3	<14.8
Value is in worst quartile	>30.9	>25.7	>29.0	>25.6	>25.5	>25.7

* The 'other' domain includes those indicators that do not fit into the other three domains, yet are still related to healthy weight. The indicators used to calculate the domain average score are highlighted in the Appendix.

Obese and overweight average rank

The obese and overweight average rank is predominately made up of indicators relating to children in Reception and Year 6, taken from the National Child Measurement Programme. One indicator, a modelled estimate of obesity, relates to adults.

For two of these five indicators (the percentage of obese and overweight males in Reception and the percentage of obese and overweight females in Year 6) the North West is significantly worse (i.e. has higher percentages) than the England averages. For the remaining three indicators, the North West is not significantly different from the England averages.

Overall, within the North West, this domain has the greatest spread of average ranks, indicating the disparity between the best and worst areas across the region. Stockport has the best average rank (5.0) while St Helens has the worst (37.8). Other points to note include:

- Burnley ranks within the best quartile for obese and overweight, despite being within the most deprived quartile of local authority districts in the North West. It is this relatively good ranking, together with the 'other' domain, that help place Burnley into the best quartile overall.
- Eleven local authorities have their best domain ranking for this domain and twelve have their worst ranking.

Physical activity average rank

The physical activity average rank is comprised of seven measures indicating levels of exercise among children and adults, including mode of travel to school for children.

Of the indicators within this domain, the percentages of children aged 5-10 and 11-15 years who walk or cycle to school are significantly lower in the North West than England. The region is also significantly worse than the England average for adult participation in moderate intensity sport and active recreation on 20 or more days in the previous four weeks, and for no adult participation in moderate intensity sport or recreation in the previous four weeks. The percentage of adults who walked for at least 30 minutes on 12 or more occasions in the last four weeks is, however, not significantly different from the England average.

The North West and England averages for children's (Years 1-6 and Years 7-11) participation in two hours of high quality PE and sports are very close together, so it appears that the region is similar to the national averages for these measures. However, confidence intervals are not available for the England averages, so it is not possible to state this with certainty.

Across the North West, Chester has the best rank for this domain (10.1), while Blackburn with Darwen has the worst (31.7).

- Ellesmere Port and Neston ranks within the best quartile for this domain, despite ranking in the worst quartile for the obese and overweight and eating domains.
- Wyre ranks within the worst quartile for this domain despite ranking in the best quartile for obese and overweight and 'other' domains. Bury also ranks within the worst quartile, in spite of ranking within the best quartile for the eating domain.
- Nine local authorities that rank within the best or worst quartile for physical activity do not rank within the best or worst quartile for overall average rank.
- Seven local authorities have their best domain ranking for this domain and eleven have their worst ranking (one has a joint worst ranking with the eating average rank).

Eating average rank

The eating average rank is comprised of two indicators relating to healthy and unhealthy eating habits: consumption of five or more portions of fruit and vegetables by adults and the incapacity

benefit claimant rate for eating related conditions. The North West is significantly worse than the England average for both these measures.

Stockport has the best rank for this domain (12.0) and Wigan has the worst (40.0).

- Despite ranking within the least deprived quartile, both Vale Royal and Chorley rank within the worst quartile for this domain.
- Ten local authorities that rank within the best or worst quartile for eating do not rank within the best or worst quartile for overall average rank.
- Thirteen local authorities have their best domain ranking for this domain and eleven have their worst ranking (one has a joint worst ranking with the physical activity average rank).

Other average rank

The 'other' average rank consists of three indicators relating to children that do not fit under other domains, including children's dental health and schools achieving Healthy Schools Status. As confidence intervals are not available for the average number of decayed, missing or filled teeth it is not possible to judge whether the North West is significantly worse than the England average.ⁱⁱ However, the average number for both five year olds and Year 6 pupils is higher in the North West than across England. Information from the National Healthy Schools Programme suggests that in July 2008, the North West had a higher percentage of schools that had achieved Healthy Schools Status than the England average.

Fylde has the best average rank for this domain (6.7) and Blackpool the worst (38.0).

- Burnley ranks within the best quartile for this domain, despite ranking within the most deprived quartile of North West local authorities.
- Chorley, Warrington and Vale Royal rank within the best quartile for this domain, but rank within the worst quartile for eating, while Bury ranks within the worst quartile for this domain but the best quartile for eating.
- Twelve local authorities have their best domain ranking for this domain and ten have their worst ranking.

Deprivation

In general, the most deprived local authorities have worse average ranks whereas the most affluent have better average ranks. That is, as the IMD 2007 average score increases, so does the healthy weight overall average rank (Figure 2). There are, however, a number of exceptions to this, with some North West local authorities tending to show a higher or lower healthy weight average overall rank than expected for their given level of deprivation. For these cases it is important not only to look at the healthy weight overall average rank in isolation but to also consider details within all four domains. For example:

- Burnley is the 7th most deprived local authority in the North West, yet is in the best quartile for healthy weight overall average rank (11th best). In addition to not having any domains in the worst quartile, Burnley is also in the best quartile for the 'obese and overweight' and 'other' domains, which resulted in its placing in the best quartile overall.
- The reverse is true for Eden, which is relatively affluent compared with other local authorities in the North West, but only has a middle place (24th best) for the healthy weight overall average rank. It would appear that the obese and overweight domain in particular pushes Eden towards the middle ranking overall, which is at odds with other local authorities with similar levels of deprivation.

It is interesting to consider these 'exceptions' as it is possible that they may benefit from targeted action or sharing of good practice.

ⁱⁱ More detailed data and analysis from the new National Dental Epidemiology Programme will be available in Summer 2009 – www.nwph.net/dentalhealth

Figure 3: Healthy weight overall average rank and Index of Multiple Deprivation (IMD) 2007 average score. North West local authorities.



Source: NWPHO (healthy weight average rank) and Communities and Local Government (Index of Multiple Deprivation 2007).

Conclusion

This summary analysis provides an overview of the Children and Adults’ Healthy Weight indicators across North West local authorities. It shows that, in general, the more deprived areas have worse rankings in relation to healthy weight but that some areas stand out as having better or worse overall scores than would be expected by deprivation alone. The summary ranks are not intended to be viewed in isolation as they are derived from 29 different indicators, grouped into the four domains, and the local authority profiles available in the online tool details each of these indicators for each area.

The information displayed in the online profiles will support a range of local functions including local joint strategic needs assessment, priority setting, local area agreements, local delivery plans, commissioning and the effective targeting of resources. It will also support the development and subsequent implementation of policies and programmes aimed at meeting the health and social needs and improving the health and wellbeing of the North West population. Full supporting data and indicator definitions are included within the profiles and in the Appendix. The online tool is available at www.nwph.net/healthyweight

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Appendix

Indicators

The table below details the indicators found within the online tool. Those indicators included in the domain average rank calculations and healthy weight overall average rank calculations have been highlighted. For full details of the indicator definitions please see the online tool footnotes at www.nwph.net/healthyweight

Domain	Indicator
Obese and overweight	1. Percentage of obese males in Reception, 2008.
	2. Percentage of obese females in Reception, 2008.
	3. Percentage of obese and overweight males in Reception, 2008.
	4. Percentage of obese and overweight females in Reception, 2008.
	5. Percentage of obese males in Year 6, 2008.
	6. Percentage of obese females in Year 6, 2008.
	7. Percentage of obese and overweight males in Year 6, 2008.
	8. Percentage of obese and overweight females in Year 6, 2008.
	20. Prevalence of obese adults aged 16+ years (modelled estimate), 2003-05.
Physical activity	9. Percentage of pupils in Years 1-6 attending state schools belonging to a School Sport Partnership who participate in at least two hours of high quality PE and out of hours school sport in a typical week, 2007-08.*
	10. Percentage of pupils in Years 7-11 attending state schools belonging to a School Sport Partnership who participate in at least two hours of high quality PE and out of hours school sport in a typical week, 2007-08.*
	11. Percentage of children aged 5-10 years who walk or cycle to school, 2008.*
	12. Percentage of children aged 11-15 years who walk or cycle to school, 2008.*
	22. Percentage of adults aged 16+ years who participated in moderate intensity sport and active recreation on 20 or more days in the previous 4 weeks (an average of 5+ days per week), 2005/06.*
	23. Percentage of adults aged 16+ years who participated in moderate intensity sport and active recreation on 12 or more days in the previous 4 weeks (an average of 3+ days per week), 2005/06.*
	24. Percentage of adults aged 16+ years who participated in no moderate intensity sport and active recreation in the previous 4 weeks, 2005/06.
	25. Percentage of adults aged 16+ years who walked for at least 30 minutes on 12 or more occasions in the last 4 weeks (an average of 3+ occasions per week), 2005/06.*
26. Percentage of adults aged 16+ years who cycled for at least 30 minutes on 4 or more occasions in the last 4 weeks (an average of 1+ occasion per week), 2005/06.*	
Eating	21. Percentage of adults who consume five or more portions of fruit and vegetables per day (modelled estimate), 2003-05.*
	27. Claimants of Incapacity Benefit/Severe Disablement Allowance whose main medical reason is eating related conditions, percentage of total claimants, February 2008.
	28. Claimants of Incapacity Benefit/Severe Disablement Allowance whose main medical reason is eating related conditions, rate per 100,000 working age population, February 2008.
Other	13. Average number of decayed, missing or filled teeth (5 year olds), 2005/06.
	14. Percentage of 5 year olds with no decayed, missing or filled teeth, 2005/06.*
	15. Average number of decayed, missing or filled teeth (Year 6 pupils), 2004/05.
	16. Percentage of Year 6 pupils with no decayed, missing or filled teeth, 2004/05.*
	17. Mothers initiating breastfeeding as a percentage of maternities, 2007/08 outturn.*
	18. Percentage of schools participating in the Healthy Schools Status programme, as at 25 th July 2008.*
	19. Percentage of schools achieving Healthy Schools Status, as at 25 th July 2008.*
29. Percentage of households that do not have a car or van, 2001.	

* Indicators where a higher score is better than a lower score; local authorities have still been ranked from 1 (best) to 43 (worst).

Indicators that were not included within the four domains were left out for one of three reasons.

- Indicators 1, 2, 5, 6, 14, 16, 18, 23, 26 and 27 were excluded as they had an element of duplication with an indicator that was more appropriate to include in the domain summary.
- Indicator 17: Mothers initiating breastfeeding as a percentage of all maternities was excluded due to data only being available at PCT level and not being possible to derive at local authority.
- Indicator 29: Percentage of households that do not have a car or van was excluded from the summary as it was considered that this measure was more descriptive of an area (in particular, a component of deprivation), rather than a measure that could be considered 'good' or 'bad' in terms of healthy weight.

Healthy Weight, Healthy Lives segmentation

In November 2008, the Department of Health (DH) released mapsⁱⁱⁱ showing the dominant cluster for each output area, which provided PCTs with a simplified picture of the *Healthy Weight, Healthy Lives* segmentation. NWPHO proposed that PCTs would benefit from data for each cluster separately in order to effectively target local populations based on the market insight generated for each cluster. The data presented in the Children and Adults' Healthy Weight profiles shows a summary of the distribution of each cluster within the population of each local area.

In addition, NWPHO have used the DH data to produce an additional series of maps for the North West region and each PCT to show the concentration of households with children under 10 years of age in each cluster and a chart showing the distribution of each cluster by deprivation.ⁱⁱⁱ

ⁱⁱⁱ These maps are available from regional obesity leads.

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