



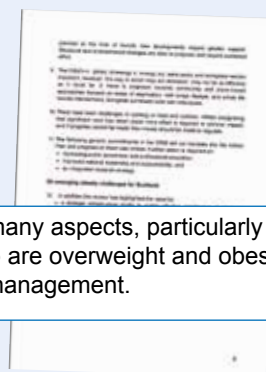
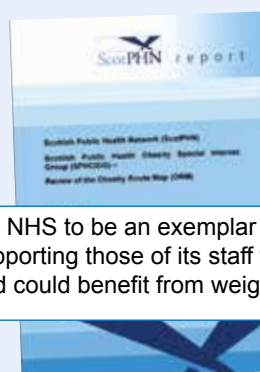
### Key Points

- Scotland has one of the highest levels of obesity in the world
- High levels of overweight and obesity are likewise seen in the NHS Scotland workforce
- Obesity increases three of the most common disabling conditions in the UK: arthritis, back pain and mental health disorders
- Obesity places mechanical stress on joints, increasing the risk of back pain and osteoarthritis which can limit mobility
- Overweight and obesity may increase levels of sick leave and the ability of some staff to work effectively
- Healthcare settings should not be obesogenic environments
- As a public service and exemplary employer, NHS Scotland should take the lead with healthy workplace practices
- The health and wellbeing of staff is an essential component of improvement strategies

Scotland's 2010 obesity strategy 'Preventing Overweight and Obesity in Scotland: A Route Map Towards Healthy Weight'<sup>1</sup> identified the adverse effect of obesity on employment, sickness levels, premature death and mental wellbeing.

If NHS Scotland is to be a credible influence in addressing the problem it must, as noted in the 2015 Review of the Obesity Route Map<sup>2</sup>, 'be an exemplar' in supporting staff not only to maintain healthy weight but also support those who could benefit from weight management.

The Review also recommended that the original Obesity Route Map be updated to include: 'encouraging leadership from the NHS, putting a priority on reducing staff overweight and obesity.'



- the NHS to be an exemplar in many aspects, particularly with supporting those of its staff who are overweight and obese and could benefit from weight management.

## The Extent of the Problem

Scotland has one of the highest levels of obesity in **OECD** countries with more than a million adults and over 150,000 children obese<sup>3</sup>; the NHS workforce and families form a substantial part of that population group.



In Scotland in 2014, 65% of adults aged 16 and over were overweight, including 28% who were obese<sup>4</sup>.

A recently published (January 2016) cross-sectional study<sup>5</sup> on the prevalence of overweight and obesity among nurses in Scotland found that 69% were overweight or obese, and that this was higher in nurses than in other healthcare professionals (51%). Unqualified care staff (68%) and those in non-health related occupations (69%) had problems of similar proportions to nurses. In 2013 an Observer article<sup>6</sup> suggested that '50% of the 1.4 million who work for the [English] NHS are obese' and that this was hardly surprising if 'hospitals continue to legitimise junk food with corridors littered with dispensers for cheap, nutritionally poor foods.' Although the Observer article failed to cite a source for its assertion, it does tally with a UK Department of Health report<sup>7</sup> which found that 'it was likely' that of [English] NHS staff '300,000 would be classified as obese' and 'a further 400,000 as overweight'.

People who are obese, compared to those with a normal or healthy weight, are at an increased risk for many serious diseases and health conditions, including the following:<sup>8,9,10</sup>

- high blood pressure
- high LDL cholesterol, low HDL cholesterol, or high levels of triglycerides
- type 2 diabetes
- coronary heart disease
- stroke
- gallbladder disease
- osteoarthritis
- sleep apnoea and breathing problems
- some cancers
- low quality of life, mental illness such as clinical depression, anxiety, and other mental health disorders<sup>11,12,13,14</sup>

- body pain and difficulty with physical functioning<sup>15</sup>

While not itself a cause of sickness, obesity is linked to many diseases. Obesity causes at least as much ill-health as poverty, smoking and problem drinking and with as much premature mortality as smoking<sup>16</sup>.

## Workplace Influences

### Obesogenic Environments

Environments have a significant effect on diet, physical activity and obesity<sup>17</sup>. Obesogenic environments have been described as 'the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations'<sup>18</sup>. Improved access to recreation areas, reduced proximity to fast food outlets and improved walking and cycling infrastructure might influence weight status<sup>19,20,21</sup>. Common sense suggests that healthcare settings should be exemplary in promoting healthy lifestyles and that the presence of outlets selling energy dense food and drink sends an inconsistent message to patients, staff and the community.

### Shift Working

Mounting epidemiological evidence supports the theory that night shift work may contribute to the aetiology of increased body weight<sup>22,23</sup>; health effects which include gastrointestinal complaints and eating problems, sleep difficulties, cancer, cardiovascular and metabolic diseases and mental health problems<sup>24,25,26,27</sup>. A growing number of epidemiological studies and meta-analyses also report a strong relationship between short or disturbed sleep, obesity and abnormalities in glucose metabolism<sup>28,29,30</sup>.

### Workplace Stress

The NHS Scotland 2014 staff survey (n. 55,077) suggests that, while improving, for some staff there is still a lack of job control and involvement in the workplace (see table 1).

Stress in the workplace has many influences and can increase the risk of disease and ill health<sup>32</sup>; many health service jobs involve high demands. It is not the demands themselves that are the major cause of illness, although high demands may be independently associated with ill health<sup>33</sup>; it is the combination of high demand and low control. Current research is far from conclusive (although a 2015 systematic review and meta-

Question Number	Question	Positive Response % (change on 2013 shown in brackets)		Negative Response % (change on 2013 shown in brackets)	
3.1	Staff are always consulted about changes at work	29%	(+3%)	46%	(-4%)
5.2	There are enough staff for me to do my job properly	33%	(+2%)	46%	(-1%)
3.4	I have a choice in deciding what I do at work	40%	(+2%)	24%	(-4%)
1.3	When changes are made at work, I am clear how they will work out in practice	41%	(+2%)	30%	(-2%)
3.3	I am confident my ideas or suggestions would be listened to	42%	(+5%)	30%	(-5%)

Table 1: NHS Scotland Staff Survey (2014)

analysis of cohort studies<sup>34</sup> did not support an association) but it may yet be that there is a link between overweight and obesity risks and high demand, low-control work environments and extended work hours<sup>35,36,37</sup>.

## Sickness Absence

There is a national standard which requires NHS Boards to achieve a sickness absence rate of 4% or lower. From April 2014 to March 2015 the sickness absence rate for Scotland was 5.04%<sup>38</sup>, an increase from 4.76% the previous year. Only five boards out of 22 achieved a rate below the 4% target. BMA Scotland recently (January 2016) reported<sup>39</sup> that

“600,000 working days have been lost across the health service in the past four years because of time taken off work due to staff mental illness. The total has been increasing each year, rising from just over 86,500 in 2011 to almost 180,000 in 2014.

Workplace stress may result in maladaptive strategies such as poor eating habits, low level of physical activity<sup>40</sup>, and smoking/alcohol use<sup>41,42,43</sup>.

Mental health and wellbeing and musculoskeletal disorders are two of the key priorities outlined in Safe and Well at Work: the Occupational Health and Safety Strategic Framework for NHS Scotland<sup>44</sup>. Obesity places mechanical stress on joints, increasing the risk of back pain

**Musculoskeletal disorders are the main cause of sickness absence in western European countries; obesity is an established risk factor.**

and osteoarthritis which can limit mobility<sup>45</sup>. Overweight and obesity are established risk factors for both low back and lumbar radicular pain<sup>46,47</sup>. There is also a causal relationship between nursing tasks and back disorders<sup>48</sup>, also with musculoskeletal disorders (MSD)<sup>49</sup>, the main cause of sickness absence in western European countries<sup>50</sup>. Research<sup>51</sup> from the United States suggests that MSD is also one of the main causes of sickness absence among healthcare workers; obesity is an established risk factor for MSD<sup>52</sup>, and as well as being related to the development of symptoms may also be related to slow recovery<sup>53</sup>. Research shows that people who are obese are up to four times as likely to develop knee osteoarthritis as they are to develop high blood pressure or type 2 diabetes<sup>54</sup>.

Even in those who do not have chronic diseases, people with obesity have significantly lower Health Related Quality of Life (HRQoL) than people with a normal weight<sup>55</sup> - perhaps because obese individuals face a greater risk of mobility impairments.

Some research<sup>56</sup> has suggested that workers with moderate or extreme obesity are less productive than other workers. Overall, workers with moderate or extreme obesity were found to have a 4.16% health-related loss in productivity.

The 2010 Corporate Health and Performance Group (CHAP) study<sup>57</sup> estimated that people with obesity take four extra sick days per year; this study noted that its own conclusions were an addition...

“...to a growing evidence base for employers, who are in a unique and powerful position to promote healthy lifestyles, to become more involved in tackling obesity.

If further impetus were needed, the Keogh Review<sup>58</sup> for England asserts that staff health and wellbeing are essential to quality improvement strategies.

## Potential Solutions

- boards should introduce workplace-based interventions targeting diet and physical activity to support NHS Scotland staff to achieve and maintain a healthy weight
- boards should build on the healthcare retail standard as introduced via the Chief Medical Officer's letter<sup>59</sup>, issued in October 2015:



It should be seen as the minimum standard required and boards should consider developing and extending the standard it sets.

- as recommended in the January 2016 CRUK report<sup>60</sup> all public services must strengthen and implement standards for food provided in all publicly funded institutions
- all NHS boards should increase opportunities for and uptake of walking, cycling and other physical activity in daily lives and minimise sedentary behaviour
- the well-established negative health effects of shift-working may merit closer monitoring of health for workers with a heavy night workload.

## Healthcare Staff as Exemplars

A 2011 systematic review<sup>61</sup> found that:

“health professionals of normal weight were more likely to be more confident in their weight management practice, perceive fewer barriers to weight management and have more positive outcome expectations, have stronger role identity and more negative attitudes towards obese individuals than health professionals who were overweight or obese. However, there was no difference between overweight and non-overweight health professionals in their perceptions of the causes and outcomes of obesity. In addition, being female and having relevant knowledge and clinical experience of weight management appeared to predict positive attitudes towards obesity/obese patients and high self-efficacy in weight management.

There may be a public perception that overweight and obese healthcare staff are less credible but there is limited evidence to support this<sup>62,63</sup>.

Regardless of their body size, many staff in the NHS Scotland workforce will have opportunities for 'teachable moments' (situations with the potential to motivate positive change in unhealthy behaviour) or for 'making every contact count' (MECC - encourages conversations based on behaviour change), during routine patient contact and should be aware that these are a key element in promoting positive behaviour change<sup>64,65,66</sup>.

## Benefits of Reduced Workplace Overweight and Obesity

The Institute of Occupational Safety and Health (IOSH)<sup>67</sup> suggests that employees with balanced diets and good eating habits may have less absence and better energy, concentration and performance levels. They also observe that

“obesity can have an impact on health and safety at work, for instance by affecting employees' fitness for physically active tasks and their ability to carry out tasks safely, such as manual handling. Even for sedentary work, there may be ergonomic impacts, e.g. standard office chairs may not be suitable for obese people.



It may be worth noting that the Court of Justice of European Communities<sup>68</sup> has decided that severe obesity can be a disability under EU law if it prevents full and effective participation in professional life. Workers with obesity, employees and job applicants may claim discrimination or harassment, or contend that an employer has a duty to make reasonable adjustments to accommodate reduced mobility.

A recent systematic review<sup>69</sup> suggests that workplace-based interventions which target both dietary and physical activity may be potentially effective in reducing weight and changing behaviours of health professionals. However it is difficult to identify the 'active ingredient' that makes an intervention successful so future research interventions are recommended to be evaluated, theory based and include adequate reporting of intervention content<sup>70</sup>.

## Conclusion

As noted by the 2015 Review of the Obesity Route Map<sup>71</sup> 'NHS staff need to be an exemplar in many aspects, particularly with supporting those of its staff who are overweight and obese and could benefit from weight management.' While as yet there are 'no exemplar populations in which the obesity epidemic has been reversed by public health measures'<sup>72</sup>, NHS Scotland should seize the opportunity to effect behaviour change in healthcare staff, and healthcare staff must do likewise to effect behaviour change in patients.

## REFERENCES



1. Scottish Government, Preventing Overweight and Obesity in Scotland: A Route Map Towards Healthy Weight, Edinburgh 2010.
2. Kerr, Ann. Review of the Obesity Route Map. Scottish Public Health Network (ScotPHN), Scottish Public Health Obesity Special Interest Group (SPHOSIG), Edinburgh, October 2015.
3. Organisation for Economic Cooperation and Development (OECD). OECD Health Statistics 2014: Non-Medical Determinants of Health: Body weight.
4. Scottish Government, The Scottish Health Survey 2014: Volume 1: Main Report (p175 onwards). September 2015.
5. Kyle RG, Neall R, Atherton I M. Prevalence of overweight and obesity among nurses in Scotland: A cross-sectional study using the Scottish Health Survey. International Journal of Nursing Studies, Volume 53, January 2016, Pages 126–133.
6. Malhotra A. Keep yourself healthy. Way better than asking a doctor like me to do it for you. The Observer, London, 10 March 2013.
7. COI and Department of Health. Healthy Weight, Health Lives: one year on. London April 2009.
8. NHLBI. 2013. Managing Overweight and Obesity in Adults: Systematic Evidence Review from the Obesity Expert Panel.
9. United States Department of Human Health Services, Public Health Service, National Institutes of Health National Heart, Lung, and Blood Institute, NIH Publication No. 98-4083, 1998: Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.
10. Bhaskaran K, Douglas I, Forbes H, dos-Santos-Silva I, Leon DA, Smeeth L. Body-mass index and risk of 22 specific cancers:





- a population-based cohort study of 5.24 million UK adults. *The Lancet*, 2014 August, 30;384(9945):755-65.
11. Kasen S, Cohn P, Chen H, Must A. Obesity and psychopathology in women: a three decade prospective study. *International Journal of Obesity* 32.3 (2008): 558-566.
12. Luppino F S, et al. Overweight, obesity, and depression: a systematic review and meta-analysis of longitudinal studies. *Archives of General Psychiatry* 67.3 (2010): 220-229.
13. Gutiérrez-Bedmar M, et al. Psychiatric Status across Body Mass Index in a Mediterranean Spanish Population. *PloS one* 2015 Dec 18;10(12):e0145414.
14. Gariepy G, Nitka D, Schmitz N. The association between obesity and anxiety disorders in the population: a systematic review and meta-analysis. *International Journal of Obesity*, 2010;34:407-19.
15. Robert E, Deleger S, Strawbridge WJ, Kaplan GA. Prospective association between obesity and depression: evidence from the Alameda County Study. *International Journal of Obesity* 27.4 (2003): 514-521.
16. Scottish Government, Preventing Overweight and Obesity in Scotland: A Route Map Towards Healthy Weight, Edinburgh 2010.
17. Popkin BM, Duffey K, Gordon-Larsen P. Environmental influences on food choice, physical activity and energy balance. *Physiology & Behavior*. 2005;86(5):603-13.
18. Swinburn B, Egger G. Preventive strategies against weight gain and obesity. *Obesity Reviews* 2002;3(4):289-301.
19. Humpel N, Owen N, Leslie E. Environmental factors associated with adults' participation in physical activity: a review. *American Journal of Preventive Medicine* 2002, 22:188-199.
20. Waygood EO, Sun Y, Letarte L. Active Travel by Built Environment and Lifecycle Stage: Case Study of Osaka Metropolitan Area. *International Journal of Environmental Research and Public Health*. 2015 Dec 15;12(12):15900-24.
21. Harel Z, et al. The prevalence and characteristics of fast food outlets in Ontario hospitals. *Public Health* Volume 129, Issue 9, September 2015, Pages 1294-1296.
22. Amani R, Gill T. Shiftworking, nutrition and obesity: implications for workforce health—a systematic review. *Asia Pacific Journal of Clinical Nutrition* 2013;22:698-708.
23. Peplonska B, Bukowska A, Sobala W. Association of Rotating Night Shift Work with BMI and Abdominal Obesity among Nurses and Midwives. Sirtori CR, ed. *PLoS ONE*. 2015;10(7).
24. Knutsson A. Health disorders of shift workers. *Occupational Medicine (Oxford, England)*. 2003;53:103-108.
25. Wise J. Danish night shift workers with breast cancer awarded compensation. *BMJ*. 2009;338:b1152.
26. Straif K, Baan R, Grosse Y, Secretan B, Ghissassi FE, Bouvard V, et al. Carcinogenicity of shift-work, painting, and fire-fighting. *Lancet Oncology* 2007;8:1065-1066.
27. Marquié J-C, Tucker P, Folkard S, Gentil C, Ansiau D. Chronic effects of shift work on cognition: findings from the VISAT longitudinal study. *Occupational Environmental Medicine* 2014:oemed-2013-101993.
28. Hirotsu C, Tufik S, Andersen ML. Interactions between sleep, stress, and metabolism: From physiological to pathological conditions. *Sleep Science*. 2015 Nov;8(3):143-52.
29. Lucassen EA, Rother KI, Cizza G. Interacting epidemics? Sleep curtailment, insulin resistance, and obesity. *Annals of the New York Academy of Sciences* 2012, 1264: 110-134.
30. Zimberg IZ, et al. Short sleep duration and obesity: mechanisms and future perspectives. *Cell Biochemistry and Function*. 2012 Aug;30(6):524-9.
31. NHSScotland staff survey 2014 national report: [www.gov.scot/Publications/2014/12/8893/0](http://www.gov.scot/Publications/2014/12/8893/0)
32. Marmot MG, et al. Health inequalities among British civil servants: the Whitehall II study. *The Lancet*. 1991 Jun 8;337(8754):1387-93.
33. Marmot MG, Bosma H, Hemingway H, Brunner E, Stansfeld S. Contribution of



- job control and other risk factors to social variations in coronary heart disease. *The Lancet* 1997;350:235-40.
34. Kivimäki M, Singh-Manoux A, Nyberg S, Jokela M, Virtanen M. Job strain and risk of obesity: systematic review and meta-analysis of cohort studies. *International Journal of Obesity*. 2015 Nov;39(11):1597-600.
35. Bean C, Winefield HR, Sargent C, Hutchinson AD. Differential associations of job control components with both waist circumference and body mass index. *Social Science & Medicine*. 2015. Oct;143:1-8.
36. Winick C, Rothacker DQ, Norman RL. Four worksite weight loss programs with high-stress occupations using a meal replacement product. *Occupational Medicine*, 2002. 52: 25-30.
37. Fujishiro K, et al. Job strain and changes in the body mass index among working women: a prospective study. *International Journal of Obesity*, 2015 Sep;39(9):1395-400.
38. ISD Scotland, NHSScotland Workforce Information Quarterly update of Staff in Post, Vacancies and Turnover at 31 March 2015. 02 June 2015.
39. Duffy J. Doctors warn pressure of working in NHS taking toll on mental health of staff. *The Herald*, 03 January 2016.
40. Fransson E, et al. Job strain as a risk factor for leisure-time physical inactivity: an individual-participant meta-analysis of up to 170,000 men and women: the IPD-Work Consortium. *American Journal of Epidemiology*. 2012 Dec 15;176(12):1078-89.
41. Holton MK, Barry AE, Chaney JD. Employee stress management: An examination of adaptive and maladaptive coping strategies on employee health. *Work*. 2015 Aug 14.
42. Nishitani N1, Sakakibara H. Relationship of obesity to job stress and eating behavior in male Japanese workers. *International Journal of Obesity*. 2006 Mar;30(3):528-33.
43. Morse T, Dussetschleger J, Warren N, Cherniack M. Talking about health: correction employees' assessments of obstacles to healthy living. *Journal of Occupational and Environmental Medicine* 53: 1037-1045.
44. APS Group Scotland for Scottish Government, Safe and Well at Work: Occupational Health and Safety Strategic Framework for NHSScotland. Edinburgh 2011.
45. Shiri R, et al. The association between obesity and low back pain: a meta-analysis. *American Journal of Epidemiology*, 2010;171:135-54.
46. Ibid
47. Shiri R, et al. Obesity as a risk factor for sciatica: a meta-analysis. *American Journal of Epidemiology* 2014;179:929-37.
48. Yassi A, Lockhart K. Work-relatedness of low back pain in nursing personnel: a systematic review. *International Journal of Occupational and Environmental Health*. 2013 Jul-Sep;19(3):223-44.
49. Davis KG, Kotowski SE. Prevalence of Musculoskeletal Disorders for Nurses in Hospitals, Long-Term Care Facilities, and Home Health Care: A Comprehensive Review. *Human Factors* 2015 Aug;57(5):754-92.
50. Murray CJ, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*, 380 (9859) (2012), 2197-2223.
51. Menzel N. Underreporting of musculoskeletal disorders among health care workers: research needs. *Workplace Health and Safety*, December 2008 vol. 56 no. 12 487-494.
52. Wearing SC, Hennig EM, Byrne NM, Steele JR, Hills AP. Musculoskeletal disorders associated with obesity: a biomechanical perspective. *Obesity Review*, 2006 Aug;7(3):239-50.
53. Viester L, et al. The relation between body mass index and musculoskeletal symptoms in the working population. *BMC Musculoskeletal Disorders*. 2013 Aug 12;14:238.
54. Osteoarthritis and obesity: a report by the Arthritis Research Campaign, Chesterfield, Derbyshire. 2009.
55. Jia H, Lubetkin EI. The impact of obesity on health-related quality-of-life in the general adult US population. *Journal of Public Health* 2005 27: 156-64.
56. Gates DM, et al. Obesity and presenteeism: the impact of body mass index on workplace productivity. *Journal of Occupational and*



- Environmental Medicine, 2008, 50: 39–45.
57. Harvey SB, et al. Obesity and sickness absence: results from the CHAP study. *Occup Med (Lond)* (2010) 60 (5): 362–368. *Occupational Medicine*, 2010. 60 (5): 362–368.
  58. Keogh, B. Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report. NHS July 2013.
  59. CMO Letter 2015(19). October 2015. Health Promoting Health Service Action in Secondary Care Settings
  60. CRUK London and UK Health Prevention First Forum. Tipping the scales, January 2015.
  61. Zhu D, Norman IJ, While AE. The relationship between health professionals' weight status and attitudes towards weight management: a systematic review. *Obesity Review*. 2011 May;12(5):e324–37.
  62. Hicks M, et al. Nurses' body size and public confidence in ability to provide health education. *Journal of Nursing Scholarship*. 2008;40(4):349–54.
  63. Puhl RM, Gold JA, Luedicke J, DePierre JA. The effect of physicians' body weight on patient attitudes: implications for physician selection, trust and adherence to medical advice. *International Journal of Obesity*. 2013 Nov;37(11):1415–21.
  64. Lawson PJ, Flocke SA. Teachable moments for health behavior change: a concept analysis. *Patient Education and Counseling*. 2009 Jul;76(1):25–30. Dec 24.
  65. Flocke SA, et al. Teachable moments for health behavior change and intermediate patient outcomes. *Patient Education and Counseling*. 2014 Jul;96(1):43–9.
  66. Darzi, J. Be nutrition aware in primary care: making every contact count. *British Journal of General Practice*. 2014 Nov; 64(628): 554–555.
  67. Institute of Occupational Health and Safety. Working Well: Guidance on Promoting Health and Wellbeing at Work. Wigston, Leicestershire, May 2015
  68. [2014] WLR(D) 554, [2014] EUECJ C-354/13, ECLI:EU:C:2014:2463, [2015] All ER (EC) 265, [2015] IRLR 146, [2015] CEC 870, EU:C:2014:2463, [2015] ICR 322, [2015] 2 CMLR 19.
  69. Power BT, et al. Effects of workplace-based dietary and/or physical activity interventions for weight management targeting healthcare professionals: a systematic review of randomised controlled trials. *BMC Obesity*. 2014, 1:23
  70. Ibid
  71. Kerr, Ann. Review of the Obesity Route Map. Scottish Public Health Network (ScotPHN), Scottish Public Health Obesity Special Interest Group (SPHOSIG), Edinburgh, October 2015.
  72. Swinburn BA, et al. The global obesity pandemic: shaped by global drivers and local environments. *Lancet*. 2011;378:804–814.

## ObesityActionScotland

Obesity Action Scotland was established mid-2015 to provide clinical leadership and independent advocacy on preventing and reducing overweight and obesity in Scotland.

### Our main aims:

- To raise awareness and understanding of what drives obesity and the health problems associated with obesity and overweight with health practitioners, policy makers and the public
- To evaluate current research and identify strategies to prevent obesity and overweight based on the best available evidence
- To work with key organisations in Scotland, the rest of the UK and worldwide, to promote healthy weight and wellbeing

Overseeing our work is the Steering Group whose membership spans various disciplines involved in preventing and tackling obesity and its consequences: clinicians, public health experts, epidemiologists, nutritionists and dieticians, GPs and weight management experts.

There are four members of staff.

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