

# Slimming World

## research portfolio



touching hearts, changing lives

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## Slimming World's specialist advisory panel

Slimming World is delighted to work with an experienced expert panel of specialist advisors including:

### **Professor Judith Buttriss**

An experienced nutrition scientist and a registered Public Health Nutritionist, Judith is the Director General of the British Nutrition Foundation.

### **Professor Ken Fox**

Ken is an emeritus professor of Exercise and Health at the University of Bristol and has served as a special advisor to the government on exercise, weight management and obesity.

### **Professor Andrew Hill**

Andrew is a Chartered Psychologist and professor in the Academic Unit of Psychiatry and Behavioural Sciences at the University of Leeds School of Medicine.

### **Jennifer Percival**

Jennifer is a trained nurse, midwife, health visitor, person-centred counsellor and health education trainer.

### **Professor Mike Kelly**

Mike is a Senior Visiting Fellow in the Department of Public Health and Primary Care at the University of Cambridge and former Director of the Centre for Public Health at the National Institute of Health and Care Excellence (NICE).

### **Dr William Bird**

A GP with a special interest in the promotion of outdoor physical activity, William developed *Walking for Health* and the *Green Gym*.

## Collaborative partners

We are proud of our national and international research collaborators which include major EU funded projects such as NoHoW (Navigation to a Healthier Weight). Other research partners include:

- University of Birmingham
- Cardiff University
- University of Coimbra (Portugal)
- University of Derby
- University of Leeds
- University of Lincoln
- Newcastle University
- University of Nottingham
- University of Oxford
- University of Sheffield
- Compassionate Mind Foundation
- East Midlands Public Health England
- The East Midlands Platform for Health and Wellbeing

By working with our partners, together we can combine the best applied research with large-scale delivery of evidence-based behaviour change solutions to make a real difference to people's lives and help improve the health of the nation.

For more detail about Slimming World, our services and information for health professionals please visit [slimmingworld.co.uk/health](https://slimmingworld.co.uk/health)

# welcome

I'd like to welcome you to the latest edition of Slimming World's Research Portfolio, summarising the science and evidence base behind our weight management programme. In this portfolio we've collated the key research conducted in relation to Slimming World, published in scientific literature and presented at conferences. This research relates not only to the efficacy of our programme in terms of our members' weight loss, behaviour change and wider wellbeing, but also to how we support public health needs.

Slimming World's multi-component programme is in line with both the current UK National Institute for Health and Clinical Excellence (NICE) and Scottish Intercollegiate Guidelines Network (SIGN) obesity guidance and with the United States Preventative Task Forces (USPSTF) and the Academy of Nutrition and Dietetics weight management guidance. Slimming World is the only national weight management organisation in the UK to provide healthy lifestyle support to pregnant and breast-feeding mums, working closely with the Royal College of Midwives as Alliance partners since 2012.

Slimming World's programme is underpinned by a nutrition and research team which is dedicated to the investigation and advancement of:

- highly effective weight loss and management solutions
- understanding the psychology and biology of obesity, weight gain and weight loss
- pioneering behaviour change techniques
- translating our evidence and understanding into practical, accessible and scalable solutions for the increasing overweight population

Our active research programme includes undertaking research in-house and in partnership with collaborators; commissioning studies and supporting externally led research in terms of providing expertise, access to our members or the provision of our weight management intervention programme.

For further information about Slimming World's Research Portfolio, please feel free to contact us at [research.team@slimmingworld.co.uk](mailto:research.team@slimmingworld.co.uk)



*Jacquie Lavin*

**Jacquie Lavin**  
**PhD, MMedSci, RNutr**  
**Head of Nutrition and Research**  
**Slimming World**

## Slimming World's nutrition and research team

The nutrition and research team has expertise in weight management, behaviour change and public health. We welcome the opportunity to embark on future projects and collaborations to further develop support for people aiming to lose weight.

**Emma Dowse**, BA (Hons)  
Research Manager

**Carolyn Pallister**, BSc (Hons), RD  
Public Health Manager

**Professor James Stubbs**, PhD  
Senior Research Specialist and  
Professor of Behaviour Change and  
Weight Management, The College of  
Life and Natural Sciences at the  
University of Derby

**Jenny Barber**, MSc, RNutr (Public Health)  
Nutritionist

**Alexandra Rood**, MSc, ANutr  
Nutritionist

**Paul Sacher**, PhD, RD  
Chief Research and Development  
Officer (USA)

**Amanda Avery**, BSc (Hons), RD  
Consultant Dietitian in Weight  
Management and Assistant Professor  
in Nutrition and Dietetics, Division of  
Nutritional Sciences at the University  
of Nottingham

**Liam Morris**, MSc  
Senior Analyst and Data Quality  
Co-ordinator

**Laura Holloway**, MSc  
Research Assistant

**Sarah Bennett**, PhD  
Research Assistant

# Slimming World overview

Founded in 1969, Slimming World has continually developed one of the most advanced behaviour change programmes for effective and sustained weight management. Over several decades, millions of members in Britain, Ireland and Cyprus have attended our community-based groups while tens of thousands across the world have followed our online programme. Members who follow our programme are supported to adopt new healthy lifestyle habits by eating more healthily and becoming more active.

Slimming World's philosophy is based on a deep understanding of how people with a weight problem feel, coupled with a passionate desire to help them achieve their goals. Our support programme has evolved in line with the latest thinking on nutrition and exercise and the psychology of behaviour change. Because our plan is based on supporting members to develop healthy lifestyle habits with an eating plan that is based on eating normal, everyday, foods and doing normal everyday activity like walking, running, dancing or swimming, the programme is safe for everyone who struggles with their weight, including families and young people. Members who follow our programme report positively influencing friends and family.

In the UK, Ireland and Cyprus, Slimming World groups are run by Slimming World Consultants, who are themselves successful members. Consultants work in their local communities. They receive specific training in dietary aspects of weight management, the role of physical activity and importantly, effective facilitation of behaviour change. There is a strong management support structure in place with an emphasis on quality and consistency of service provision.

Our innovative online programme has been developed to deliver the same community, care and commitment to helping members achieve a healthier lifestyle, for life.

## Our multi-component approach

Slimming World integrates three key principles to help people adopt a healthier lifestyle:

- A warm, empowering group environment which supports members and facilitates behaviour change around eating and activity habits.
- A satisfying eating plan to promote healthy eating patterns for life.
- An activity management programme to help members gradually increase physical activity levels.

Our programme is a lifestyle programme; not just a theory – it's an activity. We create an environment that makes it easier for people to make healthy choices and changes, and then support them to make those changes. Unconditional caring support is the key.



# Slimming World's evidence base

Slimming World's approach

Efficacy

Supporting public health needs

Behaviour change and wider health benefits



Title	Satiety in the context of weight management
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>● In modern society, weight loss is difficult and weight loss maintenance is particularly hard to sustain. Obesity is a chronic relapsing condition. Multi-component weight management programmes should include research to identify effective components that empower citizens to manage satiety, eating behaviour, weight and health.</li> <li>● Feeling hungry and restricted diets are among the most common reasons reported for giving up a weight loss attempt. Being able to satisfy the appetite and avoid going hungry is important for successful weight control.</li> <li>● Evidence suggests there is a hierarchy in the satiating efficiency of the macronutrients, [protein &gt; carbohydrate &gt; fat]. This hierarchy is overridden by low dietary energy density limiting excess energy intake or high energy density promoting passive overconsumption of foods.</li> <li>● It is possible to target specific functional foods to consumers or to help consumers navigate towards generic foods that are more satiating and a low risk for overconsumption.</li> <li>● The signal to noise ratio for specific products is swamped by the variety of ~30,000 available foods to consumers and other market forces. Whole-diet approaches have a higher signal to noise ratio in terms of satiety and weight management and provide a landscape to facilitate targeted product development. Current evidence favours approaches based on diets of low energy density, tolerably high protein and fibre content that are low in fats, sugars and caloric beverages.</li> <li>● Few specific functional product formulations or dietary approaches have yet yielded sufficient evidence to satisfy the requirements of European legislation regarding satiety claims.</li> <li>● Satiety is important for weight management. There are opportunities to address consumer needs for satiating foods in large-scale weight management programmes. These can be supported by evidence from rigorous trials aligned to the EFSA evidence framework for satiety claims, development of reference values indicating the likely satiety value of foods commonly available to diverse populations of consumers and in using consumer feedback to develop products that help prevent lapses in high-risk situations.</li> </ul>
Research Team	Slimming World research team.
Reference	<p>Stubbs, R.J. (2015). Satiety in the context of weight management. Presented at the Association for the Study of Obesity conference 2015.</p> <p>Lavin, J.H. (2015). Supporting weight control. Presented at the Food and Drink Innovation Network, Nutrition and Wellness Summit, 2015</p>
Date	2015

# Slimming World's approach

Title	The challenges of implementing behaviour changes that lead to sustained weight management
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>• This paper reviews the challenges associated with implementing behaviour change for successful weight management.</li> <li>• There are numerous approaches to weight management but they all involve changes in self-management, eating or activity behaviour.</li> <li>• Dietary changes in behaviour appear to be more achievable for weight loss earlier in the weight loss journey, while physical activity becomes an important adjunct to initial dietary changes for weight loss maintenance.</li> <li>• People successfully maintaining significant weight loss tend to self-regulate their eating behaviour, do more physical activity and remain vigilant, to catch slips in behaviour that may lead to weight regain.</li> <li>• To navigate from the journey of weight loss to one of habitual weight loss maintenance requires long-term self-management. Environments and programmes that support, nurture and facilitate long-term behaviour change give people the capability, opportunity and motivation to navigate to a healthy weight.</li> </ul>
Research Team	Slimming World research team.
Reference	Stubbs, R.J. and Lavin, J.H. (2013). The challenges of implementing behaviour changes that lead to sustained weight management. <i>Nutrition Bulletin</i> , 38: 5-22.
Date	2013

# Slimming World's approach

Title	How well do Slimming World members' food choices meet current healthy eating recommendations?
Participants	2,695 Slimming World members
Summary	<ul style="list-style-type: none"><li>• This study investigated how closely Slimming World members' dietary patterns followed the EatWell Plate recommendations.</li><li>• An online food frequency questionnaire of 2,695 members was used and responses compared with current healthy eating guidelines.</li><li>• The study found that members reported meeting the EatWell Plate recommendations for high fat/sugar foods, fruit and vegetables as well as a number of other recommendations for fish, red and processed meat.</li><li>• Slimming World members are choosing a diet that fits well with the EatWell Plate recommendations whilst losing weight.</li></ul>
Research Team	Slimming World research team plus P Sahota and J Larkin from Leeds Metropolitan University.
Reference	Barber, J., Pallister, C., Larkin, J., Avery, A., Lavin, J.H. and Sahota, P. (2013). How well do Slimming World members' food choices meet current healthy eating recommendations? <i>Obesity Facts</i> , 6(1):161.
Date	2013

# Slimming World's approach

Title	Health professionals', 'expert' patients' and dieters' beliefs and attitudes about obesity
Participants	287 health professionals, 85 'expert' patients and 116 dieters
Summary	<ul style="list-style-type: none"> <li>• This study investigated the attitudes and beliefs of health professionals, Slimming World Consultants ('expert' patients) and overweight and obese dieters, towards obesity.</li> <li>• Data were collected using a questionnaire from 287 health professionals, 85 'expert' patients and 116 dieters.</li> <li>• Health professionals, 'expert' patients and dieters had similar perceptions of obesity, identifying the same causes (lifestyle causes), consequences (medical consequences) and treatments (current recommended options) of obesity/overweight.</li> <li>• The concordance of beliefs between patients and treatment providers is an encouraging finding and may have important implications for public health strategies in this area.</li> </ul>
Research Team	RJ Stubbs from the Slimming World research team plus A McConnon, R Gribble, M Raats and R Shepherd from the University of Surrey.
Reference	<p>McConnon, A., Raats, M., Shepherd, R. and Stubbs, R.J. (2008). Healthcare professionals' and dieters' attitudes and perceptions of obesity. <i>Proceedings of the Nutrition Society</i>, 67:E287.</p> <p>McConnon, A., Gribble, R., Raats, M., Stubbs, R.J. and Shepherd, R. (2013). Health professionals', expert patients' and dieters' beliefs and attitudes about obesity. <i>Journal of Human Nutrition and Dietetics</i>, 26:612-616.</p>
Date	2013

Title	Behavioural and motivational factors associated with weight loss and maintenance in a commercial weight management programme
Participants	292 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This survey examined self-reported behaviour changes associated with weight loss and maintenance in a group of 292 longer-term Slimming World members.</li> <li>• At the time of survey, mean duration of membership of the participants was 29.1 months and time taken to reach their current weight was 16.3 months.</li> <li>• Primary factors reported by participants as important in achieving their weight loss included not going hungry by satisfying appetite with low energy density food eaten <i>ad libitum</i>, following a flexible diet, peer-group support and tools to cope with small lapses.</li> <li>• A range of eating and activity behaviours was associated with weight loss maintenance.</li> <li>• This survey suggests it is important to offer consumers flexible solutions which they can adapt to their individual lifestyle needs to support long-term weight control.</li> </ul>
Research Team	Slimming World research team plus A McConnon from the University of Surrey.
Reference	<p>Stubbs, R.J., Pallister, C., Avery, A., Allan, J. and Lavin, J.H. (2010). Behaviour change in a survey of weight loss maintainers using the Slimming World programme. <i>Obesity Reviews</i>, 11(s1): 292.</p> <p>Stubbs, R.J., Brogelli, D., Pallister, C., Avery, A., McConnon, A. and Lavin, J.H. (2012). Behavioural and motivational factors associated with weight loss and maintenance in a commercial weight management programme. <i>The Open Obesity Journal</i>, 4: 35-43</p>
Date	2012

# Slimming World's approach

Title	The evolutionary inevitability of obesity in modern society: implications for behavioural solutions to weight control in the general population
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>● Evolution has selected us to optimise resources in uncertain environments, “bank” surplus energy and compensate for energy deficits. But we manipulate the environment to suit these design specifications and so prefer, produce and consume foods that promote weight gain.</li> <li>● The pathways to and from obesity are multiple, heterogeneous and behavioural. For most people weight loss and maintenance requires considerable, sustained effort.</li> <li>● For successful weight maintainers, lapses are normal and they learn to cope with failure. For some, self-criticism and shame are biological mechanisms underpinning weight relapse. Humans are intensely social animals, neither purely rational nor emotive, but a peculiar combination of both.</li> <li>● When making difficult behavioural changes, we are designed to respond <i>inter alia</i> to a care-giving mentality but modern industrial society is success-obsessed, punitive and discriminating towards perceived failure – especially obesity.</li> <li>● These design features of our energy balance and emotive systems undermine our capacity to navigate through our nutritional environment using planned behaviour, towards a healthy lifestyle.</li> <li>● These problems can be countered with socialised behavioural weight-control approaches including self-help support models and guided lifestyle navigation, flexible solutions consumers can choose to meet their individual needs, approaches to counter stigma, shame and self-criticism and development of coping strategies for lapse and relapse.</li> </ul>
Research Team	RJ Stubbs from Slimming World research team plus C Gail and P Gilbert from Derbyshire NHS Trust and S Whybrow from the University of Aberdeen.
Reference	Stubbs, R.J., Gail, C., Whybrow, S. and Gilbert, P. (2012). The evolutionary inevitability of obesity in modern society: implications for behavioural solutions to weight control in the general population. <i>In: Martinez MP, Robinson H, eds. Obesity and Weight Management: Challenges, Practices and Health Implications: Novo Publishing.</i>
Date	2012



Title	Comparison of the Slimming World eating plan and DiOGenes intervention diets using a Healthy Diet Index
Participants	117 Slimming World members and 277 DiOGenes participants
Summary	<ul style="list-style-type: none"> <li>● This study examined diet composition and weight loss maintenance in women consuming low fat, lower energy density <i>ad libitum</i> diets during six months after weight loss.</li> <li>● Weighed food records and body weights were compared in 117 Slimming World members with 277 participants in the DiOGenes* study following high/low protein (HP/LP), high/low glycaemic index (HGI/LGI) diets and healthy eating advice. Healthy Diet Indicator (HDI) scores were calculated to estimate diet quality.</li> <li>● Compared to the other diets, the Slimming World diet was lower or similar for percentage energy from fat, and higher or similar for percentage energy from protein and carbohydrate. Energy density was lower, and fruit and vegetable intake was higher (both <math>P &lt; 0.002</math>). HDI score was similar to the two LP diets and higher than the other diets (<math>P &lt; 0.001</math>). Red meat and total meat consumption was higher than the two low protein diets and similar to the other diets. Mean weight changes, as % initial weight, were -0.53, -0.17, +2.47, -1.73, +0.12 and +1.18 (Slimming World, HPHGI, LPHGI, HPLGI, LPLGI and healthy eating advice respectively, <math>P = 0.005</math>).</li> <li>● The percentage of Slimming World members meeting individual HDI goals generally exceeded other groups, (except for protein compared to the low protein diets). Higher protein diets could be refined by substituting some red and processed meat with other protein sources. The efficacy of the DiOGenes dietary intervention translates into real world effectiveness in the Slimming World programme.</li> </ul>
Research Team	<p>Slimming World research team plus DiOGenes researchers: S Whybrow<sup>1</sup>, M Gibbs<sup>1</sup>, M van Baak<sup>2</sup>, TM Larsen<sup>3</sup>, AK Lindroos<sup>4</sup>, A Papadaki<sup>5</sup>, A Pfeiffer<sup>6</sup>, JA Martinez<sup>7</sup>, T Handjieva-Darlenska<sup>8</sup>, P Hlavaty<sup>9</sup>, A Astrup<sup>3</sup> and WHM Saris<sup>2</sup>.</p> <p><sup>1</sup>The University of Surrey, Guildford, UK; <sup>2</sup>Maastricht University, Maastricht, The Netherlands; <sup>3</sup>The University of Copenhagen, Copenhagen, Denmark; <sup>4</sup>Elsie Widdowson Laboratory, Cambridge, UK; <sup>5</sup>The University of Crete, Heraklion, Crete, Greece; <sup>6</sup>German Institute of Human Nutrition Potsdam-Rehbruecke, Nuthetal, Germany; <sup>7</sup>The University of Navarra, Pamplona, Spain; <sup>8</sup>Medical University National Multiprofile Transport Hospital, Sofia, Bulgaria; and <sup>9</sup>Institute of Endocrinology, Prague, The Czech Republic.</p>
Reference	*EC Framework VI contract No. FP6-513946: diet, obesity and genes ( <a href="http://www.diogenes-eu.org/">http://www.diogenes-eu.org/</a> ).
Date	2012

# Slimming World's approach

Title	Exercise and management of overweight and obesity
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>● Exercise and physical activity are beneficial in effectively preventing and treating overweight and obesity. In interventions, overall weight loss depends on the amount of exercise actually completed.</li> <li>● Failure to comply with an exercise prescription is an important reason for the apparent modest effect of exercise in many long-term weight control or weight loss trials.</li> <li>● However, even when compliance is 100%, the potential benefit of the energy expended in exercise can be offset by compensatory responses, mainly driven by increases in hunger and food intake. This is highly variable from person to person and depends on genetic determination of physiological regulatory processes of energy balance. Some over-compensators will need additional help to manage their increased eating in response to exercise, highlighting the need for an energy balance approach to weight control.</li> <li>● Difficulties with integrating new behavioural patterns into longer-term habits are probably among the most important reasons why exercise and physical activity fail to control body weight. Motivation and self-efficacy appear to be important factors that determine the long-term commitment to a physically active lifestyle.</li> <li>● Regardless of whether people compensate energy intake for exercise, increasing physical activity has numerous physical and psychological benefits.</li> <li>● We still need to clarify how exercise fits into the conditions and mechanisms associated with individual success at weight control, which can then be effectively promoted at the clinical, community and population levels.</li> </ul>
Research Team	RJ Stubbs from the Slimming World research team plus a multi-national university research team comprising JP Teixeira, AN King, S Whybrow and EJ Blundell.
Reference	Teixeira, P.J., Stubbs, R.J., King, N.A., Whybrow, S. and Blundell, J.E. (2011). Exercise and management of overweight and obesity. <i>In Saxton JM, ed. Exercise and Chronic Disease: An Evidence-Based Approach</i> . Routledge, Oxon, 297-321.
Date	2011

Title	A qualitative study comparing commercial and health service weight loss groups, classes and clubs
Participants	11 leaders and 22 attendees of health service and commercial group based weight loss interventions.
Summary	<ul style="list-style-type: none"> <li>● Group based interventions for weight loss are popular. This study aimed to compare and contrast leaders' and attendees' experiences of health service and commercial weight loss groups, through 13 semi-structured group observations and in-depth audio recorded interviews with 11 leaders and 22 attendees.</li> <li>● Compared to commercial groups, health service classes tended to offer smaller periodic fixed term groups, involving gatekeeper referral systems. Commercial organisations provide a fixed branded package for members, and most commercial leaders share personal experiences of losing weight. Health service leaders had less opportunity for supervision, peer support or specific training in how to run their groups compared to commercial leaders.</li> <li>● Commercial and health service groups differ in access; attendee and leader autonomy; engagement in group processes; and approaches to leadership and training, which could influence weight loss outcomes.</li> <li>● The paper proposes that if health service groups are to become more prevalent, then attention to leader training, protected time to extend access and a stronger evidence-based theoretical approach to behavioural change in a group setting is required.</li> </ul>
Research Team	External research conducted by K Allan from Robert Gordon University, Aberdeen with P Hoddinott and A Avenell from the University of Aberdeen.
Reference	Allan, K., Hoddinott, P. and Avenell, A. (2011). A qualitative study comparing commercial and health service weight loss groups, classes and clubs. <i>Journal of Human Nutrition and Dietetics</i> , 24: 23-31.
Date	2011

# Slimming World's approach

Title	Dietary and lifestyle measures to enhance satiety and weight control
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>● This review highlights how energy density should be the cornerstone of dietary weight reduction strategies because it allows people to develop lasting eating habits based on more satiating foods. This should be integrated with a package of dietary behaviour changes including reduced fat, energy density, sugars and salt, increased fibre, protein and water content of foods.</li> <li>● The review emphasises how practical approaches to weight management should be focused on combined behavioural weight loss and maintenance strategies, including coping strategies, relapse prevention, social and emotional support, the tools to cope with small lapses and physical activity.</li> <li>● Research shows that people can navigate to a healthy weight if they can access the right tools, continuing care, guidance and social support to achieve sustainable lifestyle change and avoid relapse.</li> </ul>
Research Team	Slimming World research team plus S Whybrow from the University of Surrey.
Reference	Stubbs, R.J., Whybrow, S. and Lavin, J.H. (2010). Dietary lifestyle measures to enhance satiety and weight control. <i>Nutrition Bulletin</i> , 35: 113-125.
Date	2010

# Slimming World's approach

Title	Effects of Slimming World's programme on dietary energy density
Participants	117 self-funding Slimming World members compared with participants from other previously conducted studies
Summary	<ul style="list-style-type: none"> <li>• This study investigated the energy density (ED) of the self-selected diets of Slimming World members while following Slimming World's Food Optimising plan, compared to that of British consumers when following their normal diets, and prescribed intervention diets.</li> <li>• 3-day weighed food diaries of Slimming World members (n=117) were compared with those from study participants consuming their habitual diets (control, n=132), and those consuming additional snack foods (n=72); additional fruits and vegetables (F&amp;V, n=60); or while following a low fat weight loss diet (n=156).</li> <li>• The ED of the Slimming World diet was significantly and quantitatively lower than the other habitual and intervention diets.</li> <li>• Slimming World's programme enables people to self-select a significantly lower ED diet than either fat reduction strategies or by increasing fruit and vegetable intake per se.</li> </ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Surrey.
Reference	Stubbs, R.J., Whybrow, S., Pallister, C., Allan, J. and Lavin, J.H. (2010). Effects of Slimming World's programme on dietary energy density. <i>Obesity Reviews</i> , 11(s1): 438.
Date	2010

# Slimming World's approach

Title	Macronutrients, feeding behaviour, and weight control in humans
Participants	N/A
Summary	<ul style="list-style-type: none"><li>● The current lack of consensus regarding how macronutrients influence appetite, feeding behaviour and weight control is not primarily due to a lack of evidence. It is largely due to the interpretation of that evidence.</li><li>● There has been a tendency in the literature for one-or-two factor models to supersede each other, as a means to translate research into user-friendly messages that consumers can digest and assimilate (e.g. low fat messages, low carbohydrate messages). However, the dietary determinants of energy intake and weight control are multifactorial.</li><li>● Models that embrace this complexity explain more of the variance in energy intake and body weight and give a truer reflection of how diet composition impacts on energy balance.</li><li>● A key challenge to the scientific community is to develop ways to translate the relatively complicated messages arising from the results of their research into policy messages that consumers can use and trust as a means of navigating through their food environment, towards a healthier body weight.</li></ul>
Research Team	RJ Stubbs from the Slimming World research team plus S Whybrow from the University of Surrey.
Reference	Stubbs, R.J. and Whybrow, S. (2008). Macronutrients, feeding behaviour, and weight control in humans. In: <i>Harris RBS, Mattes RD, eds. Appetite and Food Intake: Behavioral and Physiological Considerations. Boca Ranton: Taylor &amp; Francis Group, 295-322.</i>
Date	2008

Title	Understanding variety: tasting different foods delays satiation
Participants	Experiment 1: 23 female and 10 male volunteers Experiment 2: 31 female and 16 male volunteers
Summary	<ul style="list-style-type: none"> <li>As part of a research grant funded by Slimming World and the ESRC*, this work investigates whether varying sensory and other characteristics of foods sustains interest in eating and the development of satiation.</li> <li>In a first study, participants attended four lab sessions to eat sweet or salted popcorn. This was consumed either <i>ad libitum</i> (control) or interrupted to rate the food they were eating (same condition SC), or a different food with a shared taste characteristic (congruent condition CC), or a food with a different taste characteristic (incongruent condition IC).</li> <li>Participants consumed significantly more in CC and IC than SC.</li> <li>In a second experiment, food focus or food distraction conditions were investigated in which chocolate intake was interrupted by tasting and rating either chocolate only (food focus) or chocolate and cheese cracker (food distraction).</li> <li>Participants were found to eat more in the distraction than the focus condition.</li> <li>The results indicate that food distraction can cause over eating due to the delay in satiation and that this is pronounced in foods with different taste characteristics.</li> </ul>
Research Team	<p>Externally conducted research by M Hetherington, R Foster, T Newman, G Norton from the University of Liverpool and A Anderson from the University of Dundee.</p> <p>*This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005).</p>
Reference	Hetherington, M.M., Foster, R., Newman, T., Anderson, A.S. and Norton, G. (2006). Understanding variety: tasting different foods delays satiation. <i>Physiology &amp; Behavior</i> , 87(2), 263-271.
Date	2006

# Slimming World's approach

Title	Situational effects on meal intake: a comparison of eating alone and eating with others
Participants	37 participants (16 female and 21 male)
Summary	<ul style="list-style-type: none"> <li>As part of a research grant funded by Slimming World and the ESRC* this study aimed to determine if social facilitation of eating occurs in part as a function of distraction which may impair the ability to self-monitor.</li> <li>Participants visited the laboratory on four occasions to consume a buffet-style lunch <i>ad libitum</i>.</li> <li>Participants ate alone (A), alone whilst watching TV (B), ate with two same sex strangers (C), ate with two same sex friends (D).</li> <li>Energy intake increased by 18% when eating with friends, and 14% when watching the TV compared to baseline (A).</li> <li>Engaging in conversation or watching TV draws attention away from eaten food and can stimulate food intake.</li> <li>Despite this, eating with strangers shows no significant increase in intake, suggesting that social facilitation effects are not simply due to distraction.</li> </ul>
Research Team	<p>Externally conducted research by M Hetherington, A Norton and L Newson from the University of Liverpool and A Anderson from the University of Dundee.</p> <p>*This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005)..</p>
Reference	Hetherington, M.M., Anderson, A.S., Norton, G.N.M. and Newson, L. (2006) Situational effects on meal intake: a comparison of eating alone and eating with others. <i>Physiology &amp; Behavior</i> , 88(4-5), 498-505.
Date	2004/2005



Title	Volume and variety: relative effects on food intake
Participants	30 participants (15 female and 15 male)
Summary	<ul style="list-style-type: none"> <li>As part of a research grant funded by Slimming World and the ESRC* this study aimed to determine the relative effects of manipulating the volume of a preload in the context of subsequent lunchtime food intake.</li> <li>Participants attended the lab on four occasions to receive a low or high volume tomato soup preload 30 minutes before a sandwich lunch either with a single or variety of fillings.</li> <li>Participants reported differences in hunger and fullness ratings as a function of volume.</li> <li>However, although subjective ratings of fullness were influenced by volume, this did not affect subsequent food intake at lunch.</li> <li>Variety of sandwich fillings did increase food intake compared with single filling condition across both preload soup volumes.</li> <li>It was concluded that lowering energy density and increasing volume (by simply adding water) does not reduce food intake at lunch.</li> </ul>
Research Team	<p>Externally conducted research by M Hetherington from Glasgow Caledonian University, G Norton from the University of Liverpool and A Anderson from the University of Dundee.</p> <p>* This research was supported by a LINK award jointly funded by the Economic and Social Research Council (ESRC) and Slimming World (L135251005).</p>
Reference	Norton, G.N.M., Anderson, A.S. and Hetherington, M.M. (2006). Volume and variety: relative effects on food intake. <i>Physiology &amp; Behavior</i> , 87(4), 714-722.
Date	2004

# Slimming World's approach

Title	Overweight and obesity: helping clients to take action
Participants	11 self-funding Slimming World members and 5 group Consultants
Summary	<ul style="list-style-type: none"> <li>● Focussing on Slimming World views of members and group Consultants, this qualitative paper details experiences, thoughts and emotions that lead a person to the decision to lose weight and also the barriers to taking action.</li> <li>● The paper highlights that there are many factors that affect why someone chooses to lose weight and their barriers to doing so, with self-esteem and confidence being the most affected by being overweight.</li> <li>● The authors conclude that the limitations of the NHS mean that patients may not receive the support they require to move through the stages of change, improve their self-esteem and have a successful weight loss. It is suggested that partnership working with a slimming organisation, such as Slimming World, may help to make more efficient use of NHS resources.</li> </ul>
Research Team	Externally conducted research by M Tod and A Lacey from the University of Sheffield.
Reference	Tod, A.M. and Lacey, A. (2004). Overweight and obesity: helping clients to take action. <i>The British Journal of Community Nursing</i> , 9(2): 59-66.
Date	2004

Title	Energy density of foods: effects on energy intake
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>• This paper critically reviewed the importance of dietary energy density (ED) as a major factor that may influence human appetite and energy intake (EI) and examined whether the effects of diet composition on appetite and EI can be explained in terms of ED.</li> <li>• There is clear evidence that dietary macronutrients exert differential effects on energy intake (EI), both in the laboratory and in real life. Under normal conditions where fat contributes disproportionately to ED, protein, carbohydrate and fat exert hierarchical effects on satiety in the order protein &gt; carbohydrate &gt; fat. Alcohol appears to stimulate EI. In human appetite studies, the main effect of controlling ED is to diminish the impact of differences in the satiating effects of fat and carbohydrate.</li> <li>• In short to medium term laboratory studies, increases in ED are more effective at increasing EI than at decreasing food intake. In longer term and cross-sectional studies conducted in naturalistic environments, increased ED appears more effective at decreasing food intake and less effective at elevating EI.</li> <li>• The available evidence suggests that we should be evolving more complex, multifactor models to account for the observations that both macronutrients and ED affect EI rather than substituting one simplistic model with another.</li> </ul>
Research Team	Externally conducted research by RJ Stubbs from the Rowett Research Institute plus S Ferres and G Horgan from Biomathematics and Statistics, Scotland.
Reference	Stubbs, R.J., Ferres, S. and Horgan, G. (2000). Energy density of foods: effects on energy intake. <i>Critical Reviews in Food Science and Nutrition</i> , 40: 481-515.
Date	2000

# Slimming World's approach

Title	Covert manipulation of energy density of high carbohydrate diets in 'pseudo free-living' humans
Participants	6 participants (all male)
Summary	<ul style="list-style-type: none"> <li>• This study examined the effects of varying the energy density (ED) of high carbohydrate (HC) diets on food and energy intake (EI), subjective hunger and body weight in humans.</li> <li>• Six men were each studied twice over 14 days, throughout which they had <i>ad libitum</i> access to one of two covertly-manipulated diets comprising 66% energy from carbohydrate and 21-22% fat and energy density of either 357kJ/100g (low ED) or 629kJ/100g (high ED).</li> <li>• Mean EI was 8.67 and 14.82MJ/d on the low ED and high ED diets, respectively.</li> <li>• Mean body weight significantly decreased on the low ED diet and increased on the high ED diet, giving total weight changes of -1.41kg and +0.84kg.</li> <li>• This study showed that excess EI is possible on high carbohydrate, high ED diets. <i>Ad libitum</i> intake from a low ED diet however, resulted in a lower energy intake resulting in significant weight loss.</li> </ul>
Research Team	Externally conducted research by RJ Stubbs and MA Johnstone from the Rowett Research Institute plus GC Harbron and C Reid from Biomathematics and Statistics, Scotland.
Reference	Stubbs, R.J., Johnstone, A.M., Harbron, C.G. and Reid, C. (1998). Covert manipulation of energy density of high carbohydrate diets in 'pseudo free-living' humans. <i>International Journal of Obesity and Related Metabolic Disorders</i> , 22: 885-92.
Date	1998

Title	The effect of covertly manipulating the energy density of mixed diets on <i>ad libitum</i> food intake in 'pseudo free-living' humans
Participants	6 participants (all male)
Summary	<ul style="list-style-type: none"> <li>• This study examined the effects of covert alterations in the energy density (ED) of mixed, medium fat (MF) diets on <i>ad libitum</i> food and energy intake (EI), subjective hunger and body weight in humans.</li> <li>• Six men were each studied three times (factorial design), during 14 days, throughout which they had <i>ad libitum</i> access to one of three covertly-manipulated MF diets that were low (373kJ/100g); medium (549kJ/ 100g) or high (737kJ/100g) in energy density.</li> <li>• Food intake decreased as ED increased, giving mean values of 2.84, 2.51 and 2.31kg/d, respectively. However, EI significantly increased with increasing ED giving mean intakes of 10.12, 12.80 and 16.17MJ/d, respectively. Subjective hunger did not differ between diets.</li> <li>• Diet significantly affected body weight (<math>F(2,10) = 4.62</math>; <math>P = 0.038</math>), producing changes of -1.20, 0.02 and 0.95kg, respectively over two weeks.</li> <li>• This study showed that dietary ED can influence EI and body weight, since changes in amount eaten alone are insufficient to defend energy balance, when subjects feed on unfamiliar diets and diet selection is precluded.</li> </ul>
Research Team	Externally conducted research by RJ Stubbs, MA Johnstone, ML O'Reilly and K Barton from the Rowett Research Institute plus C Reid from Biomathematics and Statistics, Scotland.
Reference	Stubbs, R.J., Johnstone, A.M., O'Reilly, L.M., Barton, K. and Reid, C. (1998). The effect of covertly manipulating the energy density of mixed diets on <i>ad libitum</i> food intake in 'pseudo free-living' humans. <i>International Journal of Obesity and Related Metabolic Disorders</i> , 22: 980-7.
Date	1998

# Slimming World's approach

Title	Covert manipulation of dietary fat and energy density: effect on substrate flux and food intake in men eating <i>ad libitum</i>
Participants	6 participants (all male)
Summary	<ul style="list-style-type: none"> <li>• This study assessed whether human food intake is regulated by carbohydrate stores (glycogenostatic model).</li> <li>• Six men were each studied three times during 7 days of whole-body indirect calorimetry, throughout which they had <i>ad libitum</i> access to one of three covertly manipulated diets: low fat (LF), medium fat (MF), or high fat (HF).</li> <li>• Energy intakes increased with percent fat, producing average daily balances of -0.27, 0.77, and 2.58MJ/d during the LF, MF, and HF diets, respectively.</li> <li>• This study demonstrated the impact of dietary fat on energy intake and balance. The data revealed a hierarchical relationship between whole-body macronutrient balance and energy intake, in that protein and carbohydrate have potential to reduce subsequent energy intake whereas there was no apparent reductive effect due to fat.</li> <li>• This suggests that physiological models including all macronutrients have greater capacity to predict energy balance than those based on single macronutrients.</li> </ul>
Research Team	Externally conducted research by RJ Stubbs and GC Harbron from the Rowett Research Institute plus RP Murgatroyd and MA Prentice from the Dunn Clinical Research Institute.
Reference	Stubbs, R.J., Harbron, C.G., Murgatroyd, P.R. and Prentice, A.M. (1995). Covert manipulation of dietary fat and energy density: effect on substrate flux and food intake in men eating <i>ad libitum</i> . <i>American Journal of Clinical Nutrition</i> , 62: 316-29.
Date	1995

Title	The role of large-scale, eHealth weight management interventions in addressing the global obesity epidemic
Participants	57,654 new Slimming World online members
Summary	<ul style="list-style-type: none"> <li>• eHealth interventions constitute a novel approach for convenient, cost-effective and scalable weight management. Despite the number of eHealth obesity services, there is a lack of published evaluation data.</li> <li>• Initial 3 month (13 week) outcomes were collated for Slimming World Online UK members.</li> <li>• Across enrolled online members, weight loss, percentage weight loss, and BMI reduction at 13 weeks were on average 2.6kg, 2.9% and 0.9kg/m<sup>2</sup> respectively.</li> <li>• Engaged members (those who joined and entered at least one further weight measurement during the 13 weeks) achieved a mean weight loss of 3kg, a mean percentage weight change of 3.5% and BMI reduction of 1.1kg/m<sup>2</sup>.</li> <li>• High engagers (those who entered at least 10 weight measurements) had a greater weight loss of 5.2kg, percentage weight change of 5.8% and BMI reduction of 1.9kg/m<sup>2</sup> (all p&lt;0.0001).</li> <li>• Mean number of weight measurements for the 13 week period was 6.1. Increased service use was associated with improved outcomes.</li> <li>• Slimming World's online programme had positive effects on weight related outcomes at 13 weeks. In order to sustain outcomes, additional strategies to maintain and improve participants' engagement are being developed.</li> <li>• eHealth interventions could provide an effective method to directly support overweight and obese adults, thereby reducing the burden on the health care system.</li> </ul>
Research Team	The Slimming World research team and M Kolotourou (freelance analyst).
Reference	Abstract accepted for oral presentation at the International Congress of Obesity (2016).
Date	2016

Title	Pilot analysis exploring the impact of deprivation on engagement and weight outcomes in people attending a commercial weight management organisation																																								
Participants	41,371 Slimming World members from six postcode areas (Bristol, Derbyshire, Nottinghamshire, Doncaster, Cleveland and Chelmsford)																																								
Summary	<div><div><div><div></div><div>Little is known about the effect of deprivation on engagement with commercial weight management programmes, attendance and weight outcomes. This analysis considered a sample of records from a dataset of 1.36 million self-funding Slimming World members during their first 3 months' attendance, alongside Indices of Multiple Deprivation (IMD) data.</div></div><div><div></div><div>Mean joining BMI ranged from 33.6kg/m² for quintile 1 (most deprived) to 31.6kg/m² for quintile 5 (least deprived). Joining weights ranged from 90.8kg for quintile 1 to 86.1kg for quintile 5.</div></div><div><div></div><div>Over the first three months, BMI changes were the same across all quintiles at 1.4kg/m². Weight changes ranged from -4.0% or -3.7kg for quintile 1 to -4.4% or -3.8kg for quintile 5</div></div></div><div><div><div><div></div><div><b>Slimming World Membership Compared to the General Population</b></div></div><table><tr><th rowspan="2">Deprivation Centile</th><th colspan="2">SW Members</th><th colspan="2">General Population</th><th rowspan="2">Difference</th></tr><tr><th>Count</th><th>%</th><th>Count</th><th>%</th></tr><tr><td>Quintile 1 (Most Deprived)</td><td>7,131</td><td>17.2%</td><td>323,680</td><td>24.2%</td><td>-7.0%</td></tr><tr><td>Quintile 2</td><td>7,983</td><td>19.3%</td><td>295,942</td><td>22.1%</td><td>-2.8%</td></tr><tr><td>Quintile 3</td><td>8,394</td><td>20.3%</td><td>286,444</td><td>21.4%</td><td>-1.1%</td></tr><tr><td>Quintile 4</td><td>9,078</td><td>21.9%</td><td>214,672</td><td>16.0%</td><td>5.9%</td></tr><tr><td>Quintile 5</td><td>8,785</td><td>21.2%</td><td>216,873</td><td>16.2%</td><td>5.0%</td></tr></table></div><div><div><div></div><div>Slimming World members were slightly under represented in the most deprived quintiles and overrepresented in the least deprived quintiles with members from quintile 1 making up 17.2% of the sample, compared with 21.2% for quintile 5. This was 7% less and 5% more than the general population.</div></div><div><div></div><div>This pilot analysis suggests Slimming World's community-based weight management programme is effective for members in terms of attendance and weight outcomes across all deprivation quintiles.</div></div></div></div></div>	Deprivation Centile	SW Members		General Population		Difference	Count	%	Count	%	Quintile 1 (Most Deprived)	7,131	17.2%	323,680	24.2%	-7.0%	Quintile 2	7,983	19.3%	295,942	22.1%	-2.8%	Quintile 3	8,394	20.3%	286,444	21.4%	-1.1%	Quintile 4	9,078	21.9%	214,672	16.0%	5.9%	Quintile 5	8,785	21.2%	216,873	16.2%	5.0%
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Reference	Morris, L., Pallister, C. and Lavin, J.H. (2015). Pilot analysis exploring the impact of deprivation on engagement and weight outcomes in people attending a commercial weight management organisation. <i>Appetite</i> , 87:400																																								
Date	2015																																								



Title	Weight outcomes audit in 1.3 million adults during their first 3 months' attendance in a commercial weight management programme
Participants	1,356,105 adult, non-pregnant Slimming World members
Summary	<ul style="list-style-type: none"> <li>Community-based programmes are well placed to provide wide reaching weight management provision, however, there is a lack of data outcomes of people choosing to access community programmes.</li> <li>This study involved analysis of electronic weekly weight records for self-referred, fee-paying Slimming World members joining a group between January 2010 and April 2012.</li> <li>This analysis reports weight change outcomes in 1,356,105 adult participants during their first 3 months' attendance.</li> <li>On joining, mean (SD) age was 42.3 years (13.6), height 1.65m (0.08) and weight was 88.4kg (18.8). Mean start BMI was 32.6kg/m<sup>2</sup> (6.3) and 5% of participants were men.</li> <li>Over the first three months, mean weight change of all participants was –3.9kg (3.6), percent weight change –4.4% (3.8), and BMI change –1.4kg/m<sup>2</sup> (1.3). Mean attendance was 7.8 sessions (4.3).</li> <li>For participants attending at least 75% of possible weekly sessions (n=478,772), mean BMI change was –2.5 kg/m<sup>2</sup> (1.3), weight change –6.8kg (3.7) and percent weight change –7.5% (3.5).</li> <li>Weight loss was greater in men than women, both in absolute terms (–6.5kg (5.3) vs –3.8kg (3.4)) and as a percentage (5.7% (4.4) vs 4.3% (3.7)), respectively. All comparisons were significant (p&lt;0.001).</li> <li>Level of attendance and percent weight loss in the first week of attendance together accounted for 55% of the variability in weight lost during the study period.</li> <li>This is the largest ever audit of a lifestyle-based weight management programme, demonstrating that Slimming World has a clinically significant impact on weight outcomes, which on this scale may have an important impact on public health.</li> </ul>
Research Team	The Slimming World research team plus Graham Horgan from Biomathematics and Statistics, Scotland.
Reference	Stubbs, J., Morris, L., Pallister, C., Avery, A., Horgan, G., Lavin, J. (2015). Weight outcomes audit in 1.3 million adults during their first 3 months' attendance in a commercial weight management programme. <i>BMC Public Health</i> , 15; 822.
Date	2015

Title	Weight outcomes in 1.2 million Slimming World members during their initial 3 months' membership
Participants	1,211,294 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>Community-based programmes are well placed to provide wide reaching weight management provision, however, there is a lack of data outcomes of people choosing to access community programmes.</li> <li>This study involved analysis of electronic weekly weight records for self-referred, fee-paying Slimming World members joining a group between January 2010 and April 2012.</li> <li>The analysis reports weight change outcomes in 1,211,294 adult, non-pregnant participants during their first three months' attendance.</li> <li>Mean (SD) joining BMI was 32.6kg/m<sup>2</sup> (6.3), age 42.5 years (13.5) and 5% were men. Over the first three months, mean (SD) BMI change was -1.5kg/m<sup>2</sup> (1.3), weight change -4.2kg (3.5), percent weight change -4.7% (3.7), and number of sessions attended 8.2 (4.0).</li> <li>For participants attending at least 75% of sessions (n= 478,722), mean (SD) BMI change was -2.5kg/m<sup>2</sup> (1.3), weight change -6.7kg (3.6) and percent weight change -7.5% (3.5).</li> <li>Weight loss was greater in men than women (6.1% (4.3) vs 4.6% (3.6) respectively. All comparisons were significant (p&lt;0.001).</li> <li>This is the largest ever audit of a lifestyle-based weight management programme, demonstrating that Slimming World has a significant impact on the health of the nation as a practical option for weight management strategies in the community, achieving large-scale, clinically safe and effective weight loss.</li> </ul> <p><i>* Data updated since publication</i></p>
Research Team	Slimming World research team plus statistical analysis by G Horgan from Biomathematics and Statistics, Scotland.
Reference	Stubbs, R.J., Morris, L., Pallister, C., Avery, A. and Lavin, J.H. (2013). Weight outcomes in 1.2 million Slimming World members during their initial 3 months' membership. <i>Obesity Facts</i> , 6(1):189.
Date	2013

Title	12 month weight outcomes in high-engagers with the Slimming World weight management programme																	
Participants	71,989 self-funding Slimming World members																	
Summary	<div><div><div><div></div><div>This study looked at the weight records of self-funding members of Slimming World groups who attended at least 75% of possible sessions over 12 months of membership.</div></div><div><div></div><div>Mean (SD) joining weight was 93.4kg (19.8), age 47 years (13.7), BMI 34.5kg/m<sup>2</sup> (6.5) and 6.3% of members were men.</div></div></div><table><thead><tr><th></th><th>Mean</th><th>SD</th></tr></thead><tbody><tr><td>Number of weeks attended</td><td>45.4 (85.7% of possible sessions)</td><td>3.4</td></tr><tr><td>Weight change (kg)</td><td>-12.7</td><td>8.4</td></tr><tr><td>Percent weight change (%)</td><td>-13.2</td><td>7.4</td></tr><tr><td>BMI change (kg/m<sup>2</sup>)</td><td>-4.7</td><td>3</td></tr></tbody></table><div><div><div></div><div>Percent weight outcomes were similar in men and women.</div></div><div><div></div><div>These data show that those who choose to engage for &gt;75% of possible sessions over a 12 month period achieve clinically significant weight loss exceeding 10%.</div></div></div></div>				Mean	SD	Number of weeks attended	45.4 (85.7% of possible sessions)	3.4	Weight change (kg)	-12.7	8.4	Percent weight change (%)	-13.2	7.4	BMI change (kg/m <sup>2</sup> )	-4.7	3
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Research Team	Slimming World research team plus statistical analysis by G Horgan from Biomathematics and Statistics, Scotland.																	
Reference	Lavin, J.H., Pallister, C., Morris, L. and Stubbs, R.J. (2013). 12 month weight outcomes in 45,395 high-engagers with the Slimming World weight management programme. <i>Obesity Facts</i> , 6(1):189.  * <i>Data updated since publication</i>																	
Date	2013																	

Title	Weight outcomes of 497,777 participants in Slimming World's programme during the first 12 weeks of membership
Participants	497,777 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This analysis examined weight loss outcomes in 497,777 self-funding participants of Slimming World groups.</li> <li>• Participants' sex, height, age and weekly weight measures were collected during the first 12 weeks of attendance.</li> <li>• Mean (SD) percent weight change was -3.9% (3.4) and number of sessions attended was 6.9 (3.6) of 12. For patients who did attend <math>\geq 10</math> of 12 sessions, (n=161,663 or 32%), mean (SD) percent weight change was 6.7% (3.2).</li> <li>• Slimming World achieves large-scale, community-based, clinically safe and effective weight loss while placing minimal health care costs on primary care services.</li> </ul>
Research Team	Slimming World research team
Reference	Stubbs, R.J., Brogelli, D., Pallister, C., Avery, A. and Lavin, J.H. (2012). Weight outcomes of 497,777 participants in Slimming World's programme during the first 12 weeks of membership. <i>Obesity Facts</i> , 5(1): 232.
Date	2012

Title	Tackling obesity in men: a preliminary evaluation of men only groups within a commercial slimming organisation
Participants	67 members from men only Slimming World groups
Summary	<ul style="list-style-type: none"> <li>• This study evaluated attendance and weight loss of men attending Slimming World men only groups.</li> <li>• Slimming World group records were analysed for 67 men who had attended a men only group for at least eight weeks.</li> <li>• At the point of data collection, average BMI had decreased from 35.9kg/m<sup>2</sup> to 32.5kg/m<sup>2</sup>. In those who had been members for at least 12 weeks prior to data collection, mean weight loss at week 12 was 9.2%.</li> <li>• The majority (91%) of men attending for 12 weeks or more lost a clinically significant amount of weight (at least 5%), with 34% achieving a 10% loss.</li> <li>• In those who had been members for 24 weeks 69% achieved a 10% weight loss.</li> <li>• The data indicates that overweight and obese men attending Slimming World groups are successful at losing weight in this environment and achieving recommended health-related weight loss targets.</li> </ul>
Research Team	Slimming World research team.
Reference	Bye, C., Avery, A. and Lavin, J.H., (2005). Tackling obesity in men: a preliminary evaluation of men only groups within a commercial slimming organisation. <i>Journal of Human Nutrition and Dietetics</i> , 18(5): 391-394.
Date	2005

Title	Factors associated with successful weight loss and attendance at a commercial slimming group
Participants	240 new Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This study examined factors associated with successful weight loss in new members attending Slimming World.</li> <li>• Questionnaires were given to new members on joining group (baseline) and after 12 weeks collecting personal details, information on previous weight loss, dieting experience, eating behaviour, self-efficacy and lifestyle. 12 week questionnaires also collected information on experience of the group and behaviour changes.</li> <li>• Weight change and group attendance details were obtained from Slimming World group records.</li> <li>• Mean weight loss over the 12 weeks was 4.8kg (6% weight loss). 54% achieved &gt;5% weight loss, with 15% achieving &gt;10% weight loss.</li> <li>• Weight loss was positively associated with duration of attendance (mean 9.7wks), ease of adherence to the dietary plan, early weight loss and self-efficacy (confidence in adhering to the programme and perceived ability to lose weight). Those who set themselves ambitious but still realistic goals tended to achieve greater weight loss by 12 weeks.</li> <li>• Members were likely to stay in the programme for longer if they were unemployed, homemakers and received support from their family. Other demographic and lifestyle factors were not predictive of success.</li> <li>• This study highlights how targets for 5-10% weight loss for health improvement can be achieved in commercial slimming groups. Compliance to the Slimming World plan coupled with early weight loss success and family support seem to be key elements in achieving success in a community group setting.</li> </ul>
Research Team	C Powell, J Russell and M Barker from the Human Nutrition Unit and Corporate Information and Computing Services (CICS), the University of Sheffield with support from J Lavin from Slimming World research team.
Reference	Powell, C., Lavin, J.H., Russell, J. and Barker, M. (2004). Factors associated with successful weight loss and attendance at a commercial slimming group. <i>International Journal of Obesity</i> , 28 (Supplement 1): S144.
Date	2004

Title	Eating habits associated with body weight gain in UK university students
Participants	247 student Slimming World members who had previously gained weight whilst at university
Summary	<ul style="list-style-type: none"> <li>• The first year of university life is a period often associated with weight gain, however, little is known about the reasons for this and therefore how to best support weight control during this time. This study examined eating habits and physical activity levels among university students in relation to body weight gain.</li> <li>• Before joining Slimming World, the majority (67%) of students reported to have gained between 3.2kg and 12.7kg during their time at university with 24% reporting to have gained over 12.7kg.</li> <li>• Students reporting greatest weight gain reported most frequent consumption of ready meals, convenience foods, takeaways and fast food and least frequent consumption of fruit and vegetables.</li> <li>• Only 20% ate fruit and vegetables on a daily basis and only 15% reported physical activity levels that met current guidelines.</li> </ul>
Research Team	EF Sprake, P Grabowski and ME Barker from the Human Nutrition Unit, JM Russell from Corporate Information & Computing Services, the University of Sheffield with support from J Lavin from Slimming World research team.
Reference	Sprake, E. F., Lavin, J.H, Russel, M., Grabaowski, P. and Barker, M. (2015). Eating habits associated with body weight gain in UK university students. <i>Proceedings of the Nutrition Society</i> , 74: E149.
Date	2015

Title	Investigating motivations for weight loss and benefits of attending a commercial weight management organisation post-natally
Participants	1,015 postnatal women attending Slimming World, who had given birth in the last 2 years
Summary	<ul style="list-style-type: none"> <li>• Women joining Slimming World post-natally (up to 2 years after giving birth) were invited to complete a questionnaire to investigate motivations to lose weight post-natally, weight change while attending Slimming World and the impact of weight retention and weight loss following pregnancy on self-esteem.</li> <li>• At the time of survey, 52% of the respondents had been members for &lt;3 months. Mean (SD) BMI had decreased from 33.3kg/m<sup>2</sup> (5.85) on joining to (at the time of survey) 30.5kg/m<sup>2</sup> (5.86).</li> <li>• Main reasons for wanting to lose weight in the post-natal period were 'to improve how I feel about my body size and shape' (85.2%), 'to improve my confidence' (76.6%) and 'to lose weight I gained during my pregnancy' (66.5%).</li> <li>• Only a combined 12.5% of members cited media/social pressure as a contributor to initiating weight loss.</li> <li>• 82% said retaining weight post-natally had affected their self-esteem. After losing weight with Slimming World 78.6% expressed improvements in self-esteem, 70.1% reported feeling better about their body size/shape since joining and 38% were now lighter than their pre-pregnancy weight.</li> <li>• Attendance at Slimming World resulted in weight loss, improved self-esteem, and improved satisfaction with body size and shape.</li> <li>• Motivation to lose weight appears to be personal, related to feelings about body shape, the impact of weight retention on self-confidence and to improve health. Attendance at Slimming World post-natally results in weight loss alongside improvements in self-esteem.</li> </ul>
Research Team	Slimming World research team.
Reference	Barber, J., Pallister, C., Avery, A. and Lavin, J.H. (2015). Investigating motivations for weight loss and benefits of attending a commercial weight management organisation post-natally. <i>Appetite</i> . 87:384.
Date	2015



Title	Evaluating the role of a commercial slimming organisation within type 2 diabetes management
Participants	551 Slimming World members with type 2 diabetes
Summary	<ul style="list-style-type: none"> <li>Weight management is highlighted as the principal strategy for managing blood glucose levels in type 2 diabetes. This research investigated the impact of accessing Slimming World's group support in diabetes management.</li> <li>551 members (87% female) with type 2 diabetes responded to the survey. Mean (SD) age was 53.1 (11.1) years and joining BMI was 39.6 (8.03) kg/m<sup>2</sup>.</li> <li>In addition to questions about medication usage and weight change, change in quality of life (QoL) was measured using the Impact of Weight on QoL questionnaire.</li> <li>For those members who had attended SW longer than 3 months (mean attendance 12.2 months, n=368), mean weight and BMI fell by 11.7kg (10.9%) and 5.4kg/m<sup>2</sup> respectively.</li> <li>Where data were provided (n=221), mean blood glucose and HbA1c fell by 4.8mmol/l and 2.1% respectively (P&lt;0.0001).</li> <li>Reductions in diabetes medication, including insulin, were also reported.</li> <li>Respondents reported significant improvements in aspects of QoL including physical activity levels and physical functionality scores; measures of self-esteem, sexual life, public distress/weight stigma and working experiences.</li> <li>Slimming World is a practical, effective option for supporting weight management in people with type 2 diabetes in a community setting. Members with type 2 diabetes lost weight whilst also reporting improvement in blood glucose control and reduced medication use.</li> </ul>
Research Team	Slimming World research team
Reference	Avery, A., Naga, R., Pallister, C., Barber, J., Morris, L. and Lavin, J.H. (2015). Evaluating the role of a commercial slimming organisation within type 2 diabetes management. <i>Appetite</i> . 87:383.
Date	2015

Title	Providing weight management via the workplace
Participants	231 employees referred to Slimming World via the workplace
Summary	<ul style="list-style-type: none"> <li>• This pilot study assessed the feasibility and benefits of providing weight management support via the workplace at two large regional employers (British Gas and Nottingham University Hospital Trust).</li> <li>• The study was conducted as part of the East Midlands Regional Platform for Health and Wellbeing.</li> <li>• Employees chose to attend either a workplace-based Slimming World group (n=118) or an established community-based Slimming World group (n=113) for 12 weeks.</li> <li>• Over the 12 weeks, participants achieved a significant reduction in weight: mean (SD) 3.4kg (3.4), BMI change of <math>-1.3\text{kg/m}^2</math> (1.3) and a percentage weight change of <math>-3.9\%</math> (3.8).</li> <li>• Members who completed the programme (defined as attending at least once in the final 4 weeks, n = 138) had a greater weight loss of 4.9kg (3.4), BMI change of <math>-1.8\text{kg/m}^2</math> (1.2), percentage weight change of <math>-5.7\%</math> (3.8), with the average attendance of 9.8 (1.8) sessions.</li> <li>• There were no significant differences between workplace and community intervention groups for any outcomes.</li> <li>• Members who completed both baseline and 3 month post-intervention questionnaires (n=97) reported positive changes in dietary and physical activity behaviours (all <math>p &lt; 0.005</math>), and psychological health (mental wellbeing, self-worth and self-esteem, all <math>p &lt; 0.005</math>).</li> <li>• These results suggest that Slimming World is an effective option for employers wishing to support their employees in making healthy lifestyle changes to manage their weight, whilst also resulting in positive mental well-being outcomes.</li> </ul>
Research Team	Slimming World research team plus G Middleton and H Henderson from the University of Lincoln and R Keegan from The University of Canberra.
Reference	<p>Barber, J., Hillier, S.E., Middleton, G., Keegan, R., Henderson, H. and Lavin, J.H. (2015). Providing weight management via the workplace. <i>International Journal of Workplace Health Management</i>, 8(3):230-243.</p> <p>Lavin, J.H., Barber, J., Middleton, G., Henderson, H. and Keegan, R. (2013). Regional Platform for Health and Wellbeing pilot study: provision of weight management support via the workplace. <i>Obesity Facts</i>, 6(1):197.</p>
Date	2015

Title	Regional Platform for Health and Wellbeing pilot study: provision of online weight management support via the workplace
Participants	57 employees from Nottingham City Council referred to Slimming World Online
Summary	<ul style="list-style-type: none"> <li>As part of Slimming World's commitment to the East Midlands Platform for Health and Wellbeing, this pilot study assessed the merits of providing online weight management support via the workplace at a large regional employer.</li> <li>73 interested Nottingham City Council employees were offered 12 weeks' weight management support with Slimming World's online programme, 57 of whom met study criteria and were included in the analysis.</li> <li>Weight change was self-reported weekly using Slimming World calibrated scales placed within each worksite.</li> <li>Over 12 weeks participants achieved a significant (<math>p &lt; 0.001</math>) reduction in weight (-3.9%).</li> <li>For those participants who submitted at least 1 weight change online in the final 4 weeks (classed as completers, <math>n=44</math>), weight reduction was slightly greater at -4.6%.</li> <li>Participants who completed both baseline and post-intervention questionnaires (<math>n=43</math>), reported positive changes in dietary and physical activity behaviours (all <math>p &lt; 0.001</math>), and psychological health (mental wellbeing, self-worth and self-esteem, all <math>p &lt; 0.001</math>).</li> <li>These results suggest that the Slimming World online weight management programme could be a practical option within workplace health and well-being programmes to support weight control.</li> </ul>
Research Team	Slimming World research team plus G Middleton from the University of Lincoln.
Reference	Lavin, J.H, Barber, J., Hillier, S. and Middleton, G. (2015). Regional Platform for Health and Wellbeing pilot study: provision of online weight management support via the workplace. Presented at Public Health England Annual Conference 2015.
Date	2015

## supporting public health needs

Title	Weight management in university students
Participants	680 students who joined Slimming World
Summary	<ul style="list-style-type: none"> <li>Starting university can lead to significant weight gain, with the numbers of overweight students reported to increase by 5% and those with a BMI &gt;30kg/m<sup>2</sup> increasing by 1% in their first semester.</li> <li>This study assessed the feasibility and benefits of supporting students with healthy weight management.</li> <li>During a special offer period, university students were offered free Slimming World membership for 12 weeks. Weekly attendance, age, gender, weight and height data were collated.</li> <li>680 (3.2% male) students, mean (SD) age 21 years (4.7), joined a Slimming World group during this period.</li> <li>Mean joining weight was 86.8kg (6.2) and BMI 31.5kg/m<sup>2</sup> (6.2).</li> <li>During the first 12 weeks, mean attendance was 6.1 weeks (3.8).</li> <li>Mean weight loss for all participants was 3.1% (3.1) and BMI change -1.0kg/m<sup>2</sup> (1.0).</li> <li>Those who were still attending Slimming World six months after the offer (n=140) had lost 6.1% (3.2) body weight on average and reduced their BMI by 1.9kg/m<sup>2</sup> (1.0).</li> <li>These findings suggest that regular support from Slimming World can prevent weight gain, which is typically common in students, and lead to significant weight loss in those who engage well.</li> </ul>
Research Team	The Slimming World research team plus C Cryan from Sheffield Hallam University.
Reference	Barber, J., Avery, A., Cryan, C., Smith, S. (2014). Weight management in university students. Presented at Public Health England (PHE) conference, September 2014.
Date	2014

Title	The healthy eating and lifestyle in pregnancy (HELP) feasibility study
Participants	148 obese pregnant women recruited at their booking appointment
Summary	<ul style="list-style-type: none"> <li>● In this pilot study, women with an obese BMI at the start of their pregnancy (mean starting BMI of 37.4kg/m<sup>2</sup>; range 30 – 58.7 kg/m<sup>2</sup>), were invited to attend a weekly support group encouraging adoption of healthy eating and activity habits. The group was jointly led by a trained Slimming World Consultant and midwife. Healthy eating and lifestyle behaviour change was encouraged rather than weight loss.</li> <li>● During their pregnancy, 85% (n=126) of the women went to &gt;3 and 65% (n=96) &gt;6 sessions. Mean (SD) attendance was 10 weeks (7.7).</li> <li>● For the 44 women who attended group within 3 weeks before delivery, a mean gestational weight gain of 4.3kg was reported.</li> <li>● Of the 132 reported births, the mean birth weight was 3.53kg (0.49) and for the 39 women losing weight, 3.59kg (0.35).</li> <li>● Fewer small and large for gestational age infants were born to the women losing weight (mean 2.5kg) during pregnancy.</li> <li>● 89% (n=115) initiated breastfeeding and 70% were still breastfeeding 28 days post-delivery.</li> <li>● Collaborative working between NHS midwives and Slimming World offers an opportunity to prevent excessive gestational weight gain, improve pregnancy outcomes and improve sustained breast-feeding rates.</li> </ul>
Research Team	Slimming World research team plus Karen Jewell, University of Wales hospital and Dr Sharon Simpson, Cardiff Trials Unit.
Reference	Jewell, K., Avery, A., Barber, J. and Simpson, S. (2014). The healthy eating and lifestyle in pregnancy (HELP) feasibility study. <i>British Journal of Midwifery</i> , 22:10
Date	2014

Title	Healthy eating and lifestyle in pregnancy (HELP): a protocol for a cluster randomised trial to evaluate the effectiveness of a weight management intervention in pregnancy
Participants	Obese pregnant women, between 12 and 20 weeks gestation, recruited from 20 maternity units across England and Wales
Summary	<ul style="list-style-type: none"> <li>• This paper describes the design of a randomised trial evaluating the effectiveness of Slimming World's programme during pregnancy on pregnancy and post-natal weight and health.</li> <li>• This study involves cluster randomisation of obese pregnant women at booking to either intervention or control groups.</li> <li>• The control group will receive usual care plus two leaflets providing advice on diet and physical activity. The intervention group will receive usual care and the two leaflets, plus one and a half hour weekly healthy lifestyle support groups, delivered by a Slimming World consultant and NHS midwives during pregnancy and up to 6 weeks post-partum.</li> <li>• Participants will be followed up at 36 weeks gestation and at six weeks, six months and 12 months post-partum.</li> <li>• BMI at 12 months is the primary outcome; secondary outcomes include pregnancy weight gain, quality of life, mental health, waist-hip ratio, diet, physical activity levels, pregnancy and birth complications, social support, self-regulation, self-efficacy, child weight centile and admission to neonatal unit.</li> <li>• A cost effectiveness analysis and process evaluation will be conducted.</li> <li>• The study will evaluate the effectiveness of a theory-based intervention developed for obese pregnant women. If successful the intervention will equip women with the necessary knowledge and skills to enable them to make healthier choices for themselves and their unborn child.</li> </ul>
Research Team	External research conducted by the HELP study research team from the South East Wales Trials Unit at the University of Cardiff.
Reference	John, E., Cassidy, D.M., Playle, R., Jewell, K., Cohen, D., Duncan, D., Newcombe, R.G., Busse, M., Owen-Jones, E., Williams, N., Longo, M., Avery, A. and Simpson, S. (2014). Healthy eating and lifestyle in pregnancy (HELP): A protocol for a cluster randomised trial to evaluate the effectiveness of a weight management intervention in pregnancy. <i>BMC Public Health</i> , 14:439.
Date	2014

Title	The Healthy Eating and Lifestyle in Pregnancy (HELP) study: design, baseline data and qualitative findings
Participants	598 obese pregnant women referred to Slimming World as part of the Healthy Eating in Lifestyle Pregnancy trial
Summary	<ul style="list-style-type: none"> <li>• This cluster RCT was designed to assess whether accessing Slimming World support during pregnancy is effective in reducing obese women's BMI at 12 months of giving birth.</li> <li>• The primary outcome was BMI at 1 year postpartum and secondary outcomes included pregnancy weight gain, mental health, quality of life, waist to hip ratio, diet, physical activity, pregnancy and birth complications, social support, self-efficacy and child weight centile.</li> <li>• Baseline results showed that women in both arms of the trial were similar and most were concerned about their weight – having attempted to tackle obesity before becoming pregnant.</li> <li>• If successful this intervention could significantly reduce health risks for pregnant women and NHS costs.</li> </ul>
Research Team	External research conducted by the HELP study research team from the South East Wales Trials Unit at the University of Cardiff.
Reference	Simpson, S.A., John, E., Cohen, D., Newcombe, R., Cassidy, D., Playle, B. and Jewell, K. (2013). The Healthy Eating and Lifestyle in Pregnancy (HELP) study: design, baseline data and qualitative findings. <i>Obesity Facts</i> , 6(S1): 196.
Date	2013

## supporting public health needs

Title	An initial evaluation of a family-based approach to weight management in adolescents attending a community weight management group
Participants	106 young Slimming World members, aged 11-15yrs, and 22 Slimming World Consultants
Summary	<ul style="list-style-type: none"><li>● Slimming World developed a tailored programme supporting younger members to adopt healthier lifestyle behaviours whereby those aged 11-15 years could attend a Slimming World group along with their parent or guardian and with the support of their health care professional.</li><li>● This survey evaluated Slimming World's programme for young people one year after its launch.</li><li>● Slimming World group Consultants supporting more than six young people in their groups were invited to take part. Weight and questionnaire data were collected from 106 young people through 22 Consultants.</li><li>● At the time of the survey the young members had been attending groups for an average 12.5 weeks with 84% of young members attending with their mother.</li><li>● Mean weight change was -3.0kg and mean BMI z-score reduced from 2.49 to 2.27.</li><li>● Over 75% of Slimming World group Consultants reported feeling comfortable welcoming the young members into their groups with the vast majority saying the young members had fitted 'very well' into the group environment.</li></ul>
Research Team	Slimming World research team.
Reference	Avery, A., Pallister, C., Allan, J., Stubbs, R.J. and Lavin, J.H. (2012). An initial evaluation of a family-based approach to weight management in adolescents attending a community weight management group. <i>Journal of Human Nutrition and Dietetics</i> , 25(5):469-76.
Date	2012



Title	Weight, body mass index and behaviour change in a commercially run lifestyle programme for young people
Participants	79 young Slimming World members aged 11-15yrs
Summary	<ul style="list-style-type: none"> <li>● Slimming World offers healthy lifestyle support to young members (11-15 yrs) who attend a group with their parent or guardian and have the support from their local health care team.</li> <li>● This study assessed the impact of Slimming World group support on body weight, body mass index (BMI) and health related behaviour changes in participating young people.</li> <li>● Results showed positive changes in dietary and activity levels with young members consuming more fruit and vegetables, less unhealthy snack foods and spending less time being sedentary.</li> <li>● 67% of participants were above the 99th centile for BMI on joining. At the time of the survey current mean weight change was -5.0 (4.5)kg and mean BMI change was -2.5 (2.0)kg/m<sup>2</sup> over an average attendance of 23 (19) weeks.</li> <li>● This paper demonstrates that the tailored programme for young people helped implement positive lifestyle behaviour changes associated with reductions in weight and BMI z-score, without compromising growth in height.</li> </ul>
Research Team	Slimming World research team.
Reference	<p>Lavin, J.H., Pallister, C., Avery, A. and Stubbs, R.J. (2010). Weight, body mass index and behaviour change in young people accessing Slimming World's family affair programme. <i>Obesity Reviews</i>, 11(s1): 433.</p> <p>Stubbs, R.J., Pallister, C., Avery, A., Allan, J. and Lavin, J.H. (2012). Weight, body mass index and behaviour change in a commercially run lifestyle programme for young people. <i>Journal of Human Nutrition and Dietetics</i>, 25(2): 161-166.</p>
Date	2012

Title	Demographic factors do not predict weight loss maintenance in members of a commercial weight loss organisation
Participants	1,428 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>Demographic factors are important correlates of predisposition to obesity but much less is known about how they relate to weight loss and its maintenance.</li> <li>This analysis, as part of the DiOGenes* study, examined the demographic predictors of weight loss maintenance in 1,428 participants of Slimming World, who had been members for a mean (SD) of 16 (16) months, had lost 13.8% <math>\pm</math> 9.2% weight and were trying to maintain, or further, their weight loss during a subsequent six month study period.</li> <li>There was no association between age, sex, marital status or family structure and subsequent weight loss maintenance. Heavier people lost a greater percentage of their weight during the study period than did lighter people (<math>p &lt; 0.001</math>), presumably because they had more to lose.</li> </ul>
Research Team	RJ Stubbs from the Slimming World research team plus A McConnon, M Raats and M Gibbs from the University of Surrey.
Reference	<p>Whybrow, S., McConnon, A., Gibbs, M., Raats, M. and Stubbs, R.J. (2011). Demographic factors do not predict weight loss maintenance in members of a commercial weight loss organisation. <i>Proceedings of the Nutrition Society</i>, 70:E403.</p> <p>*EC Framework VI contract No. FP6-513946: diet, obesity and genes (<a href="http://www.diogenes-eu.org/">http://www.diogenes-eu.org/</a>).</p>
Date	2011

Title	Supporting post-natal women to lose weight
Participants	590 female Slimming World members who were up to two years post-natal
Summary	<ul style="list-style-type: none"> <li>• This study investigated weight loss, eating and physical activity habits and general well-being of women who joined Slimming World up to two years post-natally.</li> <li>• A questionnaire was hosted on Slimming World's member website. Respondents reported improvements in eating habits (eg cooking from scratch and eating less unhealthy snacks), physical activity habits and general/mental well-being since joining Slimming World.</li> <li>• At the time of the survey, 42.5% of respondents (n=590) said they had reached their pre-pregnancy weight and 41.5% said they are now lighter than before becoming pregnant. Of the respondents, those who had been members for &gt;6months (n=152), 56.5% had reached their pre-pregnancy weight and 55.3% were lighter than before becoming pregnant.</li> <li>• This data suggests that Slimming World support helps post-natal women to adopt healthy lifestyle habits and also to feel better about themselves.</li> </ul>
Research Team	Slimming World research team.
Reference	Avery, A., Allan, J., Lavin, J.H. and Pallister, C. (2010). Supporting post-natal women to lose weight. <i>Journal of Human Nutrition and Dietetics</i> , 23(4): 439.
Date	2010

Title	Changes in well-being, diet and activity habits of pregnant women attending a commercial weight management organisation
Participants	82 pregnant Slimming World members
Summary	<ul style="list-style-type: none"> <li>• A web-based survey was conducted to investigate changes in well-being and lifestyle behaviours of women attending Slimming World whilst pregnant.</li> <li>• Respondents reported that support from attending Slimming World groups had helped them maintain or increase their activity levels during pregnancy.</li> <li>• Improvements in self-esteem, self-confidence, general well-being, and feeling healthier were reported.</li> <li>• Members reported eating less unhealthy snacks and take-aways and being more likely to eat 5-a-day and cook from scratch.</li> <li>• 46.3% of respondents reported becoming more active overall.</li> <li>• 89% of the pregnant members stated that they were planning to breast-feed when the time came.</li> <li>• These results highlight how membership of Slimming World whilst pregnant positively influences lifestyle factors and perceptions of health and well-being.</li> </ul>
Research Team	Slimming World research team.
Reference	Pallister, C., Allan, J., Lavin, J.H. and Avery, A. (2010). Changes in well-being, diet and activity habits of pregnant women attending a commercial weight management organisation. <i>Journal of Human Nutrition and Dietetics</i> , 23(4): 459.
Date	2010

Title	An investigation into the dietary advice given by health professionals to Slimming World members with diabetes and how members are fitting this advice into Slimming World's eating plan
Participants	87 Slimming World members with diabetes
Summary	<ul style="list-style-type: none"> <li>• This study investigated how easily the advice given to Slimming World members who have diabetes by their healthcare teams fits into Slimming World's eating plan, Food Optimising.</li> <li>• Results suggested that the advice given by health professionals is very heterogeneous but that members cope well with fitting the dietary advice they have been given into Food Optimising while losing weight.</li> <li>• The findings of the survey indicate Slimming World's Food Optimising plan appears to be flexible enough to cater for the varying dietary advice given to members with diabetes by health professionals.</li> <li>• Attending Slimming World and following Food Optimising was beneficial for both weight loss and diabetes control.</li> </ul>
Research Team	Slimming World research team.
Reference	Avery, A., Allan, J., Pallister, C. and Lavin, J.H. (2009). An investigation into the dietary advice given by health professionals to Slimming World members with diabetes and how members are fitting this advice into Slimming World's eating plan. <i>Journal of Human Nutrition and Dietetics</i> , 22(6): 582-3.
Date	2009

# behaviour change and the wider health benefits

Title	Understanding and addressing common barriers overweight people may face in engaging in physical activity – a partnership project between Sporta's 'Make Your Move' and Slimming World, to support inactive individuals to engage in leisure centre-based activity
Participants	477 Slimming World members across 2 leisure trusts
Summary	<ul style="list-style-type: none"> <li>Physical activity plays an important role in long-term weight management and brings benefits of reduced risk of disease, improved mental well-being and physical fitness for those who are overweight. However, there is resistance among people who see themselves as non-sporty to enrol in activity programmes based in leisure centres and overweight people are among those least likely to enrol in such programmes.</li> <li>Funded by Sport England, Sporta's 'Make Your Move' programme partnered with Slimming World to pilot a study aimed at attracting and retaining individuals who are not physically active to participate in a physical activity scheme at two leisure centres.</li> <li>Initial insight from Slimming World group Consultants, members and leisure centre staff including attitudes to physical activity, barriers and motivations was gathered and used to develop and promote tailored activities and sessions to support engagement in the leisure centres. Bespoke activities and incentive schemes to support regular participation were developed in line with Slimming World's physical activity support programme.</li> <li>On joining the programme, participants' baseline levels of activity were low, with over 30% of participants engaging in no physical activity and over 50% not participating in any sports.</li> <li>The main reasons participants gave for previously choosing to not take part in physical activity included: 'lack of spare time', 'cost' and 'low self-esteem'.</li> <li>Participants' reported motivations for deciding to take part in the current project were to: 'support weight loss', 'improve overall health', 'feel better about myself' and to 'tone up'.</li> <li>Quantitative and qualitative data is being collected from Slimming World Consultants, members who participated in the scheme and from the session leaders who delivered and coordinated the scheme to determine which elements supported or inhibited participants' success, in terms of attendance and changes in activity levels.</li> <li>Bespoke activity sessions to support engagement in leisure centres have been developed and promoted within Slimming World groups. Data gathered from the collaboration is being used to inform further development to support potential nationwide rollout of similar programmes designed to facilitate overweight individuals engage in local activity services.</li> </ul>
Research Team	Slimming World research team plus Professor K Fox from the University of Bristol and C Gillingwater from Sporta, London.
Reference	Lavin, J., Dowse, E., Gillingwater, C. and Fox, K., (2015). Understanding and addressing common barriers overweight people may face in engaging in physical activity – a partnership project between Sporta's 'Make Your Move' and Slimming World to support inactive individuals engage in leisure centre-based activity. Presented at Public Health England, Everybody Active, Every Day, National Physical Activity Framework: One Year On Conference 2015.
Date	2015

# behaviour change and the wider health benefits

Title	Emotional and behavioural responses to perceived weight discrimination before and after substantial weight loss
Participants	2,573 Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This study examined experience of weight stigma and discrimination in 2,573 people participating in the Slimming World programme who, at the time of the survey, had attended for a mean (SD) of 16.6 months (24.7), lost 20.1kg (14.0) in weight.</li> <li>• Participants were questioned about (i) duration of attendance and weight change (ii) their experience of discrimination and stigma before and after losing weight, (iii) their emotional response to this experience, (iv) the impact it had on attempts to control their weight and (v) the impact it had on their ability to manage their weight.</li> <li>• At their heaviest, 40% of participants reported experiencing judgement, criticism or humiliation at least once per week. Incidents of perceived discrimination left recipients feeling ashamed (47%), depressed (41%) and useless (30%).</li> <li>• In response to weight discrimination, 65% turned to food for comfort while only 2% made long-term lifestyle changes. When asked, 63% of respondents reported gaining weight over time since they were first treated unkindly because of their size.</li> <li>• Respondents said that since losing weight they were now more likely to be acknowledged by strangers with a smile (61%), eye contact (54%), a compliment (49%), a hello (43%) and a conversation (41%).</li> <li>• In people with significant weight to lose, perceived weight discrimination can cause emotional distress, which undermines weight control behaviours. Reducing stigma may hypothetically facilitate weight management behaviours.</li> </ul>
Research Team	Slimming World research team.
Reference	Stubbs, R.J., Greenwood, L., Caven, J. and Morris, L. (2015). Emotional and behavioural responses to perceived weight discrimination before and after substantial weight loss. <i>Obesity Facts</i> , 8(1): 118.
Date	2015

# behaviour change and the wider health benefits

Title	Changes in self-esteem in participants associated with weight-loss and maintenance of commercial weight management programme
Participants	292 Slimming World members who had lost on average >10% of their weight
Summary	<ul style="list-style-type: none"> <li>• This study examined associations between weight loss, weight maintenance and self-esteem in 292 Slimming World members.</li> <li>• Self-esteem was measured with the Rosenberg self-esteem questionnaire adapted to 5-point Likert scales.</li> <li>• Mean (SD) weight on joining was 89.0kg (20.0). At the time of survey, time taken to reach current weight was 16.3 months (13.5). Mean weight change was -15.6kg (11.4) and BMI change was -5.7kg/m<sup>2</sup> (4.0) (both <math>p &lt; 0.001</math>), maintained for 11.7 months (12.8).</li> <li>• Participants' initial reports of lack of self-respect, lack of self-pride and sense of failure all decreased (all <math>p &lt; 0.001</math>) in association with reaching their current weight. Self-satisfaction, feelings of self-achievement, positive attitudes towards themselves, sense of self-worth and self-efficacy all significantly increased (all <math>p &lt; 0.001</math>).</li> <li>• Multiple regression analysis showed that age, gender, height and start weight accounted for 35.4% of the variance in weight change. Self-esteem components of the model accounted for 50.4% of the variance in weight change.</li> <li>• Successful weight loss and maintenance was associated with significant reported improvements in self-esteem in Slimming World members.</li> </ul>
Research Team	Slimming World research team plus Aine McConnon from the University of Dublin.
Reference	<p>Stubbs, J., Hillier, S., Pallister, C., Avery, A., McConnon, A. and Lavin, J. (2015). Changes in Self-esteem in Participants Associated with Weight- loss and Maintenance of Commercial Weight Management Programme. <i>Obesity &amp; Control Therapies</i>, 2(1): 1-5</p> <p>Avery, A., Stubbs, R.J., Pallister, C. and Lavin, J.H. (2013). Changes in self-esteem associated with weight change in longer-term participants of a commercial weight management programme. <i>Obesity Facts</i>, 6(1):178.</p>
Date	2015



# behaviour change and the wider health benefits

Title	Quality of life in longer-term members of a commercial weight loss organisation
Participants	620 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This study investigated the change in quality of life for participants who had been members of Slimming World for <math>\geq 6</math> months over a further 6 month period.</li> <li>• It was found that heavier participants perceived that they had a lower quality of life than lighter participants.</li> <li>• Weight loss over the six months of the study was associated with improved perceptions of all dimensions of quality of life measured; physical function (<math>p &lt; 0.001</math>), self-esteem (<math>p = 0.009</math>), sex life (<math>p &lt; 0.001</math>), public distress (<math>p &lt; 0.001</math>) and work (<math>p &lt; 0.001</math>).</li> <li>• These data suggest that weight status impacts on quality of life, which can be improved by weight loss when attending Slimming World.</li> </ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Aberdeen.
Reference	Whybrow, S., Stubbs, R.J., Avery, A., Pallister, C. and Lavin, J.H. (2013). Quality of life in longer-term members of a commercial weight loss organisation. <i>Obesity Facts</i> , 6(1):173.
Date	2013

## behaviour change and the wider health benefits

Title	Global self-esteem in longer-term members of Slimming World
Participants	620 self-funding Slimming World members
Summary	<ul style="list-style-type: none"><li>• This study investigated changes in self-esteem of 620 members who had attended Slimming World groups for at least six months and lost an average 15.2% weight.</li><li>• Members were then followed up over a subsequent six month study period and split into tertiles depending on whether they had lost weight, maintained or gained weight.</li><li>• A greater improvement in self-esteem since joining Slimming World was related to greater weight loss (kg) (<math>R^2=0.018</math>, <math>p=0.001</math>), but not to duration of membership. Members who had lost or maintained weight over the six month study period reported more of an improvement in feelings of self-esteem than those who gained weight (<math>p&lt;0.001</math>).</li></ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Aberdeen.
Reference	Stubbs, R.J., Whybrow, S., Avery, A., Pallister, C. and Lavin, J.H. (2013). Global self-esteem in longer-term members of Slimming World. <i>Obesity Facts</i> , 6(1):175.
Date	2013

# behaviour change and the wider health benefits

Title	Dietary restraint and weight loss maintenance in members of a commercial weight loss organisation
Participants	1,428 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This analysis examined the association between restrained eating behaviour and weight loss maintenance in 1,428 participants of Slimming World as part of the DiOGenes study*.</li> <li>• Participants had been members for a mean (SD) 16 (16) months. They had lost 13.8% (9.2) of their initial weight and were trying to maintain, or increase, their weight loss during a subsequent six month study period.</li> <li>• Disinhibition was associated with weight gain during the following six months. This only explained a small proportion of the variance in weight loss maintenance. Cognitive restraint and its components were not strongly associated with weight loss maintenance.</li> </ul>
Research Team	S Whybrow, M Gibbs, M Raats and A McConnon from the University of Surrey plus J Westenhoefer and E Engel from the University of Hamburg, with support from RJ Stubbs from the Slimming World research team.
Reference	<p>Whybrow, S., Westenhoefer, J., Engel, E., McConnon, A., Gibbs, M., Raats, M. and Stubbs, R.J. (2011). Dietary restraint and weight loss maintenance in members of a commercial weight loss organisation. <i>Proceedings of the Nutrition Society</i>, 70:E402.</p> <p>*EC Framework VI contract No. FP6-513946: diet, obesity and genes (<a href="http://www.diogenes-eu.org/">http://www.diogenes-eu.org/</a>)</p>
Date	2011

# behaviour change and the wider health benefits

Title	Changes in lifestyle habits and behaviours are associated with weight loss maintenance in members of a commercial weight loss organisation
Participants	1,428 self-funding Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This analysis examined the lifestyle correlates of weight loss maintenance in 1,428 participants of Slimming World, as part of the DiOGenes study*.</li> <li>• Participants had been members for on average 16 (16) months. They had lost 13.8% (9.2) of their initial weight and were trying to maintain, or increase, their weight loss during a subsequent six month study period.</li> <li>• Regular lunch consumption was associated with further weight loss (<math>p=0.002</math>). Borderline evidence suggested snacking between meals was associated with weight regain (<math>p=0.057</math>). Dietary habits relating to “eating a healthy diet” or “eating low-fat foods” were related to weight loss maintenance over the six months. The reported strengths of these two habits explained 3.8% and 0.7% of the variance in change in percentage body weight, respectively. When looking at change in habit strength over the six months, people for whom “eating a healthy diet”, “eating low fat foods” or “eating fruits and vegetables” had become stronger habits tended to have more successful weight changes. The correlations were significant, but very weak (<math>R^2 = 0.03, 0.019</math> and <math>0.01</math> respectively).</li> <li>• Increased self-reported physical activity correlated with more weight loss (<math>p=0.013</math>). All significant effects only explained a small proportion of the variance in weight loss maintenance.</li> <li>• Specific correlates while significant, only explain a small proportion of the variance in weight outcomes for the whole group. This study and other data suggest that the habits of successful weight loss maintainers are heterogeneous because people adopt individual lifestyle behaviour profiles.</li> </ul>
Research Team	Slimming World research team plus A McConnon, M Gibbs, M Raats and S Whybrow from the University of Surrey.
Reference	<p>Stubbs, R.J., McConnon, A., Gibbs, M., Raats, M. and Whybrow, S. (2011). Changes in lifestyle habits and behaviours are associated with weight loss maintenance in members of a commercial weight loss organisation. <i>Proceedings of the Nutrition Society</i>, 70:E404.</p> <p>*EC Framework VI contract No. FP6-513946: diet, obesity and genes <a href="http://www.diogenes-eu.org/">http://www.diogenes-eu.org/</a></p>
Date	2011

# behaviour change and the wider health benefits

Title	The financial costs of a healthy eating weight loss diet
Participants	117 self-funding Slimming World members compared with 188 participants from previous studies used as controls
Summary	<ul style="list-style-type: none"> <li>● High energy density (ED) processed foods tend to be cheaper than lower ED fresh foods. Therefore, the apparent cost of selecting a low ED, and healthier, diet may be a barrier to long-term weight loss.</li> <li>● This study compared the food purchase costs of Slimming World's healthy eating weight loss programme to habitual diets consumed to approximate energy balance from previous studies.</li> <li>● The Slimming World healthy eating programme was of lower ED than the habitual diet, whether calculated excluding or including the contribution of drinks.</li> <li>● Slimming World members consumed more food (by weight) than those eating their habitual diet. There was no significant difference between the mean daily costs of the two diets indicating that following a lower ED diet to achieve reduced energy intake is not more expensive than habitual diets.</li> <li>● The study concludes that a healthy eating weight loss diet based on foods of a low ED need not result in a higher purchase cost compared to habitual diets and can promote higher food but lower energy intakes.</li> </ul>
Research Team	Slimming World research team plus S Whybrow and M Gibbs from the University of Surrey.
Reference	Whybrow, S., Pallister, C., Gibbs, M. and Stubbs, R.J. (2011). The financial costs of a healthy eating weight-loss diet. <i>Proceedings of the Nutrition Society</i> , 70: E170.
Date	2011

## behaviour change and the wider health benefits

Title	Influence of Slimming World's lifestyle programme on diet, activity behaviour and health of participants and their families
Participants	2,812 Slimming World members/magazine readers
Summary	<ul style="list-style-type: none"> <li>• This paper investigated the impact of Slimming World's diet and physical activity guidance on diet, activity levels and health of people accessing Slimming World information and their families.</li> <li>• 2,812 representative respondents to a questionnaire hosted on Slimming World's member website and placed in Slimming World magazine were included in the analysis.</li> <li>• Those following Slimming World's dietary plan reported significant changes towards healthier food choices. Respondents also reported increasing physical activity levels after being made aware of Slimming World's activity programme. Over 80% reported an improvement in their health.</li> <li>• Not only did health and physical activity of those directly accessing Slimming World improve, but also that of their partners and children.</li> <li>• The results indicate that Slimming World's programme appeared to be having a beneficial impact on the diet and activity levels of those accessing the service and the improvements observed also reached the wider family network.</li> </ul>
Research Team	Slimming World research team.
Reference	<p>Bye, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2007). Influence of Slimming World's lifestyle programme on the diet, activity behaviour and health of participants and the whole families. <i>International Journal of Obesity</i>, 31(s1): S192.</p> <p>Pallister, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2009). Influence of Slimming World's lifestyle programme on diet, activity behaviour and health of participants and their families. <i>Journal of Human Nutrition and Dietetics</i>, 24(4): 351-358.</p>
Date	2009

## behaviour change and the wider health benefits

Title	Preliminary study to investigate what characteristics underlie successful weight loss?
Participants	36 self-funding Slimming World members
Summary	<ul style="list-style-type: none"><li>• This study examined, through means of questionnaires, food diaries and activity monitors, whether differences exist between “successful” and “less successful” slimmers.</li><li>• The present study also piloted measures to be used in a European study (Diogenes; project contract no. FOOD-CT-2005-513946) aiming to identify psychological and behavioural predictors of weight control.</li><li>• It found that successful slimmers reported lower daily energy intake and lower percentage intakes of fat. Differences in activity levels were not significant.</li><li>• It was concluded that more successful slimmers have a higher level of diet pre-occupation, suggesting that they have a greater awareness of the nutritional composition of foods that leads them to make healthier food choices than the less successful slimmers.</li></ul>
Research Team	Slimming World research team plus S Whybrow from the Rowett Research Institute.
Reference	Bye, C.J., Lavin, J.H., Whybrow, S. and Stubbs, R.J. (2006). Preliminary study to investigate what characteristics underlie successful weight loss? <i>Proceedings of the Nutrition Society</i> , 65: 92.
Date	2006

## behaviour change and the wider health benefits

Title	Short-term effects of two popular dietary interventions for weight loss (versus control group) on lipid peroxidation, LDL oxidation and antioxidant balance
Participants	30 participants including 12 Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This study investigated the short-term effects of the Atkin's Diet (low carbohydrate) and the Slimming World (low fat conventional diet) eating plan versus a control, habitual diet on oxidant stress/ antioxidant parameters in overweight women.</li> <li>• Subjects (age: <math>40 \pm 8</math> years, BMI: <math>30 \pm 2.9</math> kg/m<sup>2</sup>) were randomly assigned to either Atkin's (n = 12), Slimming World (n = 12) or control group (n = 6). All subjects completed a 2-week baseline and 4-week intervention period. Measures included lipid hydroperoxide (LH), LDL oxidation (LDLOx), superoxide dismutase (SOD), erythrocyte glutathione (GSH) and total antioxidant status (TAS).</li> <li>• LH levels increased on low carbohydrate diet vs baseline. TAS, SOD and GSH were higher at the end of the 4 week low carbohydrate intervention vs baseline measurements.</li> <li>• In comparison to baseline measurements, LDLOx decreased after 2 weeks on low carbohydrate diet. No significant changes in LH, LDLOx, SOD, GSH and TAS were identified following low fat conventional diet or control.</li> <li>• Short-term compliance to the low carbohydrate diet increased oxidant stress, an effect which was not observed following low fat conventional diet. The authors suggest that oxidant/antioxidant status during long-term low carbohydrate diets should be examined to assess the potential risk to cardiovascular health.</li> </ul>
Research Team	<p>Externally conducted research by L Brown, C van Blerk and C Reavell from De Montfort University; N Finer from the Wellcome Research Facility Addenbrooke's Hospital and A McEneny from Centre for Clinical and Population Sciences, Queen's University Belfast.</p> <p>This work was conducted using a research grant from Slimming World.</p>
Reference	Brown, L., van Blerk, C., Finer, N., McEneny, A. and Reavell, C. (2005). Short-term effects of two popular dietary interventions for weight loss (versus control group) on lipid peroxidation, LDL oxidation and antioxidant balance. <i>Obesity Reviews</i> , 6(s1): 2.
Date	2005



# Slimming World on Referral evidence base

Slimming World on Referral efficacy

Slimming World on Referral behaviour change and wider health benefits



# Slimming World on Referral efficacy

Title	Twelve month outcomes following initial 12 week referral to Slimming World
Participants	29,093 Slimming World members who joined through a referral scheme
Summary	<ul style="list-style-type: none"> <li>• The Slimming World on Referral partnership is a well-established solution for weight management in the UK and involves health professionals referring patients to local Slimming World community groups for weekly weight management support for 12 (or multiples of 12) weekly sessions that are free for the patient (funded by the health trust). To support weight loss, additional referral periods may be offered, or members may pay to continue attending.</li> <li>• This study evaluated longer term weight outcomes in referral members, looking at continued attendance up to 12 months after their initial 12 week referral period.</li> <li>• Electronic weekly weight records were collated from Slimming World on referral members joining between January 2010 and June 2011.</li> <li>• Members were categorised depending on whether they made at least one fee paying attendance after their initial 12 week referral period (self-funders) or not (non-self-funders).</li> <li>• 40.2% (11,682) of referral members went on to self-fund after their referral period.</li> <li>• Self-funders attended a mean of 29.6 sessions (13.8) in their first 12 months, of which 16.5 (7.9) were referred attendances and 13.1 (11.7) were self-fund. This compares to 8.8 (6.6) referral sessions for non-self-funders.</li> <li>• Members who continue to self-fund after referral achieve significantly greater weight losses in their first 12 months, 9.7kg (9.8%) compared with 3.4kg (3.5%) for non-self-funders.</li> <li>• Comparing the two groups, self-funders were older, 49 years (14.2) vs 44.5 years (14.4), slightly heavier, 98.3kg (19.9) vs 97.5kg (19.3) and had slightly higher joining BMIs, 36.4kg/m<sup>2</sup> (6.3) vs 36.0kg/m<sup>2</sup> (6.1), than non-self-funders.</li> <li>• These data demonstrate that a substantial proportion (40%) of patients referred to Slimming World go on to self-fund for an average of 13 weeks following their initial referral period, achieving significant weight loss and BMI change (-3.6kg/m<sup>2</sup>) at 12 months.</li> </ul>
Research Team	Slimming World research team
Reference	Morris, L., Pallister, C. and Lavin, J. (2015). Slimming World on Referral: longer term attendance and weight outcomes. Poster presented at the Association for the Study of Obesity conference, 2015
Date	2015

# Slimming World on Referral efficacy

Title	Comparing weight outcomes in self-referred fee-paying vs primary care referred members of a commercial weight management organisation																										
Participants	45,382 Slimming World members referred to Slimming World from primary care compared to 1,356,105 self-funded Slimming World members																										
Summary	<div><div><div><div></div><div>To address concerns of whether offering a weight management service free of charge would reduce patient motivation or commitment to the service and result in less success, this study compared attendance levels and weight outcomes of those initially referred from primary care for 12 weeks with equivalent outcomes of regular self-funding members over the first three months.</div></div><div><div></div><div>Members referred to Slimming World were on average four years younger (mean (SD) 46.3 years (14.5) vs 42.3 years (13.6)), 9.6kg heavier (98kg (19.7) vs 88.4kg (18.8)) and had higher BMIs (3.9kg/m<sup>2</sup>) on joining (36.5kg/m<sup>2</sup> (6.3) vs 32.6 kg/m<sup>2</sup> (6.3)) than in the self-referred data set. Amongst members referred to Slimming World, 10.5% were male compared with 5% males amongst those who self-referred.</div></div></div><table><thead><tr><th rowspan="2"></th><th colspan="2">Sessions attended</th><th colspan="2">Weight change</th><th rowspan="2">BMI change</th></tr><tr><th>N</th><th>%</th><th>kg</th><th>%</th></tr></thead><tbody><tr><td>Referral</td><td>8.6 (3.5)</td><td>71.7%</td><td>-4.5 (3.7)</td><td>-4.6% (3.6)</td><td>-1.7 (1.3)</td></tr><tr><td>Self-funded</td><td>7.8 (4.3)</td><td>55.4%</td><td>-3.9 (3.6)</td><td>-4.4% (3.8)</td><td>-1.4 (1.3)</td></tr></tbody></table><div><div><div></div><div>Referral members attended, on average, 0.8 more sessions despite being measured over just 12 possible sessions compared to 14 for self-funding members.</div></div><div><div></div><div>Despite being measured over a shorter time period, referral members achieved slightly greater absolute weight loss (0.6kg), percent weight loss (0.2%) and BMI change than self-funding members (0.3kg/m<sup>2</sup>).</div></div><div><div></div><div>This data demonstrates that Slimming World's community-based weight management programme is as effective for members that are referred and funded by primary care in terms of attendance, weight loss and BMI change as it is for self-referred, fee-paying members.</div></div></div></div>						Sessions attended		Weight change		BMI change	N	%	kg	%	Referral	8.6 (3.5)	71.7%	-4.5 (3.7)	-4.6% (3.6)	-1.7 (1.3)	Self-funded	7.8 (4.3)	55.4%	-3.9 (3.6)	-4.4% (3.8)	-1.4 (1.3)
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Date	2015																										

# Slimming World on Referral efficacy

Title	The cost-effectiveness of primary care referral to a UK commercial weight loss programme
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>• This research aimed to determine whether a 12 week primary care referral to Slimming World was cost-effective compared with usual care.</li> <li>• This independent cost-effectiveness analysis of referral to Slimming World used a large observational dataset and follows National Institute for Health and Care Excellence (NICE) reference case for technology appraisals.</li> <li>• Using a Quality Adjusted Life Year (QALY) measure to consider the impact of the intervention on both quality and length of life, Slimming World on Referral dominated usual care, being both cheaper and more effective at 12 months and over a lifetime horizon.</li> <li>• This is the first long-term economic model of a commercial weight loss programme that extends the analysis beyond type 2 diabetes to include additional health consequences associated with obesity.</li> <li>• Lifetime risk of health conditions such as diabetes, myocardial infarction and stroke were lower following referral to Slimming World than usual care.</li> <li>• An independent economic evaluation shows that primary care referral to Slimming World provides value for money against the standards set by the NICE.</li> </ul>
Research Team	Externally conducted research by D Meads, C Hulme, P Hall and A Hill from the University of Leeds.
Reference	Meads, D. M., Hulme, C. T., Hall, P. and Hill, A. J. (2014). The cost-effectiveness of primary care referral to a UK commercial weight loss programme. <i>Clinical Obesity</i> , 4: 324–332.
Date	2014

# Slimming World on Referral efficacy

Title	Which weight-loss programmes are as effective as Weight Watchers? Non-inferiority analysis
Participants	3,290 patients referred to different weight loss programmes by the NHS
Summary	<ul style="list-style-type: none"> <li>• The aim of this study was to examine whether other group based commercially available weight loss programmes and an NHS led programme had inferior results to Weight Watchers.</li> <li>• 3,290 participants who met the eligibility criteria for primary care obesity management treatments were included and referred to a weight management programme for 3 months. Participants were weighed at 3 and 12 months.</li> <li>• At 3 months other commercially available programmes were found not to be inferior to Weight Watchers. However, the NHS group programme was inferior.</li> <li>• At 12 months participants using Slimming World achieved significantly greater weight losses than those using Weight Watchers.</li> <li>• The authors concluded that, in the short term, all commercial weight loss programmes appear to result in similar weight loss. At 12 months Slimming World led to greater weight loss.</li> </ul>
Research Team	Externally conducted research by C Madigan, A Daley, and K Jolly from the University of Birmingham plus A Lewis and P Aveyard from the University of Oxford.
Reference	Madigan, C., Daley, A., Lewis, A., Jolly, K., Aveyard, P. (2014). Which weight-loss programmes are as effective as Weight Watchers? Non-inferiority analysis. <i>British Journal of General Practice</i> , 64(620): e128-e136.
Date	2014

# Slimming World on Referral efficacy

Title	Slimming World on Referral: weight management outcomes from a new enhanced service
Participants	629 NHS patients referred to Slimming World's enhanced service
Summary	<ul style="list-style-type: none"> <li>● This study looked at the weight changes of members attending Slimming World after being referred to a new enhanced service by their healthcare professional, launched in 2011. The enhanced service includes Slimming World assessing the patient's eligibility, readiness to change and explaining the programme to the patient before supporting enrolment in a Slimming World group for 12 weeks.</li> <li>● The study found that patients referred to the enhanced service achieved greater weight loss than patients referred to the regular referral service (-5.3% vs. -4.0% at 12 weeks), and a larger proportion achieved <math>\geq 5\%</math> weight loss in 12 weeks compared to the regular referral service (45.2% vs. 35.8%).</li> <li>● Slimming World's enhanced referral service is a practical and effective option for NHS weight management strategies and not only provides easy access to a specialist service requiring minimal NHS resource, but improved outcomes in terms of patient attendance and weight loss.</li> </ul>
Research Team	Slimming World research team.
Reference	Pallister, C., Stubbs, R.J., Morris, L., Avery, A. and Lavin, J.H. (2013). Slimming World on Referral: weight-management outcomes from a new enhanced service. <i>Obesity Facts</i> , 6(1): 114.
Date	2013

# Slimming World on Referral efficacy

Title	Service evaluation of weight outcomes as a function of initial BMI in 34,271 adults referred to a primary care/commercial weight management partnership scheme
Participants	34,271 Slimming World members referred by the NHS
Summary	<ul style="list-style-type: none"> <li>It is not clear if behaviour change programmes are as effective for weight management in people with a high BMI as for those who are more moderately overweight.</li> <li>This project examined weight loss outcomes as a function of initial BMI in 34,271 patients referred by their health care professional to Slimming World for 12 weeks.</li> <li>Patients referred to the scheme were categorised by BMI groups &lt;30kg/m<sup>2</sup> (11%), 30-34.9kg/m<sup>2</sup> (34%), 35-39.9kg/m<sup>2</sup> (29%) and to ≥ 40kg/m<sup>2</sup> (26%). Mean weight losses after 12 weekly sessions were 2.9, 3.6, 4.1, and 4.8kg for each BMI category respectively.</li> <li>Regression analysis showed that after adjusting for age and gender, relative to the &lt;30kg/m<sup>2</sup> group, absolute weight losses were 0.8, 1.4 and 2.4kg more for the 30-34.9kg/m<sup>2</sup>, 35-39.9kg/m<sup>2</sup> and to ≥ 40kg/m<sup>2</sup> groups, respectively (all p&lt;0.001). Percent weight loss was similar in each BMI category: 3.7%, 4.0%, 4.0% and 3.9%, respectively (p&lt;0.001).</li> <li>This service evaluation demonstrates that 12 week referral to Slimming World is as effective for people with high BMIs as for those who are moderately overweight.</li> </ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Surrey.
Reference	<p>Stubbs, R.J., Brogelli, D., Avery, A., Pallister, C. and Lavin, J.H. (2012). Referral to a commercial organisation is as effective for people with high BMIs as for those who are moderately overweight. <i>Obesity Facts</i>, 5(1): 227.</p> <p>Stubbs, R.J., Brogelli, D., Allan, J., Pallister, C., Whybrow, S., Avery, A. and Lavin, J.H. (2013). Service evaluation of weight outcomes as a function of initial BMI in 34,271 adults referred to a primary care/ commercial weight management partnership scheme. <i>BMC Research Notes</i>, 6:161.</p>
Date	2013



# Slimming World on Referral efficacy

Title	Attendance and weight outcomes in 4,754 adults referred over six months to a primary care/commercial weight management partnership scheme
Participants	4,754 Slimming World members referred by the NHS
Summary	<ul style="list-style-type: none"> <li>● Slimming World has an established partnership scheme allowing health professionals to refer patients to local community groups for weight management support in 12 week blocks. This allows health trusts to offer extended referrals to patients they feel would benefit from continued support.</li> <li>● This paper investigated the weight loss outcomes of 4,754 adults referred to Slimming World for 24 weekly sessions.</li> <li>● Mean average start BMI was 37.9kg m<sup>2</sup> (6.7) and 31.5% of the referred population had a starting BMI of 40kg m<sup>2</sup></li> <li>● Mean BMI change was -3.3kg/m<sup>2</sup>, weight loss 8.9kg (8.6%) and number of sessions attended 21.3 of 24. 74.5% of all patients enrolled achieved at least 5% weight loss and weight gain was prevented in 96.3%.</li> <li>● This study demonstrates that referral to Slimming World is a practical option for longer-term NHS weight management strategies. Local targeting of resources to where will have most beneficial effect in local communities can result in greater weight losses and maximise returns for investments made.</li> </ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Aberdeen.
Reference	<p>Stubbs, R.J., Brogelli, D., Whybrow, S., Avery, A., Pallister, C. and Lavin, J.H. (2012). 24-week referral to Slimming World from primary care: weight outcomes for 4,754 adults. <i>Obesity Facts</i>, 5(1): 215.</p> <p>Stubbs, R.J., Brogelli, D.J., Pallister, C.J., Whybrow, S., Avery, A.J. and Lavin, J.H. (2012). Attendance and weight outcomes in 4,754 adults referred over 6 months to a primary care/ commercial weight management partnership scheme. <i>Clinical Obesity</i>, 2: 6-14.</p>
Date	2012

# Slimming World on Referral efficacy

Title	Weight outcomes audit for 34,271 adults referred to a primary care/commercial weight management partnership scheme
Participants	34,271 Slimming World members referred by the NHS
Summary	<ul style="list-style-type: none"> <li>• This paper audited the rate and extent of weight loss in a primary care/commercial organisation partnership scheme.</li> <li>• 34,271 patients were referred to a local Slimming World group for 12 weekly support sessions by a health care professional in primary or secondary care.</li> <li>• Mean weight loss overall was 4.0kg (4.0%).</li> <li>• Mean weight loss of high attenders (those who attended at least 10 sessions) (58.1%) was 5.5kg (5.5%).</li> <li>• Weight loss was greater in men than women.</li> <li>• This large scale audit demonstrates that referral to Slimming World is a practical option for NHS weight management strategies, which achieves clinically safe and effective weight losses.</li> </ul>
Research Team	Slimming World research team plus S Whybrow independent data analyser from the University of Surrey.
Reference	Stubbs, R.J., Pallister, C., Whybrow, S., Avery, A. and Lavin, J.H. (2011). Weight outcomes audit for 34,271 adults referred to a primary care/commercial weight management partnership scheme. <i>Obesity Facts</i> , 4(2): 113-120.
Date	2011

# Slimming World on Referral efficacy

Title	Evaluation of Healthy Choices: a commercial weight loss programme commissioned by the NHS
Participants	2,456 patients referred to commercial weight management programmes by the NHS
Summary	<ul style="list-style-type: none"> <li>• The aim of this study was to identify factors that influence successful weight loss in an NHS funded commercial weight loss programme.</li> <li>• Almost half (44%) of all patients referred achieved &gt; 5% weight loss at 12 weeks.</li> <li>• A statistically significant difference was found in the mean weight loss between completers (6.1kg, SD 3.7) and drop outs (2.2kg, SD 2.5).</li> <li>• Participants who had successful weight loss were significantly more likely to be older, male and in obese class I. They were also significantly more likely to have attended more meetings.</li> <li>• This study concludes that commercial weight management groups are successful and in fact Slimming World had a greater mean weight loss compared to the other providers (6.4% vs. 5.3%).</li> </ul>
Research Team	Externally conducted research by A Lloyd and R Khan from NHS Dorset.
Reference	Lloyd, A. and Khan, R. (2011). Evaluation of Healthy Choices: a commercial weight loss programme commissioned by the NHS. <i>Perspectives in Public Health</i> , 131: 177.
Date	2011

# Slimming World on Referral efficacy

Title	Comparison of a range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial
Participants	740 obese or overweight patients with co-morbidities identified by GP records.
Summary	<ul style="list-style-type: none"> <li>• This research aimed to assess the effectiveness of a range of weight management programmes in terms of weight loss.</li> <li>• The controlled trial compared commercial weight management options with group dietetics, one-to-one GP and pharmacy led interventions. All interventions ran for 12 weeks.</li> <li>• All programmes resulted in significant weight loss at 12 weeks, with the commercial options resulting in a significantly greater weight loss than the primary care led options (mean difference 2.3 (1.3 to 3.4) kg).</li> <li>• All except general practice and pharmacy provision resulted in significant weight loss at one year.</li> <li>• The primary care programmes were the most costly to provide.</li> <li>• It was concluded that commercially provided weight management services are more effective and cheaper than primary care based services led by specially trained staff, which are ineffective.</li> </ul>
Research Team	Externally conducted research by K Jolly, A Lewis, P Adab, JJ Deeks, A Daley and P Aveyard from the University of Birmingham, J Beach from the Nursing and Midwifery Council and J Denley from NHS South Birmingham.
Reference	Jolly, K., Lewis, A., Beach, J., Denley, J., Adab, P., Deeks, J.J., Daley A. and Aveyard, P. (2011). Comparison of a range of commercial or primary care led weight reduction programmes with minimal intervention control for weight loss in obesity: Lighten Up randomised controlled trial. <i>British Medical Journal</i> , 343:d6500.
Date	2011

# Slimming World on Referral efficacy

Title	Working together to manage a programme of weight loss
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>● This article describes how nurses can utilise commercial weight management groups to help them support overweight and obese patients.</li> <li>● Nurses play a critical role in primary care, helping people to manage their weight and directing them to local services and providers.</li> <li>● Commercial organisations are well placed to provide regular weight management support that is difficult to achieve with limited NHS resources.</li> <li>● Referral from primary care to local groups was pioneered in 2000 and is now well established with a growing evidence base which provides grounds for health professionals to recommend attending a weight management group that meets NICE best practice standards.</li> <li>● Partnerships like the referral service can benefit nurses and NHS staff by providing clear monitoring and frequent reports of patient progress.</li> <li>● Improved health associated with moderate weight loss can save costs in the long run too because it is often possible to reduce a patients' medication for conditions such as high blood pressure or diabetes.</li> <li>● Partnership working in the NHS is of huge benefit to patients, who value a joined up service where they feel supported by their local practice and receive specialised frequent support and practical solutions.</li> </ul>
Research Team	Slimming World research team.
Reference	Pallister, C. and Lavin, J.H. (2010). Working together to manage a programme of weight loss. <i>Primary Health Care</i> , 20(10): 28-32.
Date	2010

# Slimming World on Referral efficacy

Title	Slimming World on Referral in partnership with NHS Bristol: repeated referral up to 48 weeks
Participants	2,696 Slimming World members referred by NHS Bristol
Summary	<ul style="list-style-type: none"> <li>• This report analyses data collected from participants referred from NHS Bristol between 2005 and 2008. Weight change, BMI change and rates of attendance were analysed using weekly weight records from Slimming World.</li> <li>• The average weight loss for those referred for 12 weeks was 3.4%.</li> <li>• 328 had been given a further 12 weeks referral, achieving a 7.5% weight loss in 24 weeks.</li> <li>• 64 had completed a third referral (36 weeks in total), achieving an average 10.6% weight loss.</li> <li>• 13 patients who were slower at reaching their targets received a fourth referral (48 weeks in total) and lost on average, 8.5%.</li> <li>• Patients may be selected for repeated referral for various reasons, such as motivated individuals with larger amounts of weight to lose, those losing weight at a slower rate or presence of co-morbidities which would be improved by further weight loss. This data suggests that repeated referral can be beneficial for long-term success as initial weight losses are being maintained or increased.</li> </ul>
Research Team	Slimming World research team plus M Bird from Bristol Directorate for Public Health.
Reference	Pallister, C., Avery, A., Stubbs, R.J., Lavin, J.H. and Bird, M. (2010). Slimming World on Referral in partnership with NHS Bristol: repeated referral up to 48 weeks. <i>Obesity Reviews</i> , 11(s1): 236.
Date	2010

# Slimming World on Referral efficacy

Title	Slimming World on Referral: evaluation of weight management outcomes when working in partnership with a commercial organisation
Participants	4,285 Slimming World members referred by the NHS
Summary	<ul style="list-style-type: none"> <li>• Data collected from patients referred from 25 NHS Trusts to Slimming World between May 2004 and February 2008 were analysed in this study.</li> <li>• Weight change, BMI change and attendance were analysed using weekly group records from 4,285 members with complete weight, height, age, and gender data.</li> <li>• Mean start BMI of referred members was 38.1kg/m<sup>2</sup>.</li> <li>• Mean weight change was -4.1kg and percent weight change -4%. 36% achieved a 5% weight loss.</li> <li>• The mean attendance was 9.2 weeks. For those who attended at least 10 out of 12 sessions the average weight change was -5.3%.</li> <li>• This data suggests that referral to a commercial organisation is a practical option for NHS weight management strategies.</li> </ul>
Research Team	Slimming World research team.
Reference	Pallister, C., Avery, A., Stubbs, R.J. and Lavin, J.H. (2010). Slimming World on Referral: evaluation of weight management outcomes when working in partnership with a commercial organisation. <i>Obesity Reviews</i> , 11(s1): 237.
Date	2010

# Slimming World on Referral efficacy

Title	Impact of Slimming World on Referral on rate and extent of weight loss
Participants	1,990 patients referred to Slimming World by the NHS
Summary	<ul style="list-style-type: none"> <li>• This study summarised the data from the first 1,990 patients referred to Slimming World on Referral from NHS Trusts.</li> <li>• The mean weight loss of members was -4.3% in 12 weeks, and for those who attended at least 10 out of the 12 weeks -5.5%.</li> <li>• Overall 39% achieved a 5% weight loss in 12 weeks, raising to 54% for those who attended at least 10 out of 12 weeks.</li> <li>• Patients referred into the Slimming World on Referral service demonstrated clinically safe and effective weight losses. The service was considered more cost effective than drug treatment and less expensive than many in-house options.</li> </ul>
Research Team	Slimming World research team plus statistical analysis support from G Horgan from Biomathematics and Statistics, Scotland.
Reference	Bye, C., Avery, A., Stubbs, R.J., Horgan, G. and Lavin, J.H. (2008). Impact of Slimming World on Referral on rate and extent of weight loss. Presented at the British Dietetic Association Conference.
Date	2008



# Slimming World on Referral efficacy

Title	Feasibility and benefits of implementing a Slimming on Referral service in primary care using a commercial weight management partner
Participants	107 NHS patients referred to Slimming World
Summary	<ul style="list-style-type: none"> <li>• This study assessed the feasibility of referring obese patients from primary care to Slimming World groups for support in managing their weight.</li> <li>• 107 patients attending general practice for non-obesity reasons in two Derby practices were invited to participate in the new service.</li> <li>• 91 (85%) patients attended a group with 62 completing 12 weeks.</li> <li>• Mean weight change was -5.4kg (-6.4%).</li> <li>• 47 patients chose to self-fund further attendance at their Slimming World group after the referral period, with 34 completing a further 12 weeks. Mean weight loss over the total 24 weeks was 11.1kg (11.3%).</li> <li>• At baseline, patients reported low levels of well-being compared to the South Derbyshire population, but these had improved significantly by week 12 (calm <math>P&lt;0.001</math>, energy <math>P&lt;0.001</math>, down-hearted <math>P&lt;0.05</math>) and were maintained at 24 weeks (calm <math>P&lt;0.05</math>, energy <math>P&lt;0.001</math>, down-hearted <math>P&lt;0.001</math>).</li> <li>• The paper concludes that collaboration of this kind, between the NHS and Slimming World, is a feasible weight management option that is similar to, or better than, other options in terms of attrition, efficacy and cost.</li> </ul>
Research Team	This study was funded and conducted jointly by the former Southern Derbyshire Health Authority and Slimming World, with additional research support from J Barth from Leeds General Infirmary, and C Ruxton, independent nutritionist.
Reference	<p>Avery, A., Lavin, J.H., Rees, E., Whitehead, S.M. and Barth, J.H. (2004). Improvements in mental well-being during weight loss on a slimming on referral programme. <i>Proceedings of the Nutrition Society</i>, 63: 135A.</p> <p>Avery, A. (2003). Tackling obesity in primary care: assessing the practicalities of working in partnership with the commercial slimming sector. <i>Journal of Human Nutrition and Dietetics</i>, 16(5): 370.</p> <p>Lavin, J.H., Avery, A., Whitehead, S.M., Rees, E., Parsons, J., Bagnall, T., Barth, J.H. and Ruxton, C.H.S. (2006). Feasibility and benefits of implementing a Slimming on Referral service in primary care using a commercial weight management partner. <i>Public Health</i>, 120(9): 872-881.</p>
Date	2006

# Slimming World on Referral behaviour change and wider benefits

Title	Slimming World in Stop Smoking Services (SWISS): study protocol for a randomised controlled trial
Participants	320 smoking cessation service users, 160 of which will be referred to Slimming World for weight management support
Summary	<ul style="list-style-type: none"> <li>• The objective of this paper is to lay out the protocol for a study which aims to determine whether attending Slimming World from smoking quit date, through referral from NHS Stop Smoking Services, is more effective than usual care at preventing cessation related weight gain.</li> <li>• 320 participants will be recruited, with 160 in each arm randomly assigned to either normal cessation care or 12 weeks of Slimming World membership in addition to normal care. The primary outcome is weight change at 12 weeks post randomisation.</li> <li>• If the study demonstrates effectiveness, the study team will seek to determine if weight loss success comes at the expense of a successful quit attempt. Positive results from both trials would provide a potential solution to cessation-related weight gain.</li> </ul>
Research Team	Externally conducted research by D Lycett from the University of Coventry, P Aveyard, A Farmer, A Lewis from the University of Oxford and M Munafo from the University of Bristol.
Reference	Lycett, D., Aveyard, P., Farmer, A., Lewis, A. and Munafo, M. (2013) Slimming World in Stop Smoking Services (SWISS): study protocol for a randomised controlled trial. <i>Trials</i> , 14:182.
Date	2013

# Slimming World on Referral behaviour change and wider benefits

Title	A brief intervention for weight management in primary care: study protocol for a randomised controlled trial
Participants	1,824 obese adults in England attending their GP for reasons other than weight management
Summary	<ul style="list-style-type: none"> <li>• This paper describes the study protocol for a controlled trial where patients will be randomised into either an assistance intervention, involving referral to a weight management service and follow-up to assess progress (n=912), or an advice orientated intervention, where advice is given to lose weight on medical grounds (n=912).</li> <li>• Participants in the referral weight management arm will receive 12 weeks referral to a weight management provider of their choice (Slimming World or Rosemary Connelly) free of charge.</li> <li>• Participants will be contacted at 3 months (post intervention) via telephone to identify actions they have taken to manage their weight.</li> <li>• The primary outcome will be weight change at 12 months, established at appointments with their GP.</li> <li>• If successful, trial results could make the case for brief interventions for obese people consulting their GP and introduce widespread simple treatments akin to the NHS Stop Smoking Service.</li> <li>• The intervention could be introduced in the Quality and Outcomes Framework and influence practice worldwide.</li> </ul>
Research Team	Externally conducted research by A Lewis from the University of Oxford, K Jolly, P Adab, A Daley, S Jebb, S Clarke, A Christian, J Jin, B Thompson and P Aveyard from the University of Birmingham, A Farley from the Medical Research Council Human Nutrition Research Unit and D Lycett from Coventry University.
Reference	Lewis, A., Jolly, K., Adab, P., Daley, A., Farley, A., Jebb, S., Lycett, D., Clarke, S., Christian, A., Jin, J., Thompson, B., Aveyard, P. (2013). A brief intervention for weight management in primary care: study protocol for a randomised controlled trial. <i>Trials</i> , 14:393.
Date	2013

# Slimming World on Referral behaviour change and wider benefits

Title	Is Slimming World on Referral an effective option to help people with learning difficulties manage their weight?
Participants	20 patients with learning difficulties referred to Slimming World from Berkshire East PCT
Summary	<ul style="list-style-type: none"> <li>• This study involved analysis of a Slimming World on Referral scheme set up specifically for patients with learning difficulties.</li> <li>• Average attendance was 19 out of a possible 24 weeks. Average percentage weight change was -4.4% and 55% of participants lost 5% or more of their body weight within the 24 weeks.</li> <li>• Those attending at least 20 out of 24 sessions (n=12/ 60%) achieved a mean BMI change of -1.9kg/m<sup>2</sup>, weight change of -5.4kg, and percentage weight change of -5.8%.</li> <li>• The results highlight how Slimming World on Referral is an effective option for helping people with learning difficulties to manage their weight.</li> </ul>
Research Team	Slimming World research team.
Reference	Avery, A., Bye, C., Lavin, J.H. and Stubbs, R.J. (2008). Is Slimming World on Referral an effective option to help people with learning difficulties manage their weight? <i>Journal of Human Nutrition &amp; Dietetics</i> , 21(4):376-37.
Date	2008

# Slimming World on Referral behaviour change and wider benefits

Title	An innovative partnership to support weight loss in patients with obstructive sleep apnoea
Participants	32 obese patients with obstructive sleep apnoea from the Chest Clinic at Derriford Hospital
Summary	<ul style="list-style-type: none"> <li>● Obesity is one of the main factors predisposing to obstructive sleep apnoea and weight loss is often encouraged as part of the treatment process.</li> <li>● The study examined the efficacy of enabling obese patients with obstructive sleep apnoea to receive weight management support.</li> <li>● Obese patients with obstructive sleep apnoea were identified by the Chest Clinic at Derriford Hospital, Plymouth and invited to attend a Slimming World group for 12 weekly sessions.</li> <li>● Average weight loss of 7.2kg (6.2) or 6.2% (4.5) loss of baseline weight, and mean BMI decreased from 39.7kg/m<sup>2</sup> (6.9) at enrolment to 37.3kg/m<sup>2</sup> (6.8) at the end of the 12 week period.</li> <li>● Epworth Sleepiness Scores fell from 7.0 (4.2) to 5.9 (4.3).</li> <li>● The study concluded that partnership between Slimming World and a secondary care provider proved successful in supporting this specific patient group with a chronic condition to lose weight, thus improving their medical status.</li> </ul>
Research Team	Slimming World research team plus M Eveleigh and J Newham from Derriford Hospital, Plymouth Hospital NHS Trust.
Reference	Lavin, J.H., Avery, A., Eveleigh, M. and Newham, J. (2005). An innovative partnership to support weight loss in patients with obstructive sleep apnoea. Presented at NICE Annual Conference, Birmingham ICC.
Date	2005

# Developing the knowledge base of weight management



# Developing the knowledge base of weight management

Title	Setting targets leads to greater long-term weight losses and 'unrealistic' targets increase the effect in a large community-based commercial weight management group
Participants	New members, joining Slimming World between January and March 2012 with a joining BMI $\geq 30$ and with weight data available 12 months after joining (n=24,447).
Summary	<ul style="list-style-type: none"> <li>● Setting personal targets is an important behavioural component in weight management programmes. Normal practice is to encourage 'realistic' (5-10%) weight loss but the underpinning evidence base for this is limited and controversial.</li> <li>● In this dataset, weight loss at 12 months was greater for those members who set targets. A mean (SD) BMI change of 36.3kg/m<sup>2</sup> (5.5) to 31.0kg/m<sup>2</sup> (5.1) was achieved by the group setting targets compared to 38.8kg/m<sup>2</sup> (6.4) to 34.7kg/m<sup>2</sup> (5.6) in the group with no targets reported, a difference of 1.1kg/m<sup>2</sup> (p&lt;0.001).</li> <li>● The odds ratio for weight loss <math>\geq 10\%</math> at 12 months was 10.3 (CI 9.7- 11.1, p&lt;0.001) where targets had been set compared to no targets being set.</li> <li>● Members who set <math>\geq 4</math> targets achieved the greatest loss (p&lt;0.001).</li> <li>● At the highest quintile of target size, the size of the first target explained 47.2% (p&lt;0.001) of the variance in weight loss achieved at 12 months.</li> <li>● The mean BMI reduction in those with a target &gt;25% of their starting weight was 7.6kg/m<sup>2</sup> (4.0) at 12 months.</li> <li>● Much of the variance in achieved weight loss in this population was explained by the number of targets set and the size of the first target. Clinically significant weight loss was achieved and for some members, what may traditionally be considered 'unrealistic' large weight loss targets actually improved results.</li> </ul>
Research Team	A Avery, J Swift and S Langley-Evans, Division of Nutritional Sciences, University of Nottingham and members of the Slimming World research team.
Reference	Avery, A., Swift, J. and Langley-Evans, S. (2016). Setting targets leads to greater long-term weight losses and 'unrealistic' targets increase the effect in a large community – based commercial weight management group. <i>Journal of Human Nutrition and Dietetics</i> . In press.
Date	2016



# Developing the knowledge base of weight management

Title	The Government must do more to raise awareness of the links between alcohol and obesity, rather than treating them as separate issues
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>Obesity and excessive alcohol consumption are recognised as among the lifestyle factors having the greatest impact on public health in the UK today. While it's clear that alcohol and obesity are both recognised as public health issues in their own right, the link between the two is less discussed.</li> <li>This paper explores the links between alcohol and energy intake including the impact on appetite control, total energy intake, disinhibition and food choices. It also looks at the links between alcohol intake and weight and the impact on sleep.</li> <li>Findings from a Slimming World commissioned YouGov survey of 2,042 people, which investigated UK drinking habits and how they impact on lifestyle choices, suggest that people have a 'tipping point' - the point when drinking alcohol that they start to make less healthy choices with food, alcohol and physical activity.</li> <li>The paper calls for the Government to discuss weight and alcohol intake jointly (to raise awareness of the links between the two public health issues) and to do more to ensure the public are adequately informed to help them make healthy food choices when drinking alcohol.</li> </ul>
Research Team	Slimming World research team.
Reference	Lavin, J., Pallister, C., & Greenwood, L. (2016) The Government must do more to raise awareness of the links between alcohol and obesity, rather than treating them as separate issues. Perspectives in Public Health, 136(3). In press.
Date	2016

# Developing the knowledge base of weight management

Title	Does sleep affect weight management?
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>• This literature review looked at the role of sleep in weight management.</li> <li>• Studies show that sleep duration and quality can affect body weight as well as dietary choices and physical activity levels.</li> <li>• Shift workers have a greater risk of obesity and metabolic disorders than workers with daytime hours.</li> <li>• Research suggests sleep deprivation can alter levels of appetite regulation hormones and stimulate hedonic 'reward' behaviours in the brain, which results in an increased desire to seek out tempting foods.</li> <li>• Sleeping less also creates more opportunities for eating.</li> <li>• Furthermore, use of multimedia such as TV and computers, especially late at night may contribute to sleep deprivation and increased engagement in sedentary behaviours which are often linked to snacking behaviour and increased calorie intake.</li> <li>• Once people become overweight or obese this can affect the quality of sleep, typically through a condition known as sleep apnoea which causes interruptions to breathing during sleep, leading to regular waking and daytime tiredness.</li> <li>• Thus, lack of sleep may contribute to weight gain, while obesity tends to compound sleeping problems leading to a vicious cycle.</li> <li>• Encouraging people to get more sleep and to reflect on their sleep quality may help regulate body weight.</li> </ul>
Research Team	Externally conducted literature review by C Ruxton, Freelance Dietitian, and E Derbyshire, Freelance Nutritionist. Funded by Slimming World.
Reference	Ruxton, C. and Derbyshire, E. (2015). Does sleep affect weight management? <i>Complete Nutrition</i> , 15(1): 12.
Date	2015

# Developing the knowledge base of weight management

Title	Tackling the subject of weight with patients: the difficult conversation
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>• This paper explores the barriers many health professionals experience in raising and discussing the issue of body weight with patients.</li> <li>• Overweight and stigma is explored alongside the importance of 'making every contact count'.</li> <li>• Practical advice on how to discuss weight in a way that leaves patients feeling open to change is provided.</li> <li>• By recognising that past experiences and struggles with weight and failure to succeed have a profound effect on confidence and commitment, health professionals can begin to have helpful conversations about weight.</li> <li>• A caring, non-judgemental conversation that acknowledges how patients feel about their weight and their understanding of the effect it has can be a significant entry point in helping them begin to make behaviour changes and start them on a journey to better health, mental and emotional wellbeing.</li> </ul>
Research Team	Slimming World research team.
Reference	Lavin, J.H., Pallister, C., Gibson, S. and Caven, J. (2015). Tackling the subject of weight with patients: the difficult conversation. <i>Journal of Primary Health Care</i> , 25(2): 18-22.
Date	2015

# Developing the knowledge base of weight management

Title	NoHoW: Evidence-based ICT tools for weight loss maintenance
Participants	N/A
Summary	<ul style="list-style-type: none"> <li>Research suggests promising evidence-based behaviour change techniques for weight loss maintenance are self-monitoring, goal setting, action control, building self-efficacy and intrinsic motivation and that stress management and emotion regulation skills are key enablers of relapse prevention.</li> <li>Information and communication technology (ICT) has potential to provide accessible, scalable channels for people to engage with these evidence-based behaviour change techniques.</li> <li>The NoHoW project is a three-centre randomized controlled trial designed to evaluate the most effective ICT tools for weight loss maintenance using up-to-date behavioural science research.</li> <li>During the trial, ICT delivery will be facilitated via a suite of tools including networked-wireless tracking technologies, weighing scales and activity sensors, apps, multimedia resources and internet-based support.</li> <li>Project results will feed into new developments for implementation by Slimming World to provide further weight loss maintenance support to members for long term weight control.</li> </ul>
Research Team	<p>The Slimming World research team plus BL Heitmann from the Institute of Preventive Medicine, Denmark, FF Sniehotta from the Institute of Health &amp; Society Faculty of Medical Sciences Newcastle University, UK, P J Teixeira from the Faculty of Human Kinetics, University of Lisbon, Portugal, M Matos from the Cognitive and Behavioural Centre for Research and Intervention, University of Coimbra, Portugal, M Horgan, Biomathematics &amp; Statistics Scotland, UK, C Clissman, Pintail Ltd, Dublin, Ireland, L Läähteenmäki, Department of Business Administration, Aarhus C, Denmark, M Ermes, Teknologian Tutkimuskeskus, Finland, C Ladha, Axivity, York, UK, E Woodward, European Association for the Study of Obesity.</p> <p>This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 643309.</p>
Reference	<p>Stubbs, R.J., Heitmann, B.L., Sniehotta, F.F., Teixeira, P.J., Matos, M., Horgan, G., Clissman, C., Läähteenmäki, L., Ermes, M., Ladha, C., Sacher, P.M. and Woodward, E. (2015). NoHoW: Evidence-based ICT tools for weight loss maintenance. <i>Obesity Facts</i>, 8 (1): 127.</p>
Date	2015

# Developing the knowledge base of weight management

Title	The impact of shame, self-criticism and social rank on eating psychopathology in overweight and obese members of a commercial weight management programme
Participants	2,236 Slimming World members
Summary	<ul style="list-style-type: none"> <li>• This study examined associations between self-criticism, social comparison, external shame, negative affect (emotions) and eating psychopathology in overweight/obese participants attending Slimming World.</li> <li>• 2,236 participants completed an online survey with measures of self-criticism, social comparison, external shame and negative affect, adapted to address these aspects in relation to eating behaviour, body weight and shape.</li> <li>• Correlation analyses showed that external shame, self-criticism and social comparison were associated with negative affect and eating psychopathology.</li> <li>• Path analysis showed that when the effect of depressive symptoms was controlled for the impact of external shame, hated self and reassured self on disinhibition and susceptibility to hunger was fully mediated by their effect on weight-related negative affect. In turn, inadequate self and negative social comparison predicted higher disinhibition and susceptibility to hunger directly and partially through weight-related negative affect.</li> <li>• Shame, self-criticism, and perceptions of low social rank significantly predict eating related difficulties in members of the general population participating in popular weight-loss programmes and represent targets for intervention.</li> </ul>
Research Team	C Duarte and M Matos from the University of Coimbra and G Gilbert and P Gilbert from the Compassionate Mind Foundation.
Reference	Duarte, C., Matos, M., Gail, C., Morris, L., Stubbs, R.J. and Gilbert, P. (2015). The impact of shame, self-criticism and social rank on eating psychopathology in overweight and obese members of a commercial weight management programme. <i>Obesity Facts</i> , 8(1).
Date	2015

# Developing the knowledge base of weight management

Title	The impact of self-criticism and self-reassurance on weight related positive and negative affect and well-being in participants of a commercial weight management programme
Participants	2,175 Slimming World members
Summary	<ul style="list-style-type: none"> <li>Weight stigma can potentially undermine weight management by increasing self-criticism. The present study examined the impact of self-criticism on well-being.</li> <li>2,175 participants completed an online survey examining measures of self-criticism, self-reassurance, negative and positive affect and well-being (which were adapted to specifically address eating behaviour, weight and body shape perceptions).</li> <li>Correlation analyses showed that self-criticism was associated with negative affect and well-being. Path analysis suggested that self-criticism significantly decreased well-being, both directly and indirectly, mediated by increased levels of negative affect about one's weight, and by decreased levels of positive affect about one's weight.</li> <li>The ability to self-reassure had a higher predictive effect on increased well-being by predicting less negative affect and by predicting increased levels of positive affect regarding one's weight. All effects were significant at <math>p &lt; 0.001</math>.</li> <li>Developing self-reassuring competencies in weight management programmes enhances weight related affect and well-being.</li> </ul>
Research Team	C Duarte and M Matos from the University of Coimbra and G Gilbert and P Gilbert from the Compassionate Mind Foundation.
Reference	Duarte, C., Matos, M., Gail, C., Morris, L., Stubbs, R.J. and Gilbert P. (2015). The impact of self-criticism and self-reassurance on weight related positive and negative affect and well-being in participants of a commercial weight management programme. <i>Obesity Facts</i> , 8(1): 183.
Date	2015

# Developing the knowledge base of weight management

Title	A qualitative study of the understanding and use of 'compassion focused coping strategies' in people who suffer from serious weight difficulties
Participants	12 people seeking help for weight problems (two men and ten women)
Summary	<ul style="list-style-type: none"> <li>• This study used semi-structured interviews to explore the understanding and experiences of compassion in two overweight men and ten overweight women seeking help for weight problems.</li> <li>• The interviews examined people's understandings of compassion, their recall of experiences of compassion in childhood, their current experiences of receiving compassion from others, being compassionate to others, being self-compassionate, and whether they would be compassionate or self-critical for relapses in overeating.</li> <li>• Participants saw compassion as related to 'caring' and being 'listened to'. However, their recall of earlier experiences of compassion was of primarily practical help rather than emotional engagement. Typically their response to their own relapse and setbacks were self-criticism, self-disgust and even self-hatred rather than self-caring or understanding.</li> <li>• The findings suggest compassion based approaches will help people who are struggling to manage their weight.</li> </ul>
Research Team	The Slimming World research team plus P Gilbert, C Gale and J Gilbert from the Compassionate Mind Foundation and L Dunk and L Thomson from the University of Nottingham.
Reference	Gilbert, J., Stubbs, R.J., Gale, C., Gilbert, P., Dunk, L., Thomson, L. A. (2014) qualitative study of the understanding and use of 'compassion focused coping strategies' in people who suffer from serious weight difficulties. <i>Journal of Compassionate Health Care</i> , 1:9.
Date	2014

