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RESEARCH ARTICLE

The Weight Stigma Heat Map: A tool to identify weight stigma in public health and health promotion materials

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Abstract

Issues Addressed: Public health campaigns and health promotion endeavours have been criticised for perpetuating weight stigma by reinforcing misinformation and using deficits-based narratives about larger-bodied people. The aim of this project was to develop a 'heat map' tool to appraise existing health policy and resources for elements that promote weight stigma.

Methods: Ten themes were identified from literature using inductive analytic review methodology including pictorial/photographic representation, weight-health beliefs, body weight modifiability and financial concerns. Each theme was divided into four appraisal categories: the demonstration of weight stigma (via negative stereotyping, prejudice or discrimination that limits access to opportunities or services), weight bias (via presenting smaller bodies as normal/natural/healthy/good/desirable), bias-neutral (via representation of people of all shapes and sizes and accurate and nuanced health information about larger-bodied and smaller-bodied people) and finally an anti-stigma approach (via use of strengths-based narratives and overtly positive representation of and leadership by larger-bodied people).

Results: A colour coding schema (the 'heat map') to visualise stigmatising elements across materials and a scoring system was devised for future quantitative evaluation. To demonstrate the use of the Weight Stigma Heat Map (WSHM), the Australian National Obesity Strategy 2022–2032 was appraised.

Conclusions: It is likely that weight stigmatisation is an important but under-recognised factor influencing the effectiveness of campaigns and interventions promoting behaviour change.

So What?: Public health and health promotion professionals should consider using the WSHM as a framework for the development of less stigmatising policies, campaigns and resources and to direct reviews of existing materials.

KEYWORDS

health campaigns, health promotion, obesity, public health, quality improvement, weight bias, weight stigma

1 | INTRODUCTION

The use of weight stigma in public health and health promotion messaging to drive narratives of personal responsibility and behaviour change has been increasingly criticised in recent years,[1–6] including by the Australian Government.[7,8] Weight stigma is broadly defined as negative attitudes and beliefs about larger bodies and negative stereotypes about larger-bodied people, that give rise to prejudice, abuse, devaluation and discrimination.[2] Weight bias refers to the preference for thinner bodies, often delineated by body mass index (BMI) category cutoff points.[2] In Australia, the dominant public health policies, health promotion activities and clinical health care practice guidelines of recent decades reflect weight bias due to their weight centric agendas.[7] That is, the endorsement of smaller adult human body mass as inherently healthier than larger body mass, encouragement of weight loss as a 'healthy' goal for larger-bodied adults, recommendation of intentional avoidance of weight gain for smaller-bodied adults[9] and use of body weight as a measure of effectiveness. For example, the *Australian Dietary Guidelines* specify that Australians should 'achieve and maintain a healthy weight' (Guideline 1[10]), and healthy lifestyle programs delivered by health promotion organisations, such as *Life!* and *LiveLighter*, often specify or encourage weight management goals for participants with higher body mass.

The stated or implied messages within weight-centric narratives can include that larger-bodied people are inherently unhealthy and must have unacceptable lifestyle habits that require intervention and/or behavioural change.[11] They position intentional body weight change as a pursuit that is feasible, reasonable, straightforward, effective and low risk, despite strong evidence to the contrary,[12] and often use fear, disgust and the stigma they create about larger bodies and larger-bodied people to encourage behaviour change.[13,14] The experience of weight stigma is independently associated with serious adverse physiological and psychological health outcomes, increased risk of chronic disease development and health care avoidance, and inversely related to engaging in health-supporting lifestyle habits such as nourishing and adaptive dietary practices and regular physical activity.[15] Weight stigma is pervasive, affecting almost all areas of life, and its impact is experienced most severely by those at the very highest end of the BMI spectrum.[11] While weight bias has multiple socio-historical influences and intersects with other prejudices, central to weight stigma is the incorrect belief that body weight is a readily modifiable characteristic, whether that be via the intentional actions of an individual, or the design of environments to influence human behaviour.[16,17]

Efforts to counteract weight bias and stigma towards larger-bodied people have aligned themselves along current partitions in the health sector, from clinical medicine[18] to public health.[5] Size/weight inclusive approaches have been promoted as health supportive and un-stigmatising alternatives to weight centric approaches in public health[19] and when used in group interventions have been found effective at decreasing internalised weight stigma and enhancing health markers and lifestyle behaviours without BMI change.[12,20] The majority of tools to measure weight stigma detect the experiences and impacts of weight stigma on individuals rather than assessing elements in health-related activities that perpetuate weight stigma. The aim of this project was to create a practical appraisal tool for identifying stigmatising elements in public health and health promotion materials.

2 | METHOD

An inductive analytic review[21] of peer-reviewed literature relevant to weight stigma in public health and health promotion domains was conducted. Papers were sourced from a combination of academic database searching and purposive hand searching to capture a range of viewpoints (available in the Supporting Information). Analysis was ceased at manifest concept saturation. This process revealed 10 classes of higher-weight stigmatisation. These were each divided into four categories and colour-coded, as per the 'heat map' process,[22] corresponding with the degree of potential for perpetuating misinformation, stigmatising beliefs, negative stereotypes and prejudice. Descriptive statements for each category of all themes were developed. Perspectives of larger-bodied people were considered more salient than those of researchers and organisations that claim that higher body weight should be considered a distinct disease state requiring pharmaceutical or surgical treatment. A blue-orange palette was selected for colour-blindness accessibility with a graded white to black shading option for non-colour applications. A scoring system was devised that generates negative scores for stigmatising elements and positive scores for anti-stigma elements, from which an overall score can be derived.

3 | RESULTS

The themes, categories, colour coding and example descriptors for the Weight Stigma Heat Map (WSHM) can be found in Table 1. In general, the least stigmatising category (bright blue, +2) reflects an overtly anti-stigma and strengths-based approach[23] for larger-bodied people (e.g., 'people with larger bodies deserve excellent health care'). The next category (pale blue, +1) is weight bias neutral in a more general sense (e.g., 'healthy bodies come in all shapes and sizes'). The first of the stigmatising categories (pale orange, −1), is for elements that express a preference for a BMI of 18.5–25 kg/m^2. For example, framing a smaller body as the healthiest, most desirable and/or acceptable body state while not explicitly stating that larger bodies are unhealthy/undesirable/unacceptable. The most stigmatising category (bright orange, −2) is for elements that directly take a deficits-based or pathologising approach towards larger-bodied people and their assumed behaviour, intentions and health status. For example, stating or inferring that the cost of delivering good quality health care to larger-bodied people is an avoidable burden. Smaller documents/resources, for example posters, brochures, surveys etc that repeat similar advice and concepts can be analysed together. Larger documents should be divided into sensible sections for analysis. Each

TABLE 1 Weight Stigma Heat Map Assessment Matrix.

Category		Category 1: Anti-stigma Explicitly takes an anti-stigma and/or strengths-based approach towards larger-bodied people Score: +2	Category 2: Weight bias neutral Supports inclusion of people across the BMI span and/or bias-neutral position Score: +1	Category 3: Weight bias Expresses preference (bias) for thinner bodies or BMI 18.5–25 Score: −1	Category 4: Weight stigma Expresses stigmatising and/or deficits-based approach towards fatness or BMI >25 or >30 kg/m^2 Score: −2	Theme not represented Score: 0
Colour/shading options		Bright Blue Very pale grey	Pale Blue Pale grey	Pale Orange Grey	Bright Orange Black	
Theme 1	Imagery	Positive depiction of larger-bodied people, in multiple roles, including positions of power. Images of larger-bodied people embracing their body, being embraced, being part of loving relationships, receiving respectful treatment, engaged in fitness and active work roles, being professionally dressed and stylish.	Positive depiction of larger-bodied people, but proportionally limited number.	Only smaller bodied people pictured with no representation of larger-bodied people, or only positive depiction of larger-bodied people in passive/submissive roles with smaller bodied people in roles of authority and power (e.g., thin doctor providing advice to larger-bodied patient).	Negative depiction of larger-bodied people, for example, heads cropped out of the image, paired with stigmatised objects (e.g., sloppy clothing, unkempt hair, offensive or condescending logos or statements), engaged in stigmatised tasks (e.g., illicit drug taking, smoking), incapable or unskilled, shown as sad or angry when considering their own or other's bodies, grabbing body parts (own or others, particularly fleshy parts) in a disparaging manner (joyful manner is fine), violent or abusive visual context	No images of people used.
Theme 2	High Body Mass as Problem	Larger-bodied people can thrive in the bodies they have. Higher body mass is a normal body habitus for human beings. People with higher body mass deserve evidence-based treatments for any health issues they have. Weight stigma and size discrimination is the problem. Weight discrimination is a human rights issue. Anti-discrimination law warrants the inclusion of weight discrimination.	Body mass is a body characteristic, due to many different factors, most of which are out of volitional control. Some larger-bodied people enjoy good health, some have poorer health, similarly to smaller bodied people. People with very low body weight often have health problems and high morbidity and mortality risks.	Stating or inferring that smaller bodied people have fewer health problems and a lower risk of chronic diseases because of their body size. Framing BMI 18.5–25 kg/m^2 as 'healthy/acceptable/ideal/desirable/normal weight'	Use of terms 'overweight', 'obese' and variations, body mass as complex, relapsing disease/condition. Stating that BMI > 30 kg/m^2 is a disease state. Framing higher BMI as 'unacceptable/unhealthy/abnormal/undesirable/dangerous' weight. Use of 'crisis' terms for population body mass distribution, for example, 'obesity epidemic', 'health challenge'	Messages about body mass and body size not present.

(Continues)

TABLE 1 (Continued)

Category		Category 1: Anti-stigma Explicitly takes an anti-stigma and/or strengths-based approach towards larger-bodied people Score: +2	Category 2: Weight bias neutral Supports inclusion of people across the BMI span and/or bias-neutral position Score: +1	Category 3: Weight bias Expresses preference (bias) for thinner bodies or BMI 18.5–25 Score: −1	Category 4: Weight stigma Expresses stigmatising and/or deficits-based approach towards fatness or BMI >25 or >30 kg/m^2 Score: −2	Theme not represented Score: 0
Theme 3	Weight Modifiability	Larger bodies are likely to stay that way. People with lived experience of intentional weight loss and weight regain have the insights into weight modifiability that deserve the most respect. Any interventions that may affect body weight or shape must have full informed consent processes. Rationing health care and other opportunities and services on the basis of BMI is unethical and may be a human rights infringement.	The provision that body weight is not modifiable for some people (sometimes 'genetics' is stated as the reason). Stating that for larger-bodied people behavioural weight loss results in weight regain for most who undertake it. Stating that body mass and body shape are largely inherited and out of our control. It is normal for people to experience changes to body weight and shape across the life course. Pharmaceutical and surgical weight loss measures are more permanent but come with severe side effects for some.	Body acceptance characterised as making people 'lose hope'. Using a 'needle in a haystack' approach to looking for the 'one effective weight loss method' ('holy grail' thinking).	Body presented as a readily modifiable chronic disease risk factor. Narratives that high BMI signals of lack of willpower, commitment, effort, care for self or others. The assumption that having a 'healthy lifestyle' 'naturally' results in a BMI < 25 kg/m^2 and an 'unhealthy lifestyle' results in higher weight. Cites statistical outliers in weight loss studies as evidence that intentional weight loss is feasible and achievable. Stating or inferring that dealing with 'trauma' will cause weight to 'be released'.	Weight modifiability concept not present.
Theme 4	Weight Loss = Health	Indicating that weight losses should always warrant a discussion with a primary care provider in case there is something insidious occurring, and to monitor for malnutrition. Showing concern for weight losses experienced by larger-bodied people.	Stating the factors that can lead to weight loss, for example, illness (including infections, cancer), eating disorders, severe energy deficit, some medications, age-related changes (e.g., sarcopenia, frailty). Showing concern for unintentional and intentional weight losses.	Citing temporary effects of energy deficit on biochemical markers and biomarkers as evidence of health effects, for example, temporary suppression of blood pressure, CRP, LDL cholesterol, triglycerides, ALP and AST. Ignoring the risks of intentional weight loss including the development of disordered eating, eating disorders, maladaptive self-concept and body image, malnutrition, osteoporosis, nutrient deficiencies.	'Treatment of obesity' or weight loss recommendations presented as pathway to 'health'. Celebration of weight loss regardless of circumstances. Using weight loss as evidence of increase in 'healthiness'. Intentionally underfeeding larger-bodied people and patients 'for their health' Assuming that smaller bodied people are ready for surgery while larger-bodied people should lose weight first. Assumption that weight loss will 'turn back the clock' and restore previous health status.	Intentional weight loss as a strategy to gain health not present.

TABLE 1 (Continued)

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Theme 5	Over-generalising and Mis-information	Inclusion of qualitative research findings that give voice to larger-bodied people with lived experience of size inclusive health care and/or body positive life outlook. Strengths-based reporting of research findings about larger-bodied people, with enough detail to not perpetuate stigmatising assumptions about larger-bodied people. Stating that assumptions about larger-bodied people cannot be made on the basis of their body shape, size or weight. Calling for human rights and research ethics protections, recognising that the effects of weight stigma have led to larger-bodied people being vulnerable to bullying, harassment, discrimination and self-stigmatisation.	Being specific about which population or study cohort has the outcomes reported and under what circumstances and timeframe. Inclusion of negative and positive findings about smaller and larger-bodied people, with enough detail to not perpetuate stigmatising assumptions. No developed nation has ever had a population completely <30 kg/m^2.	Making links between body size and factors that are unlikely to arise biologically like cognitive ability. Not recognising larger-bodied people as potentially vulnerable to financial and research exploitation. Reporting associations between BMI and various outcomes without correcting for covariates such as age, lifestyle patterns, socioeconomic factors, internalised weight stigma, weight fluctuation history, degree of health care discrimination etc or factors likely to affect outcomes such as energy restriction, nutrition status, distress, eating disorders and self-stigmatisation. Incorrect or unfounded statements about the superior health status of smaller bodied people.	Reporting research about 'obesity' as if all people with BMI > 30 kg/m^2 are a distinct, socio-culturally consistent population group. Deficits-based, incorrect or unfounded statements about health disparities and outcomes experienced by larger-bodied people. Taking negative characteristics of weight-loss seeking people and presenting these characteristics as representative of all larger-bodied people. The assumption that a formerly larger-bodied person will be equivalent in health risks and outcomes after weight loss as a never larger-bodied person. Inclusion of qualitative research findings that give voice to larger-bodied people with lived experience of weight stigma who self-stigmatise (e.g., want to lose weight to avoid stigmatisation)	Blanket claims and mis-information not present
Theme 6	Weight = Dietary Habits	A larger body does not indicate any particular way of eating, including dietary quality, nutrient intake or energy intake. Whether or not someone's weight is related to their personal dietary habits is not a matter for public debate. The dietary habits of a larger-bodied person are nobody's business but their own. Larger-bodied people can eat whatever and however they like.	Body size does not indicate current dietary habits, including dietary quality, nutrient intake or energy intake. The dietary habits of larger-bodied people do not differ greatly from smaller bodied people.	Stating or inferring that people with a BMI < 25 kg/m^2 eat well, or eat 'better' than larger-bodied people. Assumption that lifestyle change programs for larger-bodied people will automatically include greater levels of fruit, vegetables and other core foods than a person's regular lifestyle.	Narratives that demonise nutrients or foods on the basis/assumption that they lead to fatness. For example, sugar, sugary drinks, fat, fried foods, energy dense foods. The assumption that heavier people eat more ultra-processed and/or discretionary foods. The assumption that a heavier person continually overshoots their energy requirements to stay heavier.	Connections between body weight and dietary habits not made.

(Continues)

TABLE 1 (Continued)

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		Larger-bodied people deserve to enjoy their lives, including what they eat and drink.			The assumption that 'eating well' 'naturally' results in BMI < 25 kg/m^2 or 'healthy weight'. The assumption that larger-bodied people under or mis-report their dietary habits if it appears 'healthier' than expected.	
Theme 7	Weight = Physical Activity	Stating that the physical activity habits and fitness of larger-bodied people do not differ greatly from smaller bodied people. Stating that a larger body does not indicate any particular way of moving, including cardio-vascular fitness, strength, endurance, capacity.	Stating that body size and appearance does not necessarily indicate physical fitness or physical activity habits. The physical activity habits of larger-bodied people do not differ greatly from smaller bodied people.	Assumption that lifestyle change programs will automatically include greater levels of physical activity than a person's regular lifestyle.	Narratives that state or insinuate that larger-bodied people are sedentary. The assumption that a smaller body size is evidence of a physically active lifestyle Stating or insinuating that larger-bodied people are weak and unfit.	Connections between body weight and physical activity not made.
Theme 8	Mental Health & Cognitive Capacity	Research led by larger-bodied researchers taking a weight inclusive anti-stigma stance. Recognising that many of the mental health challenges experienced by larger-bodied people arise from being the recipients of chronic weight stigma and health care discrimination and that weight stigmatisation is a form of trauma. Following weight loss advice can lead to severe psychological distress and eating disorders. Weight loss is not effective, appropriate or acceptable treatment for an eating disorder.	Cognitive capacity is not related to BMI. Mental health problems are experienced by people across the BMI-span.	Smaller bodied people have better baseline cognitive function and/or intelligence. A smaller body is evidence of a better functioning/more intelligent/more competent/more accomplished human being.	Stating or inferring that higher body mass is an indicator of mental illness, trauma, eating disorder, incompetence, low intelligence or cognitive deficits. Stating or inferring that poorer mental health arises from higher body mass, especially if impact of weight stigma on mental health is not acknowledged. Stating or inferring that weight loss will improve mental health. Recommending weight loss as a method to reduce stigmatisation (via avoidance).	Mental health and/or cognitive capacity concepts not present.

TABLE 1 (Continued)

Category		Category 1: Anti-stigma Explicitly takes an anti-stigma and/or strengths-based approach towards larger-bodied people Score: +2	Category 2: Weight bias neutral Supports inclusion of people across the BMI span and/or bias-neutral position Score: +1	Category 3: Weight bias Expresses preference (bias) for thinner bodies or BMI 18.5–25 Score: −1	Category 4: Weight stigma Expresses stigmatising and/or deficits-based approach towards fatness or BMI >25 or >30 kg/m^2 Score: −2	Theme not represented Score: 0
Theme 9	Environment Frame	A rationale to create social and physical environments that help current and future populations to live well (access to safe, nourishing, enjoyable food, connection and fitness, sustainability) in the bodies they have, explicitly including the health and wellbeing of larger-bodied people within the frame (without assuming or predicting BMI distribution change). Discussion of research and development aiming to optimise the health and wellbeing of larger-bodied people with the rationale that their existence in human society is permanent and should be embraced (without assuming or incorporating weight loss intention), for example, architecture and town planning, chair design, aircraft design, surgical techniques and devices.	A rationale to create social and physical environments that help current and future populations to live well (access to safe, nourishing, enjoyable food, connection and fitness, sustainability) in the bodies they have.	Design and manufacturing (fashion, built environment, architecture, furniture, automobile and aircraft design, surgical innovation etc) that only considers the comfort and size of smaller bodied people, or considers this as the norm, with versions for larger-bodied people either non-existent, or scaled up but untested versions of designs for smaller people. Food systems calibrated to meet the nutrient needs and energy needs of only smaller bodied people.	Framing food systems and built environment as problematic because the population is observed to increase in body mass ('obesogenic'). Framing the need for social and physical environments that help current and future populations to live well because of the assumed effect it will have on body weight (i.e., will lead to populations with lower BMI). Reluctance to adapt environment for the wellbeing of larger-bodied people because it might not make them want to change their size. Framing food systems and built environment as problematic as they may support 'unhealthy' lifestyles, inferred to be related to body mass.	Environment framing not present.
Theme 10	Financial Frame	Larger-bodied people make a significant and positive contribution to the economy. Larger-bodied people are financially responsible and trustworthy. The cost of developing and delivering high quality health care to larger-bodied people is an inextricable part of the health care system. Innovation and market competition make important contributions to the economy and health of larger-bodied people.	The costs of pursuing weight loss are unnecessary and wasteful. The weight loss industry is not needed for the community or economy to thrive. The weight loss industry (medical, surgical, pharmaceutical, commercial) should be better regulated to include disclosure of short- and long-term outcomes, side effects, adverse outcomes and their costs. Project, research and author funding: free from industry	Stating or inferring that productivity, socio-economic attainment and/or workforce participation is influenced by high body mass rather than lack of safety accommodations and discriminatory hiring practices. Costings that assume supporting/caring for people with BMI <25 kg/m^2 is only acceptable cost. Project, research and author funding: includes from industry, for example, food, pharmaceutical and weight loss industry (including	Citing financial costs of health care for a person with higher body weight as being a justification for weight loss. Including costs of weight loss 'treatment' or weight loss efforts as part of cost of 'obesity'. Calculating 'costs of obesity' using comparison of population with 'no obesity' (impossible/unfeasible comparator that creates perception of high 'avoidable' cost)	Financial framing not present.

(Continues)

TABLE 1 (Continued)

Category	Category 1: Anti-stigma	Category 2: Weight bias neutral	Category 3: Weight bias	Category 4: Weight stigma	Theme not represented
	Explicitly takes an anti-stigma and/or strengths-based approach towards larger-bodied people	Supports inclusion of people across the BMI span and/or bias-neutral position	Expresses preference (bias) for thinner bodies or BMI 18.5–25	Expresses stigmatising and/or deficits-based approach towards fatness or BMI >25 or >30 kg/m^2	
	Score: +2	Score: +1	Score: −1	Score: −2	Score: 0
	Ethics and principles of equity compel consideration for the dignity and wellbeing of larger-bodied people at all levels of government and planning. Project, research and author funding: financially supported by body positive larger-bodied people.	support/funding, for example, food, pharmaceutical and weight loss industry (including medical and weight loss/bariatric/ metabolic surgery).	medical and weight loss/bariatric/ metabolic surgery).	Stating that people with a higher body weight are going to 'bankrupt the health care system' or similar. Omitting costs of adverse/side effects and complication of 'obesity treatments' into calculations (e.g., lifelong nutrient supplements after bariatric surgery, eating disorder treatment) Partnering with weight loss industry.	

section can be scored if desired, and a whole-document score can be derived by using the most stigma-scoring result per theme across the whole document/resource. Completely size inclusive resources will return exclusively blue results while in other resources areas of concern will be apparent in orange.

To demonstrate the use of the WSHM process, an appraisal of Australian Government's National Obesity Strategy (NOS) 2022–2032[8] was completed. The sample analysis provided here divides the document into eight sections by topic area. The resulting heat map is provided in Figure 1, and categorisation notes can be found in the Supporting Information. As can be seen in the heat map, the NOS document contained elements that strongly promoted weight stigma despite purporting an aim of reducing weight stigma, particularly in terms of framing a higher body size as inherently unhealthy and avoidable. Concern about mental health and weight stigma was evident in some sections. This weight stigma appraisal suggests that a clearer exposition of the relationships between health-promoting living environments, health behaviours and body weight, and use of less stigmatising terminology for larger bodies would achieve the National Obesity Strategy's anti-stigma aims more readily.

4 | DISCUSSION

In 2011, the National Eating Disorders Collaboration published a Framework to Guide Assessment of Weight-Related Health Promotion Messages[24] to guide risk assessments of public health and health promotion resources. This framework also used colour coding but not heat map methodology or a scoring schema, as has been provided for in the WSHM. Weight stigmatisation was noted as a risk factor for the development of an eating disorder and the use of BMI to determine 'good health' was noted as a factor that promoted weight bias and stigma by generating body dissatisfaction, weight preoccupation, disordered eating and extreme weight control practices. Elements were categorised into four groups, from 'healthy' to 'problematic', and across four themes: Eating and Weight Control Practices, Physical Activity Behaviours, Body Image and Physical Status. Although recommendations included treating larger-bodied people with respect and promoting the message that eating and moving well influence factors outside of weight control, much larger body size was indicated as the most 'problematic' type of physical status, warranting public health action, and the terms 'overweight' and 'obese' were used throughout. The WSHM can be seen as an improvement on this framework as it better-incorporates the stigmatising impact of weight-centric public health messaging.

More recently, Harwood et al. developed the Matrix of Anti-Stigma Interventions[17] which was intended to improve the 'understanding, evaluation and planning of interventions to reduce weight stigma'. The four strategies identified in the matrix are protest, contact, education and regulation, subdivided into three classes of stigma mechanisms: direct discrimination, structural discrimination and psychological processes (self-stigma) each combination of which

	Document Section	1	2	3	4	5	6	7	8	ALL
	Theme	Introduction	Part 1: Why we are taking action	Part 2: Developing the Strategy	Part 3 Ambition 1	Part 3 Ambition 2	Part 3 Ambition 3	Part 4: Making it Happen	Glossary, Appendices and References	TOTAL
1	Negative Imagery									−11
2	High Body Mass as Problem									−15
3	Weight Modifiability									−15
4	Weight Loss = Health									−10
5	Overgeneralising & Misinformation									−7
6	Weight = Dietary Habits									−11
7	Weight = Physical Activity									−7
8	Mental Hlth & Cognitive Capacity									0
9	Environment Frame									−8
10	Financial Burden									−14
	Overall Score	−17	−14	−14	−9	−4	−16	−10	−13	−20

FIGURE 1 Weight Stigma Heat Map for the National Obesity Strategy 2022–2032.

are presented with a brief description. This matrix focusses on the socio-structural transmission and negative impacts of weight stigma but does not directly address the influence of misinformation in the underlying behaviour-weight-health belief system like the WSHM. Hart et al.[25] conducted a Delphi study to summarise expert opinions on effective means to reduce weight stigma, providing 32 recommendations but stopped short of developing a checklist or categorisation system to direct policy and program review. Recommendations from these resources were included in the analysis to develop the WSHM.

The strengths of the WSHM include that it can be used for qualitative and quantitative resource analysis and that the views of those who hold both extensive academic expertise and lived experience of weight stigma and discrimination have been centred in the calibration of the theme assessment categories. This was an intentional design feature so that the WSHM would promote the most anti-stigma position and prompt nuanced discussions of the conceptual positions taken in public health and health promotion endeavours. In terms of limitations, the development of this tool was based on existing literature, and thus may propagate errors arising from previous works. As themes were identified from anti-stigma discourse, which itself has been influenced by weight bias and conceptual advancements over time, the WSHM may not be representative of a complete understanding of weight stigma. It is likely that in future further themes may need to be added to the WSHM, and category assessments adjusted. The 'heat map' method is also less familiar to those in the health promotion sector than other assessment tools which may limit the utility of the WSHM for inclusion in existing evaluation and quality improvement activities. To validate the WSHM, the scoring system should be incorporated into market testing of public health campaigns and health promotion intervention materials and assessed for utility at predicting changes to self-stigmatisation and stigmatising beliefs about larger-bodied people.

5 | CONCLUSION

The WSHM was developed to identify elements that perpetuate the stigmatisation of larger-bodied people in health-related resources. Types of resources that could be assessed using the WSHM include academic publications, health curricula, consumer and marketing resources, health promotion project design and evaluation plans, public health messaging and campaigns, and health policy and strategy documents. It can assess resources for outdated information about body size and health, areas that may be affected by unconscious biases in the resource developers or perceived demands of the community or funding bodies, are likely to be in need of review and which may require staff training and development support. Despite its limitations, the WSHM stands as the first of its kind, and it is hoped that it promotes the eradication of stigmatising narratives in public health and health promotion endeavours relating to health-supporting environments and lifestyle behaviours.

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CONFLICT OF INTEREST STATEMENT

The author declares no conflicts of interest or competing interests.

DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available in the supplementary material of this article.

ETHICS STATEMENT

Ethics approval was not required for this project as it relied on existing published literature.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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