

Obesity

**Definition, Disease,
Stigma, Structure & Funding (or, lack of it)**

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Definition

Based on Body Mass Index (BMI)



Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health.

- Obesity is defined as abnormal or excessive fat accumulation that may impair health¹
- BMI provides the most convenient population-level measure of overweight and obesity currently available¹

$$BMI = \frac{\text{weight (kg)}}{\text{height (m)}^2}$$

Classification ²		BMI (kg/m ²)
Underweight		<18.5
Normal range		≥18.5 and <25
Overweight		≥25 and <30
Obesity		≥30
Obesity class I		≥30 and <35
Obesity class II		≥35 and <40
Obesity class III		≥40
WHO BMI cutoffs (kg/m ²) ²		
White European	Overweight	≥25
	Obese	≥30
Asian	Overweight	>23
	Obese	>27.5

Definition

The problems with BMI as the diagnostic criterion for obesity

Body size vs adiposity



In a nutshell, body size does NOT accurately reflect body fat content

From muscular hypertrophy to sarcopenia

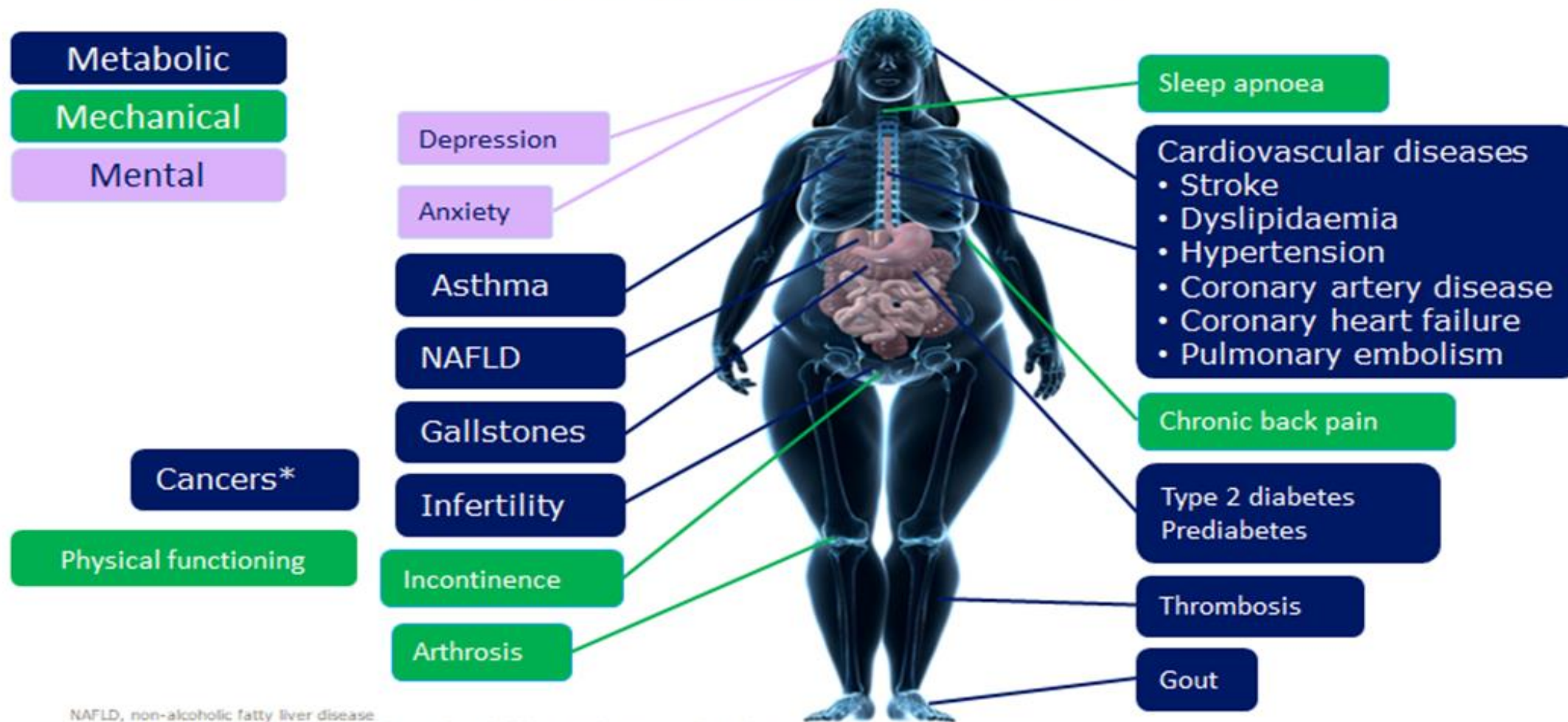


Muscle mass influences BMI and at extremes of body habitus, BMI is a misleading and inaccurate measure of body fat content

Disease

Obesity associates with multiple comorbidities

Metabolic, Mechanical and Mental

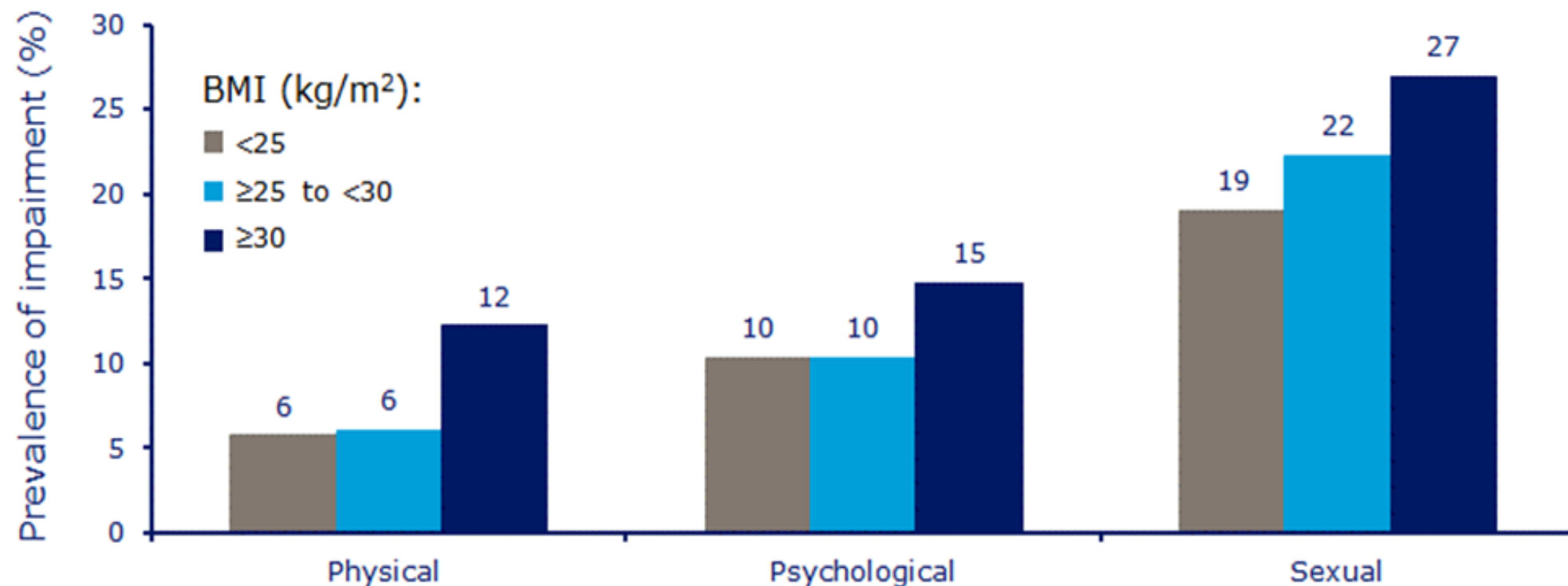


NAFLD, non-alcoholic fatty liver disease

*Including breast, colorectal, endometrial, oesophageal, kidney, ovarian, pancreatic and prostate

Disease

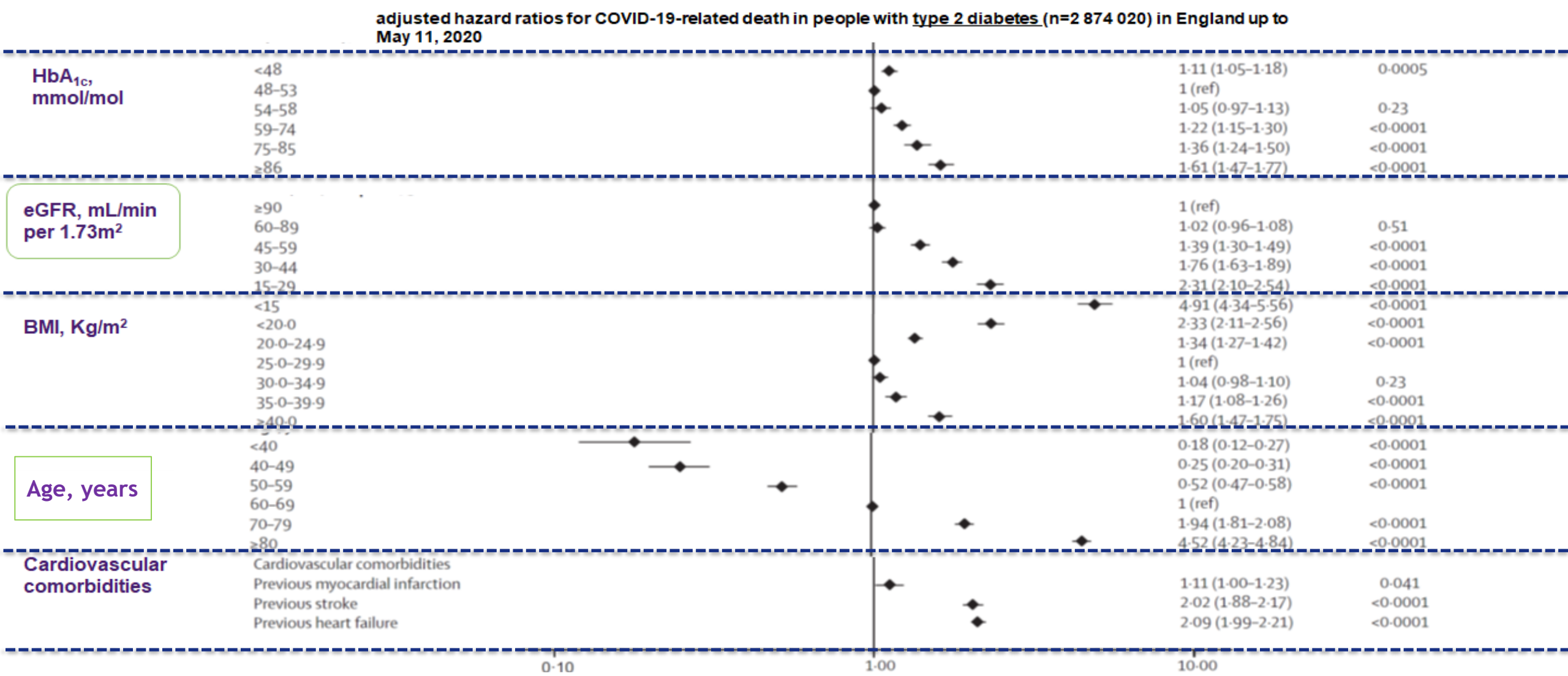
Impaired health-related quality of life in people with obesity



*Physical function assessed by Short Form-36 (SF-36); psychological function assessed by SF-36 and Beck's Depression Inventory; sexual function assessed by European Male Ageing Study sexual function questionnaire. n=3369 males; complete data concerning frequency of sexual activities and erectile function were available in 2734 (92%) and 3193 (95%) of the participants, respectively. QoL, quality of life

Disease

COVID-19: Risk Factors for COVID-19 related mortality in people with T2D



Taken from: Holman N et al. *Lancet Diabetes Endocrinol* (2020); Volume 8; pp 823-833
BMI=Body Mass Index; eGFR=estimated Glomerular Filtration Rate

Disease

Obesity meets common criteria of a disease

AMA

- An impairment of the normal functioning of some aspect of the body
- Characteristic signs or symptoms
- Harm or morbidity

Obesity



- Appetite dysregulation
- Abnormal energy balance
- Endocrine dysfunction
- Infertility
- NAFLD
- Dyslipidaemia



- Increased body fat
- Symptoms associated with increased body fat including:
 - Joint pain
 - Immobility
 - Sleep apnoea



- Type 2 diabetes
- Cardiovascular disease
- Cancer
- Osteoporosis
- Polycystic ovary syndrome

AMA, American Medical Association, NAFLD, non-alcoholic fatty liver disease

American Medical Association Resolution: 420 (A-13). Available at: <http://www.npr.org/documents/2013/jun/ama-resolution-obesity.pdf>.

Disease

Obesity is recognised as a disease and health issue

WOF

"The World Obesity Federation takes the position that obesity is a chronic, relapsing, progressive disease process and emphasizes the need for immediate action for prevention and control of this global epidemic"¹

World Obesity Federation

OC

"Obesity is characterized by excess body fat that can threaten or affect your health. Many organizations including the Canadian Obesity Network, now consider obesity to be a chronic disease."⁴

Obesity Canada

AMA

"Recognizing obesity as a disease will help change the way the medical community tackles this complex issue that affects approximately one in three Americans"²

American Medical Association

EASO

"A progressive disease, impacting severely on individuals and society alike, it is widely acknowledged that obesity is the gateway to many other disease areas..."⁵

European Association for the Study of Obesity

FDA

"Obesity is a chronic relapsing health risk defined by excess body fat"³

The US Food and Drug Administration

EMA

"Obesity is recognised as a chronic clinical condition and is considered to be the result of interactions of genetic, metabolic, environmental and behavioural factors, and is associated with increases in both morbidity and mortality"⁶

European Medicines Agency

1. Bray et al. *Obes Rev* 2017;18:715–23; 2. AMA position statement. Available at: <http://www.ama-assn.org/>; 3. Food and Drug Administration. Guidance for Industry Developing Products for Weight Management 2007 Available [here](#); 4. Canadian Obesity Network. Available at: <http://www.obesitynetwork.ca/obesity-in-Canada>; 5. EASO: 2015 Milan Declaration: A Call to Action on Obesity. Available [here](#); 6. EMA Draft Guideline on clinical evaluation of medicinal products used in weight control EMA/CHMP/311805/2014. Available [here](#).

Stigma

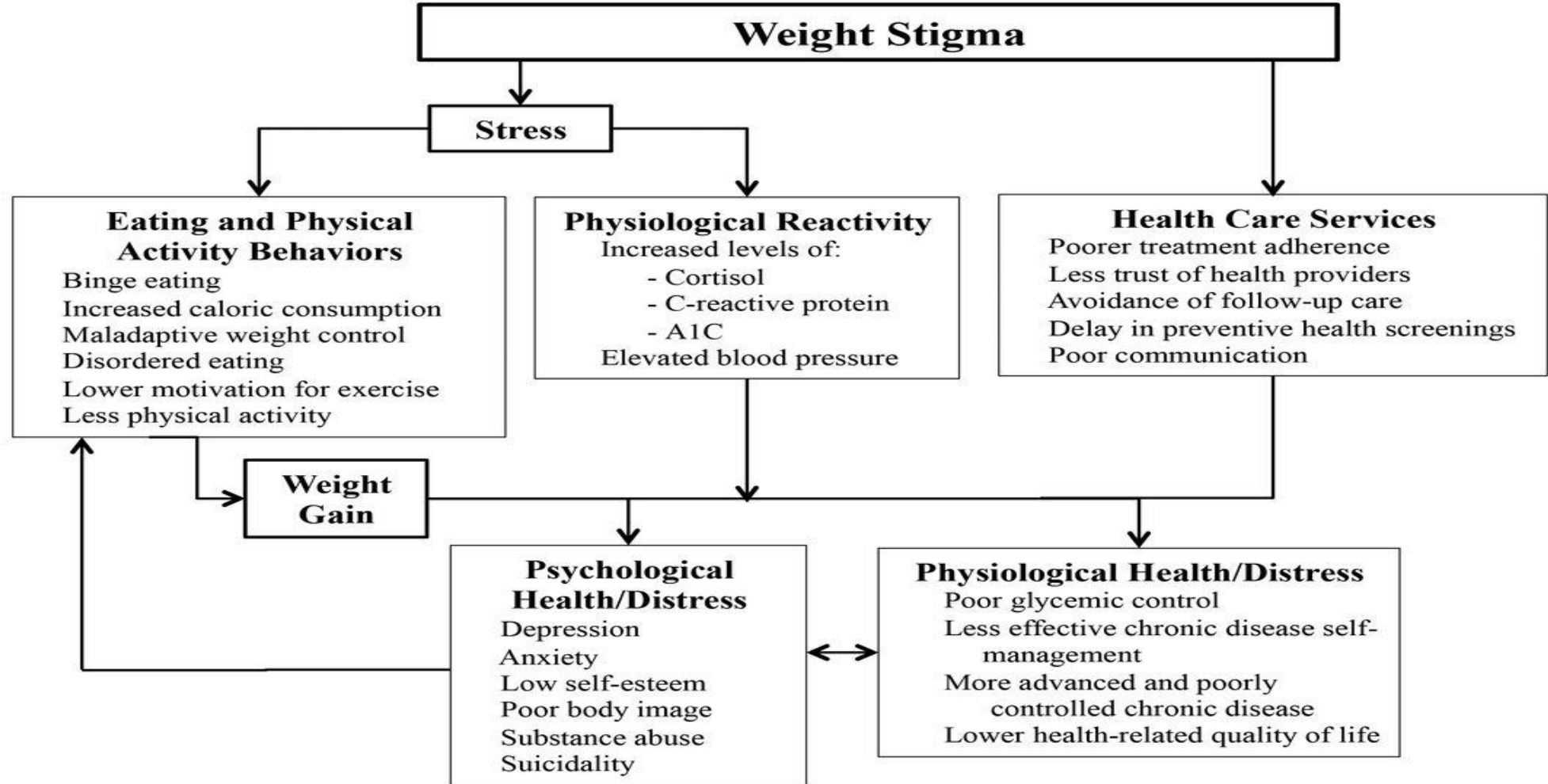
Obesity is highly stigmatised by the media and society



THIS IS DISCRIMINATION AND TOTALLY UNACCEPTABLE
SOCIETY NEEDS TO LOOK AT ITSELF AND
STOP NORMALISING THIS BEHAVIOUR

Stigma

The implications of weight stigma

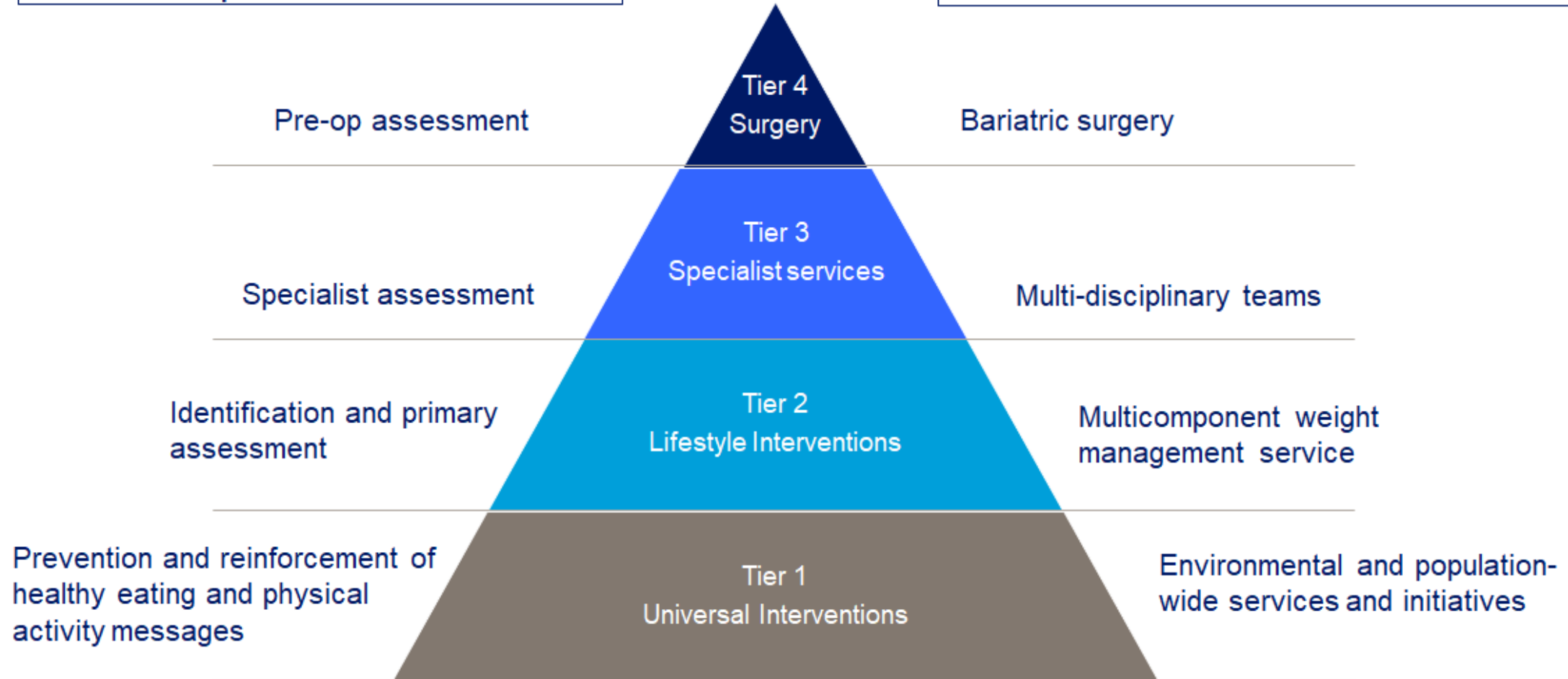


Structure

Tier system for UK weight management

Clinical component

Commissioned services



Funding

Cost of obesity and diabetes to the NHS

Obesity¹

The NHS spent an estimated **£6.1 billion** on overweight and obesity-related ill health in 2014/15

Obesity costs the wider society an estimated **£27 billion**

Diabetes²

The NHS spends over **£10 billion** per year on diabetes

Spending on diabetes constitutes **10%** of the NHS budget

More is spent each year on treatment of obesity and diabetes than on **the police, fire service and judicial system combined¹**

1. <https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2#:~:text=More%20broadly%2C%20obesity%20has%20a,%C2%A349.9%20billion%20per%20year.>

2. Diabetes UK. The cost of diabetes. 2014.

Funding

NHS plans for obesity

- There is recognition of significant variation in provision of Tier 3 services across the country
- The UK Government's obesity strategy, launched in July 2020, outlined commitments to expanding the provision of NHS weight management service across England, including accelerating the NHS Diabetes Prevention Programme
- Under the strategy, from 2021 doctors will be incentivised under the Quality Outcomes Framework to ensure everyone living with obesity is offered support for weight loss
- Following on from the publication of the strategy, the NHS launched a diet programme to reduce Type 2 diabetes and obesity. The year-long plans will see those who could benefit provided with 'total diet replacement products', such as shakes and soups, for three months, alongside support to increase their exercise levels