Appendix 1 (as supplied by the authors): Criteria for assigning Edmonton obesity staging system score.

Variable	EOSS Score Assigned			
	0	1	2	3*
Fasting glucose (mmol/L)	< 5.6	5.6-6.9	7.0 or self-report of diabetes or self-report of treatment with insulin or antidiabetic agents	
Blood pressure (mm Hg)	BP < 130/85 with no self-report of hypertension or antihypertensive drug treatment. BP < 125/75 if diabetes or chronic kidney disease present.	For individuals classified as having diabetes or chronic kidney disease, SBP 125-129.9 or DBP 75-79.9. Otherwise, SBP 130-139.9 or DBP 85-89.9	Self-report of hypertension or treatment antihypertensive drugs. For individuals classified as having diabetes or chronic kidney disease*, BP 130/80. Otherwise BP 140/90.	
LDL cholesterol (mmol/L)	< 3.4	3.4-4.0	4.1	
Total cholesterol (mmol/L)	< 5.2	5.2-6.1	6.2	
HDL cholesterol (mmol/L)	1.6	1.0-1.6	< 1.0	
Triglycerides (mmol/L)	< 1.7	1.7-2.3	2.3	
Liver disease	No self-report of any liver condition and normal liver enzymes	Elevated liver enzymes but no self-report of liver disease	Elevated liver enzymes and self-report of liver disease	
Kidney disease : GFR (mL/min/m^2)	GFR 90	GFR 60-89.9	GFR 30-59.9	GFR < 30
Osteoarthritis	No history of joint or back pain	Occasional joint or back pain	Self-report of osteoarthritis	
Physical health	No functional or ADL limitations	Functional impairment but no ADL limitations	ADL limitations	

ADL = activities of daily living, GFR = glomerular filtration rate, HDL = high-density lipoprotein, LDL = low-density lipoprotein.
* GFR < 60 ml/min/1.73m^2
** Subjects with a history of angina, coronary heart disease, congestive heart failure and cerebrovascular disease were automatically assigned to Stage 3.

Definitions of obesity-related comorbidities

Diabetes: Based on self-report, laboratory testing and medication use using currently recommended thresholds.[1]

Hypertension: Based on self-report, medication use and blood pressure measurements.[2]

Dyslipidemia: Total cholesterol, LDL-cholesterol, HDL-cholesterol, and triglycerides were categorized according to current recommendations.[3]

Osteoarthritis: Based on self-reported "osteoarthritis". Self-reported pain, aching or stiffness or lower back pain in the past year (in the absence of osteoarthritis) was coded as 'occasional joint or back pain'. Subjects reporting joint pain/aching/stiffness following an injury were not considered to have an obesity-related cause and were scored 0 for this category.

Liver Disease: Based on the presence or absence of elevated enzymes and/or self-reported liver disease (latter variable available for 1999-2004 cohort only). Non-alcoholic fatty liver disease (NAFLD) is the primary liver-related comorbidity associated with excess adiposity, accounting for 9% of chronic liver disease in the US,[4] but is not directly coded within NHANES. NAFLD, hepatitis B or C, and alcohol-related liver disease account for over 95% of all cases of chronic liver disease within the US and other causes comprise less than 2% of cases.[4] Subjects with a history of elevated liver enzymes or self-reported liver disease were assumed to have NAFLD and assigned an EOSS score unless evidence for an alternate cause was present. Subjects with hepatitis B surface antigen, hepatitis C antibody, a transferrin saturation > 50%, or an average alcohol consumption of at least one (women) or two (men) drinks per day,[5] were considered to have an alternate cause of liver disease and were assigned an EOSS score of 0 for this category.

Kidney Disease: Serum creatinine and estimated Glomerular Filtration Rate (eGFR) were determined according to previously described methods.[6,7]

Physical Function: Based on health interview questions examining functional limitation and activities of daily living (ADL). A physical functioning score was calculated for respondents who answered at least 4 of 6 functional limitation questions and at least 2 of 3 ADL questions.[8] Respondents were considered to have a functional limitation if they reported using an assistive device to walk or difficulty with the following tasks: walking ¼ mile, walking up 10 steps without resting, stooping/crouching/kneeling, lifting or carrying 10 lb, walking between rooms on the same floor, or standing from an armless chair.[8] Respondents reporting difficulty/inability with getting in and out of bed, eating, or dressing were considered to have an ADL limitation.

Metabolic Syndrome: The ATP III Clinical Criteria,[9] defined as having 3 or more of the following, were used: 1. awist circumference >102 cm (men) or > 88 cm (women), 2. Triglycerides 1.7 mmol/L, 3. HDL cholesterol <1.0 mmol/L (men) or <1.3 mmol/L (women), 4. Blood pressure 130/85 mm Hg, or 5. Fasting glucose 5.6 mmol/L.

Hypertriglyceridemic waist: Defined as a waist circumference of 90 cm with a triglyceride level of 2 mmol/L (men), or a waist circumference of 85 cm with a triglyceride level of 1.5 mmol/L (women).[10]

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