International Journal of Obesity (2016), 1

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REPLY TO LETTER TO THE EDITOR

Moving to a personalized medicine approach to promote health across the weight spectrum

International Journal of Obesity advance online publication, 21 June 2016; doi:10.1038/ijo.2016.100

We disagree with the assertion by Bell *et al.*[1] that '[s]ufficient evidence has amassed to dismiss healthy obesity as a harmless condition, and to instead adopt a default view of healthy obesity as a high risk state for future decline.' A more comprehensive assessment of the literature reveals many unanswered questions regarding the stability of metabolic health among higher body mass index (BMI) individuals.[2] Although some metabolically healthy obese (MHO) individuals see metabolic decline, existing data are insufficient to claim this as inevitable. Indeed, the evidence offered by Bell *et al.*[1] underscores this point. For example, a meta-analysis they reference actually shows considerable variability in the association between MHO and Type II diabetes risk. This is unsurprising given the underpowered nature of this meta-analysis, which documented only 98 incident cases of diabetes in MHO individuals across all studies.[3] Likewise, the development of metabolic risk among MHO individuals is either no different from healthy 'normal' weight individuals (in the case of cholesterol and triglycerides) or is inconsistent across time points (in the case of glucose and hypertension).[4] Contending 'sufficient evidence' is unwarranted.

Moreover, across several studies (some included in the Bell *et al.* meta-analysis,[3] some not), BMI does not predict conversion to unhealthy metabolic status. Rather, other markers such as lipid profiles do.[2] This highlights the crux of our argument: BMI is a poor marker of health that should not be used to formulate health policy when other, more accurate markers are available and already widely used. Although Bell *et al.*[1] state '[a]t the centre of the current debate is the idea of a 'healthy' type of obesity,' we would like to refocus the discussion to the true issue at hand, namely whether the Equal Employment Opportunity Commission should sanction the use of BMI as a criterion for raising health insurance premiums. It is tempting to center the discussion entirely around whether healthy obesity exists. Doing so, however, overlooks the main point of our article, which is the sheer number of millions of Americans who would be unfairly penalized under the proposed Equal Employment Opportunity Commission guidelines.

Given the incredibly complex and myriad causes of obesity, it should be no surprise that there is heterogeneity in the metabolic health and prognosis of higher-BMI individuals.[2,5] Rather than ignoring the existence of multiple obesity phenotypes, researchers should acknowledge and seek to thoroughly understand them. Only by embracing a more personalized approach to health can we move forward as a field. Most critically, research is needed to clarify the individual, social, and environmental factors that contribute to the stability of metabolic health among higher-BMI individuals. For example, in over 42 000 middle-aged adults, MHO and healthy 'normal'-weight individuals had the same risk of all-cause, cardiovascular disease, and cancer mortality after accounting for cardiorespiratory fitness.[6] As the dominant weight-centered approach to public health has been ineffective as best,[7] these protective factors should be prioritized both as targets for research and ultimately for intervention. Only then can we effectively promote health and well-being across the weight spectrum.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Accepted article preview online 20 May 2016