

Resolve to get healthier, lose weight? Setting BMI goal might not be best way

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This is the time of year when Americans tend to make resolutions to eat better, get in shape, and maybe drop a few pounds. But many will be wondering what number should they aim for on the bathroom scale. For

years the thinking was that the body mass index, or BMI, may be the best way to determine what your weight should be.

Maybe not entirely.

Many Harvard physicians and scholars call for a more holistic approach that sees BMI as just one factor among many that need to be considered when assessing weight and health. And in fact, the American Medical Association adopted a [new policy](#) in June that takes the position that BMI is an imperfect way to measure [body fat](#) in a clinical setting, in part as it "does not account for differences across racial and [ethnic groups](#), sexes, genders, and age-span."

So how did this calculated index that considers height, weight, and sex become so widely accepted?

"It really got its origins from a Belgian statistician by the name of Adolphe Quetelet, who sought to initially determine what was considered to be normal weight status for white [Scottish] soldiers in the 1800s," said Fatima Cody Stanford, an obesity doctor at Massachusetts General Hospital and a professor at Harvard Medical School. "This was not meant to be extrapolated to the population as a whole."

Quetelet's goal, Stanford says, was to create an epidemiological tool by determining norms for the population. Besides collecting data on physical size, the statistician and sociologist also compiled numbers on births, deaths, and crime. In search of global averages, he created the "Quetelet Index" now known as the BMI, as a tool to estimate likelihood of serious disease or death based on how far an individual fell outside the average.

BMI was first widely adopted, not by doctors, or even other sociologists, but by insurance companies in the 1930s and '40s. Its acceptance grew

among health researchers and physicians after American physiologist Ancel Keys popularized the measurement in the 1970s following an expansion of Quetelet's original idea with further data collection.

"Its simplicity and ease of collection—basically weight and height—those are measures that are pretty standardized and reliable over time," said Walter C. Willett, a professor of epidemiology and nutrition at the Harvard T.H. Chan School of Public Health. "For tracking changes in populations over time, it's pretty much all we've got."

However, critics of using BMIs in clinical settings, including Stanford, say the index is too reductive.

"Working with an individual patient I say, "Let's look at who you are, as it relates to this number," Stanford said. "How does this number relate to your cholesterol values? How does this number relate to your blood sugar? How does this number relate to your liver function tests? How does this number relate to your ability to move and function? I want to get you to the happiest, healthiest weight for you. What is that number? I don't know."

Others note that even when it comes to assessing body fat, BMI has significant limitations.

"It is not a perfect measure of body fatness because it does not differentiate between fat mass and [lean body mass](#), and it does not provide information on body fat distribution," said Frank Hu, the Fredrick J. Stare Professor of Nutrition and Epidemiology and chair of the Department of Nutrition at the Chan School. "BMI should always be interpreted alongside other health parameters such as blood pressure, blood sugar, blood lipids, etc."

It's well known that excess body fat contributes to the risk of

cardiovascular disease, diabetes, and various cancers. But weighing more doesn't necessarily mean higher levels of body fat.

Extremely muscular individuals are often quite metabolically healthy despite having BMIs on the upper end of the spectrum. Hu said other methods of measuring body fat, like DEXA, or Dual-energy X-ray absorptiometry scans, may be more suitable than BMI.

"However, these alternative methods can be more challenging to obtain and interpret in clinical practice, as they require more time and training and/or special equipment," Hu added.

He went on to say that overall, the discrepancies do not impact most of the population.

"In an [analysis](#) of a nationally representative sample, we observed a strong correlation (0.90) between BMI with DEXA-measured body fat mass, consistent across different age, sex, and race groups," Hu said.

For population research and studying large groups' health over time, "It's the basis for how we operate," Stanford said. But that shouldn't stop those considering [lifestyle changes](#) from speaking with their doctors about how best to track their own health.

"Please compare yourself to no one but yourself," Stanford said. "I think that's the most salient advice that I can give.

"There's a lot of stuff outside of our control," she added. "Have I done things to optimize my diet? Focus on lean proteins, whole grains, fruits, and vegetables? No? Maybe I should start thinking about that. Have I figured out what activity or activities bring me joy? Maybe put it in bite-sized pieces so it doesn't feel so big and overwhelming."

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