Many healthcare systems rely on body mass index (BMI) and weight as markers of health status. Campaigns targeting weight loss operate on the premise that higher weight is associated with increased morbidity and mortality. Healthcare providers across multiple disciplines have called into question this weight-centric paradigm, citing building research which suggests that weight itself is not the cause for morbidity but may be a result of other various factors. Below are common weight-based assumptions and the evidence supporting or refuting them.

Assumption
BMI and weight are accurate measures of an individual’s health status.

Evidence
The BMI is a standard reference and screening tool used by most healthcare providers today which was originally developed at the beginning of the 19th century by a Belgian mathematician as a quick and simplistic means of calculating fat distribution within a population. The tool, then known as the Quetelet Index, was intended to determine the size of the average man and was derived using height and weight data from a specific subset of the human population, white European men. The index was later rebranded in the 1970s by an American physiologist as what we now know to be the BMI. Though widely used today, it does not take into consideration health behaviors, individual variations in body size, muscle mass, or fat distribution, nor does it consider differences among races.

Assumption
The only way for overweight and obese people to improve health is to lose weight.

Evidence
The hypothesis that weight loss will improve health over the long-term for obese people is in fact untested. One reason is because no methods have proven to reduce weight long-term for a significant number of people. Also, while normal weight people have lower disease incidence than obese individuals, it is unknown if weight loss in individuals who are already obese reduces disease risk to the same level as that observed in those who were never obese. Moreover, research indicates that some individuals with a higher BMI and body weight are considered to be metabolically healthy, and in some cases have decreased risk of heart failure compared to their lower BMI counterparts.

Assumption
Anyone who is determined can lose weight and keep it off through diet and exercise.

Evidence
Long-term follow-up studies document that the majority of individuals regain virtually all of the weight that was lost during treatment, regardless of whether they maintain their diet or exercise program. Research found that former contestants from “The Biggest Loser” had slower metabolisms 6 years after losing weight and, in most cases, regained all the weight, while other research found that 95% of all dieters regained their weight within 1-5 years. Additionally, the cited 5% success rate statistic was found in a large study to be exaggerated, meaning likely even fewer people are able to maintain weight loss long-term.

Assumption
Adiposity (severe overweight and obesity) poses significant morbidity risk.

Evidence
While it is well-established that obesity is associated with increased risk for many diseases, causation is less well-established. Epidemiological studies rarely acknowledge factors like fitness, activity, nutrient intake, weight cycling, weight stigma, or socioeconomic status when considering connections between weight and disease.
Assumption
Adiposity poses significant mortality risk.

Evidence
Most epidemiological studies find that people who are overweight or moderately obese live at least as long as normal weight people, and often longer.\textsuperscript{2}

Assumption
Weight loss will prolong life.

Evidence
Most prospective observational studies suggest that weight loss increases the risk of premature death among obese individuals, even when the weight loss is intentional and the studies are well-controlled with regard to known confounding factors, including hazardous behavior and underlying diseases. Health at Every Size (HAES) is an alternative, evidence-based framework focused on promoting healthy behaviors instead of weight loss which has seen improved health outcomes.\textsuperscript{2}

Assumption
Obesity-related costs place a large burden on the economy, and this can be corrected by focused attention on obesity treatment and prevention.

Evidence
The health cost attributed to obesity in the United States is estimated to be $147 billion annually and this estimate has been used to justify efforts at obesity treatment and prevention. This estimate fails to account for potentially confounding variables such as physical activity, nutrient intake, history of weight cycling, discrimination, access to medical care, etc. All are independently correlated with both weight and health and could play a role in explaining the costs associated with having a higher BMI. This estimate also does not account for costs associated with unintended consequences of a weight-focused system, which may include eating disorders, diet attempts, weight cycling, reduced self-esteem, depression, and discrimination.\textsuperscript{2}

References