METHODOLOGY FOR HEIGHT ADJUSTMENT

Our estimates of an individual's maximum BMI combine his or her height at survey with his or her maximum weight. Because individuals may lose height as they age, this approach may overestimate BMI at the age when maximum weight is achieved. To estimate the size of the potential bias, we have re-estimated the distribution of maximum BMI by allowing individuals beyond the age at which height loss begins to hypothetically gain height as they move backward in age. The gain in height is estimated using a sex-specific height-loss polynomial estimated on longitudinal data for subjects in the Baltimore Longitudinal Study of Aging.[61] According to the polynomial, height loss is initiated for women aged 48 years and for men aged 51 years. We move individuals backwards in age from their age at survey to the age at which they reported their maximum weight, with no additional adjustments below age 48 years for women and 51 years for men. People without a reported age at maximum weight were excluded from the analysis, leaving 37,548 individuals in NHANES 1999–2014 as the study population.

Appendix Table 1. Estimates of Lifetime Obesity Prevalence Before and After Adjustment for Height Loss With Age: Ages ≥20 Years

Unadjusted results	% (SE)	Adjusted results	% (SE)
Total N=37,548		Total N=37,548	
Measured height (m), mean (SD)	1.690 (0.00065)	Adjusted height (m), mean (SD)	1.696 (0.00064)
Max BMI from measured height, mean (SD)	30.589 (0.046)	Max BMI from adjusted height, mean (SD)	30.390 (0.046)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	52.96 (0.497)	Never obese	53.75 (0.487)
Former obese	13.46 (0.239)	Former obese	12.67 (0.230)
Current obese	33.59 (0.423)	Current obese	33.59 (0.423)
Ever obese	47.04 (0.497)	Ever obese	46.25 (0.487)
Female: N=18,670		Female: N=18,670	
Measured height (m), mean (SD)	1.621 (0.00062)	Adjusted height (m), mean (SD)	1.629 (0.00061)
Max BMI from measured height, mean (SD)	30.590 (0.072)	Max BMI from adjusted height, mean (SD)	30.301 (0.071)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	53.92 (0.564)	Never obese	54.96 (0.556)
Former obese	10.92 (0.279)	Former obese	9.88 (0.266)
Current obese	35.16 (0.518)	Current obese	35.16 (0.518)
Ever obese	46.08 (0.533)	Ever obese	45.04 (0.556)
Male: N=18,878		Male: N=18,878	
Measured height (m), mean (SD)	1.761 (0.00068)	Adjusted height (m), mean (SD)	1.764 (0.00068)
Max BMI from measured height, mean (SD)	30.587 (0.058)	Max BMI from adjusted height, mean (SD)	30.483 (0.058)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	51.96 (0.607)	Never obese	52.50 (0.604)
Former obese	16.08 (0.327)	Former obese	15.54 (0.330)
Current obese	31.96 (0.533)	Current obese	31.96 (0.533)
Ever obese	48.04 (0.607)	Ever obese	47.50 (0.604)

Note: Correlations for measured height and adjusted height in total population, female, and male are 0.992, 0.973, and 0.994, respectively. Correlations for max BMI from measured height and max BMI from adjusted height in total population, female, and male are 0.998, 0.997, and 0.999, respectively.

m, meter.

Appendix Table 2. Estimates of Lifetime Obesity Prevalence Before and After Adjustment for Height Loss With Age: Ages ≥48 Years for Women, ≥51 Years for Men

Unadjusted results	% (SE)	Adjusted results	% (SE)
Total N=12,537		Total N=12,537	
Measured height (m), mean (SD)	1.663 (0.0012)	Adjusted height (m), mean (SD)	1.681 (0.0011)
Max BMI from measured height, mean (SD)	31.707 (0.081)	Max BMI from adjusted height, mean (SD)	31.007 (0.080)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	44.75 (0.768)	Never obese	47.55 (0.722)
Former obese	12.37 (0.417)	Former obese	9.57 (0.351)
Current obese	42.89 (0.696)	Current obese	42.89 (0.696)
Ever obese	55.25 (0.768)	Ever obese	52.45 (0.722)
Female: N=7,163		Female: N=7,163	
Measured height (m), mean (SD)	1.608 (0.0010)	Adjusted height (m), mean (SD)	1.631 (0.0010)
Max BMI from measured height, mean (SD)	31.696 (0.111)	Max BMI from adjusted height, mean (SD)	30.851 (0.110)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	45.59 (0.887)	Never obese	48.63 (0.847)
Former obese	10.99 (0.488)	Former obese	7.94 (0.412)
Current obese	43.42 (0.838)	Current obese	43.42 (0.838)
Ever obese	54.41 (0.887)	Ever obese	51.37 (0.847)
Male: N=5,374		Male: N=5,374	
Measured height (m), mean (SD)	1.748 (0.0014)	Adjusted height (m), mean (SD)	1.762 (0.0014)
Max BMI from measured height, mean (SD)	31.256 (0.112)	Max BMI from adjusted height, mean (SD)	31.725 (0.113)
Obesity status by max BMI from measured height		Obesity status by max BMI from adjusted height	
Never obese	43.42 (1.166)	Never obese	45.82 (1.128)
Former obese	14.54 (0.603)	Former obese	12.14 (0.542)
Current obese	42.03 (1.076)	Current obese	42.03 (1.076)
Ever obese	56.58 (1.166)	Ever obese	54.18 (1.128)

Notes: Correlations for measured height and adjusted height in total population, female, and male are 0.982, 0.953, and 0.985, respectively. Correlations for max BMI from measured height and max BMI from adjusted height in total population, female, and male are 0.995, 0.994, and 0.997, respectively.

m, meter.