

CHAPTER 5: OBESITY AND OVERWEIGHT

Obesity and Overweight in 2004 and 2005

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|---------------------------------------|--|
| Definition | Body Mass Index (BMI) is a calculation that standardizes the meaning of the terms obesity and overweight, thereby improving the accuracy of comparisons. BMI is body weight in kilograms divided by height in meters squared ($BMI = \text{kg}/\text{m}^2$). Obesity is defined as a BMI of 30.0 or higher and overweight as a BMI of 25.0-29.9. |
| Prevalence | <p>Obesity WV: 27.6% (95% CI: 25.9-29.4) in 2004; 30.6% (95% CI: 28.8-32.4) in 2005. US: 23.5% (95% CI: 23.2-23.8) in 2004; 24.5% (95% CI: 24.2-24.8) in 2005. West Virginia ranked 3rd highest among 52 BRFSS participants in 2004 and 3rd highest among 53 BRFSS participants in 2005.</p> <p>Overweight WV: 36.4% (95% CI: 34.5-38.3) in 2004; 34.8% (95% CI: 33.0-36.7) in 2005. US: 36.7% (95% CI: 36.4-37.1) in 2004; 36.8% (95% CI: 36.5-37.1) in 2005. West Virginia ranked 32nd highest among 52 BRFSS participants in 2004 and 50th highest among 53 BRFSS participants in 2005.</p> |
| Time Trends | Between 1987 and 2005, a substantial increase in obesity prevalence occurred among West Virginia adults. Men and women from a wide range of age, education, and income categories contributed to this unhealthy trend. The rate of overweight, in contrast, had only slight year-to-year variations around a flat long-term trend line. Between 2004 and 2005, obesity estimates increased, while the overweight prevalence declined marginally, but these one-year changes were not significant. During both 2004 and 2005, approximately two-thirds of West Virginia adults were either obese or overweight. |
| Gender | <p>Obesity Men: 28.5% (95% CI: 25.8-31.3) in 2004; 31.0% (95% CI: 28.2-33.8) in 2005. Women: 26.7% (95% CI: 24.6-28.9) in 2004; 30.2% (95% CI: 28.0-32.5) in 2005.</p> <p>Overweight Men: 43.6% (95% CI: 40.5-46.6) in 2004; 40.7% (95% CI: 37.7-43.7) in 2005. Women: 29.5% (95% CI: 27.3-31.8) in 2004; 29.1% (95% CI: 26.9-31.3) in 2005.</p> <p>Obesity rate differences by gender alone were very small. However, men had a significantly higher risk than women from overweight in both years.</p> |
| Age | The prevalence of being either obese or overweight steadily increased into the middle age groups (18-54) in both 2004 and 2005, although adjacent age groups were not significantly different. Among those aged 65 and older, the prevalence of being overweight (but not obese) continued its association with increased age. In contrast, the prevalence of obesity in both years was steeply and significantly lower among the oldest age group when compared with the next oldest age group. |
| Education and Household Income | Few differences were significant in the prevalence of either obesity or overweight by educational attainment in 2004 and 2005. Similarly, no significant differences were noted by household income. |

Table 5.1 Obesity by demographic characteristics: WVBRFSS, 2004

| Characteristic | Men | | | Women | | | Total | | |
|--------------------|---------|-------------|-----------|---------|-------------|-----------|---------|-------------|-----------|
| | # Resp. | % | 95% CI | # Resp. | % | 95% CI | # Resp. | % | 95% CI |
| TOTAL | 1,313 | 28.5 | 25.8-31.3 | 2,019 | 26.7 | 24.6-28.9 | 3,332 | 27.6 | 25.9-29.4 |
| Age | | | | | | | | | |
| 18-24 | 74 | 19.7 | 10.0-29.3 | 111 | 14.0 | 7.3-20.7 | 185 | 16.9 | 11.0-22.9 |
| 25-34 | 179 | 31.9 | 24.7-39.2 | 269 | 21.1 | 15.6-26.5 | 448 | 26.7 | 22.1-31.2 |
| 35-44 | 236 | 29.7 | 23.2-36.1 | 346 | 28.2 | 23.0-33.3 | 582 | 28.9 | 24.8-33.0 |
| 45-54 | 296 | 32.0 | 26.2-37.7 | 383 | 31.9 | 26.8-36.9 | 679 | 31.9 | 28.1-35.8 |
| 55-64 | 255 | 37.1 | 30.7-43.4 | 365 | 37.4 | 31.8-43.0 | 620 | 37.2 | 33.0-41.5 |
| 65+ | 271 | 19.6 | 14.7-24.5 | 543 | 24.7 | 20.8-28.7 | 814 | 22.6 | 19.4-25.7 |
| Education | | | | | | | | | |
| Less than H.S. | 224 | 31.0 | 24.1-37.9 | 384 | 32.1 | 26.7-37.4 | 608 | 31.6 | 27.3-35.9 |
| H.S. or G.E.D. | 523 | 27.8 | 23.6-32.0 | 757 | 30.2 | 26.6-33.8 | 1,280 | 29.0 | 26.2-31.8 |
| Some Post-H.S. | 260 | 30.2 | 23.7-36.7 | 449 | 25.5 | 21.0-30.0 | 709 | 27.7 | 23.8-31.6 |
| College Graduate | 304 | 26.2 | 20.7-31.7 | 427 | 17.0 | 13.2-20.9 | 731 | 21.6 | 18.2-25.0 |
| Income | | | | | | | | | |
| Less than \$15,000 | 167 | 31.1 | 22.6-39.6 | 442 | 30.4 | 25.7-35.2 | 609 | 30.7 | 26.3-35.1 |
| \$15,000- 24,999 | 260 | 30.1 | 23.5-36.7 | 391 | 33.7 | 28.4-39.0 | 651 | 31.9 | 27.7-36.1 |
| \$25,000- 34,999 | 164 | 29.8 | 22.1-37.5 | 244 | 26.0 | 20.1-32.0 | 408 | 27.8 | 23.0-32.7 |
| \$35,000- 49,999 | 213 | 32.7 | 25.7-39.7 | 297 | 22.8 | 17.7-27.8 | 510 | 27.7 | 23.4-32.0 |
| \$50,000- 74,999 | 214 | 23.8 | 17.6-30.0 | 222 | 24.5 | 18.4-30.6 | 436 | 24.1 | 19.7-28.5 |
| \$75,000+ | 187 | 26.8 | 20.1-33.4 | 182 | 19.3 | 13.3-25.3 | 369 | 23.6 | 19.0-28.2 |

Note: Obesity is defined as a body mass index of 30.0 or higher.

Table 5.2 Obesity by demographic characteristics: WVBRFSS, 2005

| Characteristic | Men | | | Women | | | Total | | |
|--------------------|---------|--------------|-----------|---------|-------------|-----------|---------|-------------|-----------|
| | # Resp. | % | 95% CI | # Resp. | % | 95% CI | # Resp. | % | 95% CI |
| TOTAL | 1,348 | 31.0 | 28.2-33.8 | 2,097 | 30.2 | 28.0-32.5 | 3,445 | 30.6 | 28.8-32.4 |
| Age | | | | | | | | | |
| 18-24 | 67 | *22.3 | 11.9-32.6 | 98 | 20.0 | 11.6-28.5 | 165 | 21.2 | 14.5-28.0 |
| 25-34 | 182 | 32.3 | 25.0-39.6 | 274 | 29.9 | 24.0-35.8 | 456 | 31.1 | 26.4-35.8 |
| 35-44 | 223 | 38.3 | 31.5-45.1 | 329 | 31.0 | 25.5-36.5 | 552 | 34.7 | 30.3-39.1 |
| 45-54 | 284 | 37.5 | 31.5-43.6 | 442 | 34.6 | 29.7-39.5 | 726 | 36.1 | 32.2-40.0 |
| 55-64 | 272 | 29.2 | 23.4-35.1 | 342 | 40.5 | 34.8-46.3 | 614 | 34.8 | 30.7-39.0 |
| 65+ | 318 | 22.1 | 17.2-27.0 | 603 | 25.1 | 21.2-29.0 | 921 | 23.8 | 20.8-26.9 |
| Education | | | | | | | | | |
| Less than H.S. | 248 | 32.8 | 26.0-39.7 | 364 | 31.6 | 26.0-37.2 | 612 | 32.3 | 27.8-36.7 |
| H.S. or G.E.D. | 548 | 31.2 | 26.8-35.7 | 833 | 31.7 | 28.1-35.4 | 1,381 | 31.5 | 28.6-34.3 |
| Some Post-H.S. | 247 | 31.0 | 24.4-37.7 | 482 | 30.2 | 25.5-35.0 | 729 | 30.6 | 26.6-34.5 |
| College Graduate | 304 | 28.6 | 22.9-34.3 | 416 | 26.1 | 21.4-30.7 | 720 | 27.3 | 23.6-31.0 |
| Income | | | | | | | | | |
| Less than \$15,000 | 164 | 33.8 | 25.0-42.7 | 417 | 30.3 | 25.2-35.4 | 581 | 31.7 | 27.0-36.3 |
| \$15,000- 24,999 | 268 | 31.0 | 24.6-37.4 | 447 | 29.8 | 24.8-34.8 | 715 | 30.4 | 26.3-34.4 |
| \$25,000- 34,999 | 211 | 32.4 | 25.3-39.5 | 244 | 33.4 | 26.6-40.1 | 455 | 32.8 | 27.9-37.8 |
| \$35,000- 49,999 | 207 | 28.2 | 21.5-34.9 | 253 | 34.9 | 28.1-41.7 | 460 | 31.3 | 26.5-36.1 |
| \$50,000- 74,999 | 209 | 36.2 | 29.0-43.4 | 252 | 28.4 | 22.4-34.3 | 461 | 32.5 | 27.8-37.3 |
| \$75,000+ | 174 | 25.5 | 18.7-32.3 | 204 | 25.0 | 18.5-31.4 | 378 | 25.3 | 20.6-30.0 |

Note: Obesity is defined as a body mass index of 30.0 or higher.

* Use caution when interpreting and reporting this estimate. See discussion of unstable estimates on page 9.

Table 5.3 Overweight but not obese by demographic characteristics: WVBRFSS, 2004

| Characteristic | Men | | | Women | | | Total | | |
|--------------------|---------|-------------|-----------|---------|-------------|-----------|---------|-------------|-----------|
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| TOTAL | 1,313 | 43.6 | 40.5-46.6 | 2,019 | 29.5 | 27.3-31.8 | 3,332 | 36.4 | 34.5-38.3 |
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| 25-34 | 179 | 41.6 | 33.8-49.3 | 269 | 25.4 | 19.9-30.8 | 448 | 33.7 | 28.8-38.5 |
| 35-44 | 236 | 42.8 | 36.0-49.6 | 346 | 28.6 | 23.3-33.9 | 582 | 35.8 | 31.4-40.1 |
| 45-54 | 296 | 47.6 | 41.4-53.8 | 383 | 33.3 | 28.1-38.6 | 679 | 40.5 | 36.4-44.6 |
| 55-64 | 255 | 43.5 | 36.9-50.0 | 365 | 31.1 | 26.0-36.3 | 620 | 37.3 | 33.1-41.5 |
| 65+ | 271 | 51.4 | 44.9-57.8 | 543 | 34.4 | 30.1-38.7 | 814 | 41.7 | 37.9-45.4 |
| Education | | | | | | | | | |
| Less than H.S. | 224 | 35.4 | 28.4-42.4 | 384 | 30.8 | 25.7-36.0 | 608 | 32.9 | 28.6-37.1 |
| H.S. or G.E.D. | 523 | 44.6 | 39.8-49.5 | 757 | 31.0 | 27.3-34.8 | 1,280 | 38.1 | 35.0-41.2 |
| Some Post-H.S. | 260 | 42.0 | 34.9-49.0 | 449 | 25.9 | 21.5-30.3 | 709 | 33.4 | 29.3-37.5 |
| College Graduate | 304 | 49.4 | 43.2-55.5 | 427 | 29.7 | 24.9-34.6 | 731 | 39.5 | 35.5-43.5 |
| Income | | | | | | | | | |
| Less than \$15,000 | 167 | 34.0 | 25.3-42.8 | 442 | 28.5 | 23.8-33.2 | 609 | 30.7 | 26.2-35.2 |
| \$15,000- 24,999 | 260 | 39.8 | 33.1-46.4 | 391 | 25.4 | 20.8-30.1 | 651 | 32.4 | 28.3-36.5 |
| \$25,000- 34,999 | 164 | 43.4 | 35.0-51.9 | 244 | 35.5 | 28.5-42.5 | 408 | 39.3 | 33.9-44.8 |
| \$35,000- 49,999 | 213 | 44.0 | 36.4-51.5 | 297 | 32.8 | 27.0-38.7 | 510 | 38.4 | 33.6-43.2 |
| \$50,000- 74,999 | 214 | 53.3 | 45.7-61.0 | 222 | 24.7 | 18.7-30.6 | 436 | 41.0 | 35.8-46.2 |
| \$75,000+ | 187 | 47.5 | 39.7-55.2 | 182 | 25.4 | 18.6-32.2 | 369 | 38.1 | 32.7-43.5 |

Note: Overweight is defined as a body mass index of 25.0-29.9.

Table 5.4 Overweight but not obese by demographic characteristics: WVBRFSS, 2005

| Characteristic | Men | | | Women | | | Total | | |
|--------------------|---------|-------------|-----------|---------|-------------|-----------|---------|-------------|-----------|
| | # Resp. | % | 95% CI | # Resp. | % | 95% CI | # Resp. | % | 95% CI |
| TOTAL | 1,348 | 40.7 | 37.7-43.7 | 2,097 | 29.1 | 26.9-31.3 | 3,445 | 34.8 | 33.0-36.7 |
| Age | | | | | | | | | |
| 18-24 | 67 | 20.0 | 10.2-29.8 | 98 | 18.5 | 10.3-26.6 | 165 | 19.3 | 12.9-25.7 |
| 25-34 | 182 | 39.6 | 32.0-47.1 | 274 | 25.0 | 19.5-30.5 | 456 | 32.4 | 27.7-37.2 |
| 35-44 | 223 | 44.5 | 37.4-51.5 | 329 | 26.8 | 21.6-32.1 | 552 | 35.7 | 31.3-40.2 |
| 45-54 | 284 | 42.0 | 35.8-48.3 | 442 | 31.8 | 27.2-36.5 | 726 | 37.0 | 33.0-40.9 |
| 55-64 | 272 | 44.3 | 37.7-50.8 | 342 | 28.6 | 23.4-33.8 | 614 | 36.5 | 32.2-40.7 |
| 65+ | 318 | 49.2 | 43.3-55.2 | 603 | 37.4 | 33.1-41.7 | 921 | 42.4 | 38.9-45.9 |
| Education | | | | | | | | | |
| Less than H.S. | 248 | 37.9 | 30.7-45.0 | 364 | 32.3 | 26.8-37.8 | 612 | 35.2 | 30.6-39.8 |
| H.S. or G.E.D. | 548 | 40.8 | 36.1-45.4 | 833 | 29.2 | 25.7-32.6 | 1,381 | 35.0 | 32.1-37.9 |
| Some Post-H.S. | 247 | 37.4 | 30.6-44.2 | 482 | 28.3 | 23.7-32.8 | 729 | 32.1 | 28.2-36.0 |
| College Graduate | 304 | 46.2 | 39.9-52.5 | 416 | 27.6 | 22.9-32.3 | 720 | 37.1 | 33.1-41.1 |
| Income | | | | | | | | | |
| Less than \$15,000 | 164 | 40.4 | 31.5-49.3 | 417 | 31.2 | 26.1-36.3 | 581 | 34.8 | 30.1-39.5 |
| \$15,000- 24,999 | 268 | 37.0 | 30.5-43.5 | 447 | 29.5 | 24.6-34.5 | 715 | 33.1 | 29.1-37.1 |
| \$25,000- 34,999 | 211 | 44.1 | 36.6-51.5 | 244 | 32.6 | 26.1-39.1 | 455 | 38.9 | 33.8-44.0 |
| \$35,000- 49,999 | 207 | 48.4 | 40.8-56.0 | 253 | 25.5 | 19.6-31.5 | 460 | 37.8 | 32.6-42.9 |
| \$50,000- 74,999 | 209 | 35.1 | 28.1-42.2 | 252 | 30.6 | 24.4-36.9 | 461 | 33.0 | 28.3-37.8 |
| \$75,000+ | 174 | 49.6 | 41.3-58.0 | 204 | 25.7 | 19.5-32.0 | 378 | 38.6 | 33.1-44.1 |

Note: Overweight is defined as body mass index of 25.0-29.9.

Figure 5.1 Obesity and overweight by year: WVBRFSS, 1987-2005

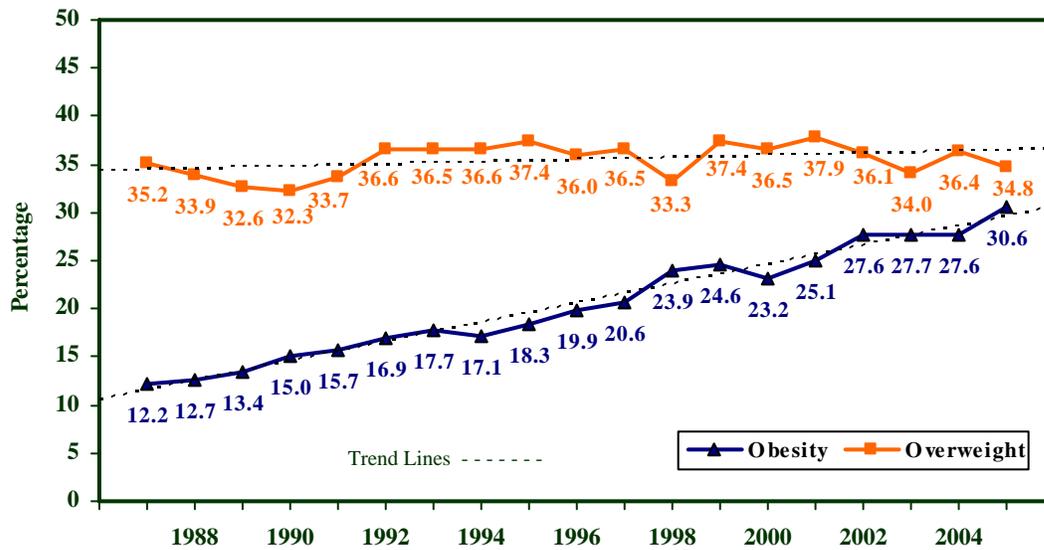
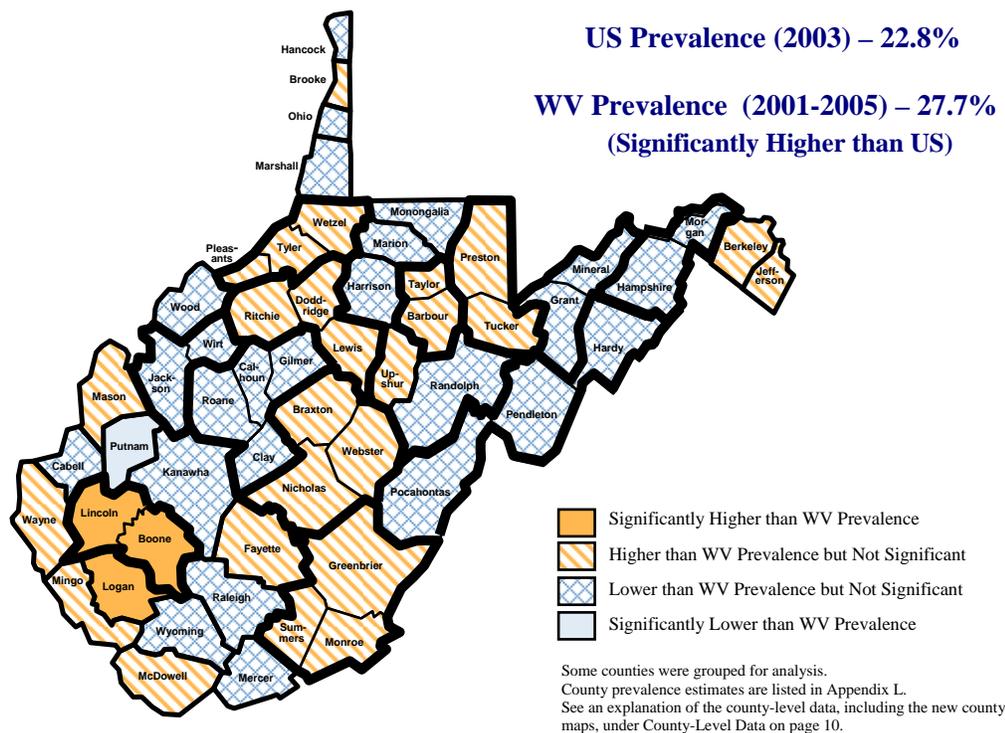


Figure 5.2 Obesity (body mass index of 30.0 or higher) by county: WVBRFSS, 2001-2005



WV HEALTHY PEOPLE 2010 OBJECTIVES

Objective 19.1b

Reduce to 20% the proportion of people who are obese as defined by having a body mass index of 30 or greater. (Baseline: 23.9% in 1998; Current: 30.6% in 2005)