Comorbid Health Conditions and Risk Factors

Many behavior risk factors and health conditions are interrelated. For example, physical activity and nutrition are related to obesity, which is related to cardiovascular diseases. Comorbidity is the presence of more than one health condition or risk factor in an individual at the same time. Identifying common comorbid factors is important to understanding how to prevent and reduce serious health conditions and chronic diseases. The previous 26 chapters of this report provide detailed data on individual health conditions and risk factors. The purpose of this chapter is to introduce some of the common comorbidities among West Virginia adults in 2005 (see Figure 27.1 and Table 27.1).

Figure 27.1 Common comorbid conditions: WVBRFSS, 2005
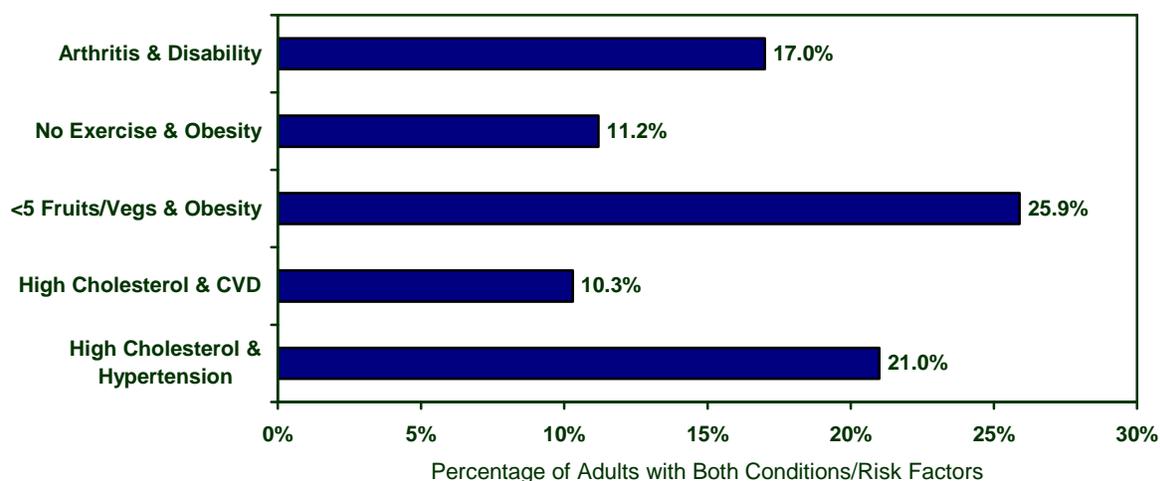
DEFINITIONS OF HEALTH CONDITIONS AND RISK FACTORS

Fair or Poor Health: Reported health as fair or poor from choices of "excellent," "very good," "good," "fair," or "poor."

No Health Coverage: Adults aged 18 and older without current health care coverage.

<5 Fruits & Vegs per Day: Reported consuming fewer than 5 servings of fruits and vegetables daily.

No Exercise: Other than their regular job, did not participate in any physical activities or exercise in the past month.

Obese: Body Mass Index (BMI) of 30.0 or higher. BMI equals body weight in kilograms divided by height in meters squared.

Heavy Drinker: Consumption of more than two alcoholic drinks per day for men and more than one drink per day for women.

Binge Drinker: Consumption of five or more alcoholic drinks on one or more occasion during the past month.

Current Smoker: Have smoked 100 cigarettes in lifetime and now smoke every day or some days.

Hypertension: Ever been told by a doctor, nurse, or other health professional that they have high blood pressure.

High Cholesterol: Ever had cholesterol checked and ever been told by a doctor, nurse, or other health professional that it is high.

CVD: Ever been told by a doctor, nurse, or other health professional that they had a heart attack, angina or coronary heart disease, or stroke.

Diabetes: Ever been told by a doctor that they have diabetes.

Current Asthma: Ever been told by a doctor, nurse, or other health professional that they had asthma and still have asthma.

Arthritis: Ever been told by a doctor, nurse, or other health professional that they have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

Disabled: Limited in any way in any activities because of physical, mental, or emotional problems.

Table 27.1 Comorbidities: The prevalence of multiple risk behaviors and/or health conditions among adults: WVBRFSS, 2005

*Table interpretation: Each cell represents the percentage of WV adults with **both** of the conditions/risk factors. For example, 8.0% of WV adults have **both** diabetes and high cholesterol.*

% of Total Population	Fair or Poor Health	No Health Coverage	<5 Fruits & Vegs per Day	No Exercise	Obese	Heavy Drinker	Binge Drinker	Current Smoker	Hyper-tension	High Choles-terol	CVD	Diabetes	Current Asthma	Arthritis	Disabled
Fair or Poor Health	24.7 (23.1-26.3)	4.8 (3.9-5.8)	20.4 (18.9-22.0)	11.7 (10.6-12.9)	9.9 (8.8-11.0)	0.6 (0.3-0.9)	1.7 (1.2-2.2)	8.5 (7.5-9.6)	13.8 (12.6-15.0)	14.9 (13.5-16.3)	8.4 (7.5-9.4)	6.1 (5.2-6.9)	4.1 (3.4-4.8)	14.7 (13.5-15.9)	16.2 (14.8-17.5)
No Health Coverage	4.8 (3.9-5.8)	18.1 (16.4-19.7)	15.2 (13.6-16.8)	5.9 (4.8-6.9)	5.1 (4.1-6.0)	1.2 (0.7-1.7)	2.9 (2.1-3.7)	8.4 (7.2-9.7)	3.7 (3.0-4.5)	3.6 (2.9-4.4)	1.6 (1.2-2.1)	1.0 (0.7-1.4)	1.7 (1.1-2.3)	4.2 (3.5-4.9)	5.0 (4.1-5.9)
<5 Fruits & Vegs per Day	20.4 (18.9-22.0)	15.2 (13.6-16.8)	80.0 (78.5-81.5)	24.7 (23.0-26.4)	25.9 (24.2-27.7)	2.6 (1.9-3.3)	7.8 (6.7-9.0)	22.8 (21.1-24.5)	24.7 (23.1-26.3)	31.6 (29.8-33.5)	10.8 (9.7-11.9)	8.1 (7.2-9.1)	7.4 (6.4-8.4)	27.4 (25.8-29.1)	22.4 (20.8-23.9)
No Exercise	11.7 (10.6-12.9)	5.9 (4.8-6.9)	24.7 (23.0-26.4)	28.5 (26.8-30.3)	11.2 (10.0-12.4)	1.0 (0.5-1.5)	2.0 (1.5-2.6)	8.9 (7.7-10.1)	11.7 (10.6-12.9)	13.7 (12.4-15.1)	6.3 (5.5-7.2)	4.6 (3.9-5.4)	3.4 (2.7-4.0)	12.8 (11.6-13.9)	12.3 (11.1-13.5)
Obese	9.9 (8.8-11.0)	5.1 (4.1-6.0)	25.9 (24.2-27.7)	11.2 (10.0-12.4)	30.6 (28.8-32.4)	0.4* (0.1-0.6)	2.3 (1.7-2.9)	6.8 (5.7-7.8)	13.8 (12.6-15.1)	15.1 (13.6-16.6)	4.9 (4.2-5.7)	5.8 (5.0-6.6)	3.6 (2.9-4.4)	13.0 (11.8-14.2)	11.1 (9.9-12.3)
Heavy Drinker	0.6 (0.3-0.9)	1.2 (0.7-1.7)	2.6 (1.9-3.3)	1.0 (0.5-1.5)	0.4* (0.1-0.6)	3.1 (2.4-3.9)	2.6 (1.9-3.3)	2.0 (1.4-2.6)	0.7 (0.4-1.0)	0.9 (0.5-1.3)	0.2* (0.0-0.4)	0.1* (0.0-0.2)	0.2* (0.0-0.3)	1.0 (0.6-1.4)	0.8 (0.4-1.1)
Binge Drinker	1.7 (1.2-2.2)	2.9 (2.1-3.7)	7.8 (6.7-9.0)	2.0 (1.5-2.6)	2.3 (1.7-2.9)	2.6 (1.9-3.3)	9.1 (7.9-10.3)	4.8 (3.9-5.7)	2.0 (1.4-2.5)	2.2 (1.6-2.8)	0.6 (0.3-0.9)	0.3* (0.1-0.5)	0.5* (0.2-0.8)	2.2 (1.7-2.8)	1.8 (1.2-2.3)
Current Smoker	8.5 (7.5-9.6)	8.4 (7.2-9.7)	22.8 (21.1-24.5)	8.9 (7.7-10.1)	6.8 (5.7-7.8)	2.0 (1.4-2.6)	4.8 (3.9-5.7)	26.7 (24.9-28.4)	6.9 (5.9-7.8)	8.9 (7.8-10.0)	3.3 (2.7-3.9)	1.8 (1.4-2.3)	2.7 (2.0-3.3)	8.4 (7.4-9.4)	8.8 (7.7-9.9)
Hypertension	13.8 (12.6-15.0)	3.7 (3.0-4.5)	24.7 (23.1-26.3)	11.7 (10.6-12.9)	13.8 (12.6-15.1)	0.7 (0.4-1.0)	2.0 (1.4-2.5)	6.9 (5.9-7.8)	31.4 (29.7-33.1)	21.0 (19.4-22.6)	8.7 (7.7-9.7)	6.8 (6.0-7.7)	3.4 (2.7-4.0)	17.4 (16.1-18.8)	13.5 (12.2-14.7)
High Cholesterol	14.9 (13.5-16.3)	3.6 (2.9-4.4)	31.6 (29.8-33.5)	13.7 (12.4-15.1)	15.1 (13.6-16.6)	0.9 (0.5-1.3)	2.2 (1.6-2.8)	8.9 (7.8-10.0)	21.0 (19.4-22.6)	39.9 (37.9-41.9)	10.3 (9.1-11.5)	8.0 (6.9-9.1)	4.7 (3.9-5.5)	20.9 (19.3-22.5)	16.1 (14.6-17.6)
CVD	8.4 (7.5-9.4)	1.6 (1.2-2.1)	10.8 (9.7-11.9)	6.3 (5.5-7.2)	4.9 (4.2-5.7)	0.2* (0.0-0.4)	0.6 (0.3-0.9)	3.3 (2.7-3.9)	8.7 (7.7-9.7)	10.3 (9.1-11.5)	13.7 (12.5-14.9)	3.8 (3.1-4.4)	2.1 (1.6-2.6)	8.4 (7.4-9.3)	8.2 (7.2-9.2)
Diabetes	6.1 (5.2-6.9)	1.0 (0.7-1.4)	8.1 (7.2-9.1)	4.6 (3.9-5.4)	5.8 (5.0-6.6)	0.1* (0.0-0.2)	0.3* (0.1-0.5)	1.8 (1.4-2.3)	6.8 (6.0-7.7)	8.0 (6.9-9.1)	3.8 (3.1-4.4)	10.4 (9.4-11.5)	1.1 (0.8-1.4)	5.8 (5.0-6.6)	5.2 (4.5-6.0)
Current Asthma	4.1 (3.4-4.8)	1.7 (1.1-2.3)	7.4 (6.4-8.4)	3.4 (2.7-4.0)	3.6 (2.9-4.4)	0.2* (0.0-0.3)	0.5* (0.2-0.8)	2.7 (2.0-3.3)	3.4 (2.7-4.0)	4.7 (3.9-5.5)	2.1 (1.6-2.6)	1.1 (0.8-1.4)	9.2 (8.1-10.4)	4.7 (4.0-5.4)	4.5 (3.7-5.2)
Arthritis	14.7 (13.5-15.9)	4.2 (3.5-4.9)	27.4 (25.8-29.1)	12.8 (11.6-13.9)	13.0 (11.8-14.2)	1.0 (0.6-1.4)	2.2 (1.7-2.8)	8.4 (7.4-9.4)	17.4 (16.1-18.8)	20.9 (19.3-22.5)	8.4 (7.4-9.3)	5.8 (5.0-6.6)	4.7 (4.0-5.4)	34.9 (33.1-36.6)	17.0 (15.7-18.3)
Disabled	16.2 (14.8-17.5)	5.0 (4.1-5.9)	22.4 (20.8-23.9)	12.3 (11.1-13.5)	11.1 (9.9-12.3)	0.8 (0.4-1.1)	1.8 (1.2-2.3)	8.8 (7.7-9.9)	13.5 (12.2-14.7)	16.1 (14.6-17.6)	8.2 (7.2-9.2)	5.2 (4.5-6.0)	4.5 (3.7-5.2)	17.0 (15.7-18.3)	27.4 (25.7-29.1)

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