

The following appendices are supplemental to a Commonwealth Fund issue brief, D. C. Radley, S. L. Hayes, and D. McCarthy, *Assessing State Variation in High-Need Adult Populations and Their Care Experiences* (The Commonwealth Fund, August 2017), available on the Fund's website at: <http://www.commonwealthfund.org/publications/issue-briefs/2017/aug/state-variation-high-need-adults>.

## Appendix 1a. Socioeconomic Characteristics by Population Segment and State: Age

	Share of total population		Ages 18–49			Ages 50–64			Age 65+		
	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>17%</b>	<b>12%</b>	<b>54%</b>	<b>32%</b>	<b>23%</b>	<b>26%</b>	<b>32%</b>	<b>38%</b>	<b>19%</b>	<b>36%</b>	<b>39%</b>
Alabama	19%	18%	53%	35%	26%	27%	29%	41%	20%	36%	33%
Alaska	15%	8%	58%	36%	31%	29%	38%	40%	13%	25%	29%
Arizona	18%	12%	55%	33%	24%	24%	29%	37%	21%	39%	38%
Arkansas	17%	18%	54%	33%	28%	26%	31%	39%	21%	36%	33%
California	14%	9%	57%	31%	19%	25%	32%	40%	18%	37%	40%
Colorado	15%	8%	57%	30%	21%	26%	35%	39%	17%	35%	40%
Connecticut	18%	10%	52%	27%	25%	28%	33%	36%	21%	40%	39%
Delaware	19%	12%	51%	29%	21%	27%	32%	39%	21%	40%	40%
District of Columbia	14%	10%	63%	39%	31%	21%	30%	39%	15%	31%	30%
Florida	17%	13%	49%	24%	21%	27%	30%	37%	24%	45%	41%
Georgia	16%	13%	57%	36%	24%	26%	30%	41%	17%	34%	35%
Hawaii	17%	7%	53%	31%	26%	26%	35%	34%	21%	34%	40%
Idaho	18%	9%	55%	34%	31%	26%	29%	29%	20%	37%	39%
Illinois	17%	9%	54%	28%	22%	27%	37%	37%	19%	34%	41%
Indiana	19%	13%	54%	36%	29%	27%	32%	37%	19%	33%	34%
Iowa	18%	10%	52%	30%	22%	27%	31%	34%	21%	39%	44%
Kansas	17%	11%	55%	34%	20%	26%	32%	38%	19%	34%	42%
Kentucky	19%	19%	54%	38%	32%	26%	30%	37%	20%	32%	31%
Louisiana	16%	15%	55%	36%	25%	26%	30%	39%	19%	33%	36%
Maine	23%	11%	47%	30%	24%	30%	32%	39%	23%	38%	36%
Maryland	17%	9%	54%	31%	24%	27%	34%	36%	18%	34%	40%
Massachusetts	18%	11%	53%	30%	25%	27%	34%	37%	20%	36%	38%
Michigan	20%	13%	52%	31%	23%	28%	33%	38%	20%	36%	39%
Minnesota	16%	8%	53%	31%	20%	28%	33%	37%	19%	35%	43%
Mississippi	17%	16%	53%	35%	25%	27%	32%	41%	20%	33%	34%
Missouri	19%	13%	53%	35%	22%	27%	29%	40%	20%	36%	38%
Montana	18%	12%	50%	33%	24%	28%	30%	36%	22%	38%	41%
Nebraska	17%	9%	54%	30%	21%	26%	34%	33%	20%	36%	46%
Nevada	16%	10%	55%	32%	24%	26%	28%	33%	19%	39%	43%
New Hampshire	18%	10%	50%	29%	28%	30%	35%	33%	20%	36%	39%
New Jersey	15%	9%	53%	29%	20%	28%	32%	36%	20%	39%	44%
New Mexico	17%	13%	53%	35%	24%	27%	32%	36%	20%	33%	40%
New York	15%	11%	55%	32%	21%	26%	32%	36%	20%	36%	43%
North Carolina	16%	13%	55%	32%	22%	25%	31%	39%	20%	37%	39%
North Dakota	17%	9%	55%	33%	18%	26%	30%	36%	20%	37%	46%
Ohio	19%	13%	52%	31%	26%	28%	32%	37%	21%	37%	36%
Oklahoma	17%	16%	54%	37%	24%	26%	31%	38%	20%	32%	39%
Oregon	20%	12%	53%	35%	27%	27%	29%	34%	21%	36%	40%
Pennsylvania	20%	11%	51%	31%	23%	28%	32%	38%	22%	37%	39%
Rhode Island	18%	11%	53%	29%	23%	27%	33%	36%	20%	38%	41%
South Carolina	18%	14%	53%	31%	23%	26%	30%	40%	21%	39%	37%
South Dakota	19%	9%	52%	31%	19%	28%	30%	36%	21%	38%	45%
Tennessee	17%	17%	54%	34%	28%	26%	31%	39%	20%	35%	33%
Texas	12%	11%	59%	33%	21%	25%	34%	41%	16%	33%	39%
Utah	16%	8%	64%	40%	28%	21%	30%	33%	15%	30%	39%
Vermont	20%	10%	49%	27%	29%	30%	35%	33%	21%	37%	38%
Virginia	17%	10%	55%	32%	23%	26%	33%	39%	18%	35%	39%
Washington	18%	11%	55%	33%	27%	27%	32%	35%	19%	36%	38%
West Virginia	22%	20%	50%	37%	25%	28%	29%	39%	23%	34%	36%
Wisconsin	17%	10%	53%	30%	25%	27%	33%	38%	20%	37%	37%
Wyoming	18%	10%	53%	32%	28%	28%	34%	31%	19%	34%	41%

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 1b. Socioeconomic Characteristics by Population Segment and State: Gender, Income, and Insurance Coverage

	Share of total population		Gender			Income			Insurance coverage		
	Multiple chronic	High need	Female			< 200% FPL			Uninsured		
			Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>17%</b>	<b>12%</b>	<b>51%</b>	<b>55%</b>	<b>61%</b>	<b>22%</b>	<b>22%</b>	<b>39%</b>	<b>14%</b>	<b>9%</b>	<b>9%</b>
Alabama	19%	18%	52%	54%	63%	26%	25%	44%	14%	10%	11%
Alaska	15%	8%	48%	57%	61%	17%	17%	39%	15%	10%	11%
Arizona	18%	12%	51%	56%	61%	26%	24%	36%	14%	8%	7%
Arkansas	17%	18%	51%	54%	57%	26%	25%	42%	16%	10%	7%
California	14%	9%	50%	57%	63%	25%	23%	33%	14%	8%	6%
Colorado	15%	8%	50%	55%	62%	16%	16%	29%	13%	7%	4%
Connecticut	18%	10%	51%	58%	65%	18%	15%	35%	9%	4%	7%
Delaware	19%	12%	52%	58%	59%	23%	23%	37%	9%	3%	5%
District of Columbia	14%	10%	53%	58%	59%	18%	18%	47%	8%	7%	8%
Florida	17%	13%	52%	55%	61%	24%	26%	38%	18%	11%	13%
Georgia	16%	13%	52%	53%	63%	24%	24%	43%	21%	16%	16%
Hawaii	17%	7%	50%	51%	60%	17%	15%	25%	8%	5%	4%
Idaho	18%	9%	51%	57%	64%	20%	22%	37%	17%	15%	15%
Illinois	17%	9%	52%	61%	65%	20%	18%	34%	11%	6%	5%
Indiana	19%	13%	51%	55%	64%	23%	23%	42%	15%	11%	12%
Iowa	18%	10%	51%	55%	61%	15%	15%	32%	8%	6%	4%
Kansas	17%	11%	51%	55%	62%	18%	18%	33%	14%	11%	10%
Kentucky	19%	19%	51%	55%	56%	28%	31%	49%	10%	8%	6%
Louisiana	16%	15%	52%	54%	61%	25%	28%	39%	19%	16%	14%
Maine	23%	11%	52%	53%	61%	22%	24%	46%	11%	10%	9%
Maryland	17%	9%	52%	53%	66%	19%	20%	38%	9%	4%	4%
Massachusetts	18%	11%	52%	57%	60%	19%	20%	46%	5%	3%	4%
Michigan	20%	13%	51%	55%	58%	19%	21%	33%	10%	6%	8%
Minnesota	16%	8%	51%	55%	58%	14%	15%	31%	7%	5%	5%
Mississippi	17%	16%	52%	53%	64%	26%	30%	39%	19%	14%	13%
Missouri	19%	13%	52%	54%	65%	20%	21%	39%	12%	8%	8%
Montana	18%	12%	50%	56%	61%	20%	22%	34%	13%	11%	10%
Nebraska	17%	9%	51%	54%	59%	19%	18%	35%	12%	9%	9%
Nevada	16%	10%	50%	54%	57%	25%	23%	34%	17%	9%	7%
New Hampshire	18%	10%	51%	55%	62%	17%	16%	41%	11%	8%	9%
New Jersey	15%	9%	52%	53%	58%	20%	20%	35%	12%	6%	8%
New Mexico	17%	13%	51%	56%	60%	31%	29%	43%	15%	9%	7%
New York	15%	11%	52%	55%	60%	26%	24%	48%	12%	7%	5%
North Carolina	16%	13%	52%	57%	61%	23%	22%	41%	16%	12%	12%
North Dakota	17%	9%	49%	52%	59%	16%	19%	36%	9%	5%	6%
Ohio	19%	13%	52%	56%	63%	21%	25%	43%	10%	8%	8%
Oklahoma	17%	16%	51%	55%	60%	24%	23%	38%	14%	9%	10%
Oregon	20%	12%	51%	56%	64%	23%	23%	42%	11%	6%	7%
Pennsylvania	20%	11%	52%	55%	61%	21%	21%	43%	10%	8%	5%
Rhode Island	18%	11%	52%	56%	60%	21%	20%	38%	8%	5%	6%
South Carolina	18%	14%	52%	55%	63%	24%	25%	40%	17%	11%	15%
South Dakota	19%	9%	50%	50%	58%	18%	18%	30%	10%	9%	10%
Tennessee	17%	17%	52%	57%	60%	26%	25%	43%	14%	11%	12%
Texas	12%	11%	51%	56%	61%	25%	20%	38%	25%	17%	18%
Utah	16%	8%	50%	56%	66%	16%	17%	25%	14%	9%	10%
Vermont	20%	10%	51%	56%	61%	16%	19%	37%	7%	5%	4%
Virginia	17%	10%	52%	55%	61%	19%	18%	39%	13%	12%	10%
Washington	18%	11%	51%	56%	61%	18%	18%	34%	10%	6%	6%
West Virginia	22%	20%	51%	55%	58%	29%	30%	51%	10%	8%	5%
Wisconsin	17%	10%	51%	53%	60%	17%	18%	32%	8%	5%	8%
Wyoming	18%	10%	49%	48%	59%	18%	19%	36%	15%	13%	18%

Note: FPL = federal poverty level.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 1c. Socioeconomic Characteristics by Population Segment and State: Insurance Coverage Type

	Share of total population		Medicare			Medicaid			Employer-sponsored			Individual market		
	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>17%</b>	<b>12%</b>	<b>20%</b>	<b>29%</b>	<b>44%</b>	<b>8%</b>	<b>8%</b>	<b>16%</b>	<b>54%</b>	<b>46%</b>	<b>22%</b>	<b>11%</b>	<b>10%</b>	<b>9%</b>
Alabama	19%	18%	18%	26%	38%	7%	6%	15%	52%	46%	24%	15%	15%	13%
Alaska	15%	8%	11%	17%	27%	6%	6%	17%	56%	53%	24%	6%	—	—
Arizona	18%	12%	21%	34%	44%	9%	8%	15%	47%	37%	17%	10%	8%	8%
Arkansas	17%	18%	—	—	—	—	—	—	—	—	—	—	—	—
California	14%	9%	—	—	—	—	—	—	—	—	—	—	—	—
Colorado	15%	8%	—	—	—	—	—	—	—	—	—	—	—	—
Connecticut	18%	10%	18%	32%	39%	10%	10%	19%	56%	46%	28%	10%	7%	9%
Delaware	19%	12%	24%	35%	51%	9%	10%	13%	54%	43%	23%	8%	5%	7%
District of Columbia	14%	10%	16%	24%	38%	18%	20%	40%	51%	43%	10%	8%	4%	—
Florida	17%	13%	—	—	—	—	—	—	—	—	—	—	—	—
Georgia	16%	13%	22%	33%	54%	5%	—	9%	54%	46%	21%	12%	9%	7%
Hawaii	17%	7%	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	18%	9%	18%	32%	43%	4%	5%	11%	53%	42%	23%	18%	13%	12%
Illinois	17%	9%	20%	29%	42%	8%	9%	18%	57%	50%	21%	10%	6%	9%
Indiana	19%	13%	—	—	—	—	—	—	—	—	—	—	—	—
Iowa	18%	10%	21%	33%	49%	7%	7%	16%	57%	46%	22%	13%	10%	9%
Kansas	17%	11%	—	—	—	—	—	—	—	—	—	—	—	—
Kentucky	19%	19%	25%	31%	48%	11%	11%	19%	47%	41%	19%	10%	9%	7%
Louisiana	16%	15%	22%	30%	48%	8%	8%	14%	51%	44%	20%	12%	12%	8%
Maine	23%	11%	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	17%	9%	15%	23%	35%	5%	4%	9%	66%	61%	46%	9%	8%	5%
Massachusetts	18%	11%	29%	41%	65%	11%	11%	17%	50%	41%	12%	5%	3%	2%
Michigan	20%	13%	18%	26%	41%	9%	9%	16%	56%	47%	28%	12%	11%	8%
Minnesota	16%	8%	16%	24%	40%	7%	8%	17%	58%	48%	23%	14%	14%	11%
Mississippi	17%	16%	27%	36%	51%	8%	9%	15%	48%	40%	21%	9%	7%	6%
Missouri	19%	13%	—	—	—	—	—	—	—	—	—	—	—	—
Montana	18%	12%	21%	32%	49%	5%	4%	12%	47%	38%	15%	15%	13%	9%
Nebraska	17%	9%	19%	31%	51%	4%	3%	9%	57%	49%	22%	13%	11%	10%
Nevada	16%	10%	18%	33%	42%	9%	7%	17%	54%	38%	20%	9%	6%	8%
New Hampshire	18%	10%	19%	31%	48%	5%	5%	16%	59%	48%	23%	10%	8%	5%
New Jersey	15%	9%	21%	31%	51%	5%	4%	11%	60%	52%	23%	10%	9%	8%
New Mexico	17%	13%	20%	26%	41%	14%	13%	22%	42%	39%	17%	10%	9%	6%
New York	15%	11%	19%	24%	39%	14%	15%	22%	53%	48%	23%	10%	8%	9%
North Carolina	16%	13%	23%	36%	49%	6%	4%	13%	49%	41%	17%	14%	13%	12%
North Dakota	17%	9%	16%	26%	42%	4%	6%	9%	57%	47%	21%	14%	13%	11%
Ohio	19%	13%	21%	29%	45%	7%	9%	14%	56%	46%	24%	10%	10%	7%
Oklahoma	17%	16%	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	20%	12%	17%	26%	33%	15%	15%	23%	47%	39%	19%	11%	9%	10%
Pennsylvania	20%	11%	17%	26%	39%	6%	6%	18%	57%	46%	21%	14%	15%	14%
Rhode Island	18%	11%	18%	28%	46%	8%	8%	13%	53%	45%	20%	12%	10%	10%
South Carolina	18%	14%	24%	38%	52%	9%	7%	13%	50%	39%	19%	9%	8%	6%
South Dakota	19%	9%	—	—	—	—	—	—	—	—	—	—	—	—
Tennessee	17%	17%	22%	31%	41%	8%	6%	16%	49%	43%	19%	13%	11%	9%
Texas	12%	11%	—	—	—	—	—	—	—	—	—	—	—	—
Utah	16%	8%	13%	24%	41%	4%	4%	12%	64%	55%	32%	13%	11%	8%
Vermont	20%	10%	21%	32%	47%	13%	11%	24%	49%	41%	14%	11%	10%	5%
Virginia	17%	10%	18%	29%	48%	4%	3%	11%	57%	50%	23%	11%	9%	10%
Washington	18%	11%	17%	26%	39%	9%	9%	17%	53%	45%	22%	12%	11%	8%
West Virginia	22%	20%	23%	29%	41%	14%	13%	24%	48%	46%	22%	9%	8%	5%
Wisconsin	17%	10%	17%	28%	41%	7%	10%	17%	56%	44%	21%	12%	11%	8%
Wyoming	18%	10%	—	—	—	—	—	—	—	—	—	—	—	—

— Data not available.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 1d. Socioeconomic Characteristics by Population Segment and State: Race/Ethnicity

	Share of total population		White			Black			Hispanic			Other		
	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>17%</b>	<b>12%</b>	<b>66%</b>	<b>76%</b>	<b>69%</b>	<b>12%</b>	<b>10%</b>	<b>15%</b>	<b>15%</b>	<b>9%</b>	<b>11%</b>	<b>8%</b>	<b>5%</b>	<b>6%</b>
Alabama	19%	18%	69%	75%	71%	25%	22%	25%	3%	—	—	3%	2%	3%
Alaska	15%	8%	65%	70%	64%	4%	—	—	6%	—	—	24%	21%	26%
Arizona	18%	12%	61%	71%	69%	4%	4%	3%	26%	19%	21%	8%	6%	8%
Arkansas	17%	18%	77%	82%	77%	13%	13%	14%	6%	—	—	4%	4%	6%
California	14%	9%	44%	57%	52%	6%	7%	12%	34%	26%	26%	16%	10%	11%
Colorado	15%	8%	73%	81%	73%	4%	3%	5%	18%	11%	17%	5%	5%	5%
Connecticut	18%	10%	72%	81%	67%	9%	8%	11%	13%	9%	17%	6%	2%	6%
Delaware	19%	12%	67%	79%	63%	20%	15%	27%	8%	—	—	5%	3%	5%
District of Columbia	14%	10%	41%	37%	11%	42%	51%	76%	10%	—	—	7%	5%	—
Florida	17%	13%	60%	74%	66%	14%	9%	12%	22%	14%	18%	4%	3%	4%
Georgia	16%	13%	58%	68%	60%	29%	24%	34%	8%	—	—	5%	4%	4%
Hawaii	17%	7%	26%	28%	28%	2%	—	—	8%	8%	9%	63%	63%	61%
Idaho	18%	9%	86%	91%	84%	—	—	—	10%	6%	—	4%	—	8%
Illinois	17%	9%	66%	74%	63%	13%	12%	24%	14%	10%	12%	6%	—	—
Indiana	19%	13%	83%	88%	85%	8%	8%	10%	5%	—	—	3%	2%	4%
Iowa	18%	10%	90%	94%	90%	2%	—	—	4%	—	—	3%	—	—
Kansas	17%	11%	80%	87%	81%	6%	5%	8%	9%	4%	5%	5%	4%	6%
Kentucky	19%	19%	87%	89%	89%	7%	7%	7%	3%	—	—	3%	2%	3%
Louisiana	16%	15%	62%	68%	62%	30%	26%	33%	4%	—	—	4%	3%	4%
Maine	23%	11%	95%	96%	93%	1%	—	—	1%	—	—	3%	3%	6%
Maryland	17%	9%	55%	66%	61%	28%	26%	31%	8%	4%	4%	8%	4%	5%
Massachusetts	18%	11%	77%	84%	74%	6%	5%	5%	9%	7%	13%	8%	4%	7%
Michigan	20%	13%	78%	82%	74%	13%	11%	18%	4%	—	—	5%	3%	5%
Minnesota	16%	8%	85%	90%	85%	5%	4%	6%	4%	3%	4%	6%	3%	5%
Mississippi	17%	16%	61%	69%	61%	35%	30%	36%	2%	—	—	3%	—	—
Missouri	19%	13%	83%	86%	83%	11%	8%	13%	3%	—	—	4%	4%	4%
Montana	18%	12%	89%	90%	88%	—	—	—	3%	—	—	8%	8%	10%
Nebraska	17%	9%	84%	90%	84%	4%	2%	7%	8%	4%	5%	4%	4%	4%
Nevada	16%	10%	56%	67%	71%	8%	10%	—	24%	14%	—	12%	9%	9%
New Hampshire	18%	10%	93%	95%	95%	1%	—	—	3%	—	—	4%	3%	3%
New Jersey	15%	9%	59%	72%	59%	12%	12%	15%	18%	11%	21%	10%	5%	5%
New Mexico	17%	13%	43%	54%	45%	2%	—	—	44%	36%	42%	11%	8%	11%
New York	15%	11%	59%	71%	53%	14%	12%	16%	17%	13%	23%	10%	5%	8%
North Carolina	16%	13%	67%	79%	68%	20%	15%	25%	7%	3%	—	5%	3%	5%
North Dakota	17%	9%	90%	95%	88%	1%	—	—	2%	—	—	7%	4%	10%
Ohio	19%	13%	83%	85%	82%	11%	12%	13%	3%	2%	—	3%	1%	3%
Oklahoma	17%	16%	71%	75%	76%	7%	7%	6%	8%	4%	3%	14%	15%	14%
Oregon	20%	12%	81%	85%	84%	2%	—	—	10%	7%	—	7%	8%	8%
Pennsylvania	20%	11%	80%	85%	80%	10%	9%	13%	5%	4%	—	4%	2%	3%
Rhode Island	18%	11%	78%	86%	77%	4%	3%	4%	12%	7%	12%	6%	4%	7%
South Carolina	18%	14%	67%	75%	68%	26%	20%	27%	4%	—	—	3%	3%	3%
South Dakota	19%	9%	86%	87%	87%	—	—	—	3%	—	—	10%	10%	11%
Tennessee	17%	17%	77%	82%	81%	16%	11%	13%	3%	—	—	4%	4%	5%
Texas	12%	11%	47%	61%	52%	12%	12%	15%	36%	23%	29%	6%	3%	4%
Utah	16%	8%	82%	87%	84%	1%	—	—	12%	7%	10%	6%	5%	6%
Vermont	20%	10%	95%	96%	92%	1%	—	—	1%	—	—	4%	3%	7%
Virginia	17%	10%	66%	72%	69%	18%	19%	20%	8%	4%	—	8%	5%	8%
Washington	18%	11%	75%	84%	79%	3%	—	—	10%	6%	6%	13%	8%	10%
West Virginia	22%	20%	93%	94%	93%	3%	—	3%	1%	—	—	2%	2%	3%
Wisconsin	17%	10%	86%	88%	81%	5%	6%	11%	5%	—	—	4%	4%	5%
Wyoming	18%	10%	86%	86%	85%	—	—	—	8%	8%	9%	5%	6%	5%

— Data not available.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 2a. Select Health Care Experiences by Population Segment and State: Access, Utilization, and Patient Satisfaction with Care

	Usual source of care			Average number of provider visits in past year			Patients "somewhat" or "not" satisfied with care		
	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>77%</b>	<b>89%</b>	<b>91%</b>	<b>5%</b>	<b>7%</b>	<b>11%</b>	<b>35%</b>	<b>33%</b>	<b>43%</b>
Alabama	77%	87%	92%	5%	6%	9%	33%	32%	41%
Alaska	66%	84%	82%	5%	7%	13%	42%	41%	56%
Arizona	72%	85%	90%	5%	6%	12%	37%	35%	43%
Arkansas	78%	88%	91%	—	—	—	—	—	—
California	75%	88%	94%	—	—	—	—	—	—
Colorado	76%	89%	92%	—	—	—	—	—	—
Connecticut	84%	93%	94%	5%	7%	14%	32%	31%	41%
Delaware	86%	94%	93%	5%	7%	11%	33%	29%	41%
District of Columbia	75%	85%	90%	5%	7%	11%	32%	27%	49%
Florida	76%	88%	90%	—	—	—	—	—	—
Georgia	72%	82%	88%	5%	6%	11%	38%	38%	49%
Hawaii	85%	90%	95%	—	—	—	—	—	—
Idaho	71%	83%	88%	5%	7%	11%	35%	37%	44%
Illinois	82%	92%	95%	5%	7%	10%	32%	33%	40%
Indiana	80%	90%	91%	—	—	—	—	—	—
Iowa	81%	93%	91%	5%	7%	11%	28%	29%	33%
Kansas	81%	90%	92%	—	—	—	—	—	—
Kentucky	80%	90%	90%	5%	6%	10%	38%	39%	46%
Louisiana	75%	88%	89%	5%	5%	9%	35%	29%	39%
Maine	88%	94%	94%	—	—	—	—	—	—
Maryland	83%	92%	94%	5%	7%	12%	32%	30%	40%
Massachusetts	90%	95%	96%	6%	7%	13%	33%	29%	39%
Michigan	84%	91%	91%	5%	6%	11%	37%	35%	43%
Minnesota	76%	90%	91%	5%	7%	11%	30%	27%	36%
Mississippi	74%	86%	89%	4%	5%	8%	40%	35%	46%
Missouri	79%	88%	92%	—	—	—	—	—	—
Montana	71%	83%	90%	5%	6%	11%	37%	35%	44%
Nebraska	80%	91%	92%	4%	6%	10%	30%	29%	37%
Nevada	65%	80%	87%	4%	6%	11%	45%	47%	52%
New Hampshire	85%	93%	91%	5%	6%	13%	31%	28%	44%
New Jersey	82%	92%	94%	5%	7%	13%	36%	33%	44%
New Mexico	70%	82%	86%	5%	6%	10%	43%	42%	49%
New York	82%	92%	96%	6%	8%	14%	37%	35%	43%
North Carolina	76%	90%	91%	4%	6%	10%	35%	34%	43%
North Dakota	71%	86%	91%	4%	6%	10%	35%	33%	44%
Ohio	80%	91%	91%	5%	7%	11%	34%	31%	45%
Oklahoma	75%	86%	90%	—	—	—	—	—	—
Oregon	77%	89%	91%	5%	7%	10%	36%	30%	48%
Pennsylvania	85%	93%	95%	6%	7%	13%	34%	33%	42%
Rhode Island	87%	95%	94%	5%	6%	10%	31%	29%	38%
South Carolina	77%	89%	88%	5%	6%	10%	37%	34%	47%
South Dakota	76%	84%	89%	—	—	—	—	—	—
Tennessee	76%	85%	88%	5%	6%	9%	36%	34%	38%
Texas	67%	84%	86%	—	—	—	—	—	—
Utah	71%	86%	87%	4%	6%	11%	37%	35%	44%
Vermont	87%	95%	94%	5%	7%	13%	30%	28%	42%
Virginia	76%	86%	91%	5%	7%	11%	34%	34%	41%
Washington	75%	88%	90%	6%	7%	12%	35%	30%	42%
West Virginia	77%	86%	91%	6%	6%	11%	43%	41%	47%
Wisconsin	82%	92%	93%	5%	6%	11%	31%	28%	40%
Wyoming	70%	80%	84%	—	—	—	—	—	—

— Data not available.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 2b. Select Health Care Experiences by Population Segment and State: Cost-Related Barriers to Care

	Went without a provider visit because of cost			Went without a prescription drug because of cost			Both unmet needs (no visit AND no prescription because of cost)		
	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>14%</b>	<b>15%</b>	<b>24%</b>	<b>10%</b>	<b>12%</b>	<b>22%</b>	<b>5%</b>	<b>6%</b>	<b>12%</b>
Alabama	17%	16%	29%	14%	15%	26%	8%	9%	15%
Alaska	12%	17%	23%	7%	12%	21%	4%	7%	13%
Arizona	16%	18%	24%	9%	12%	20%	5%	5%	12%
Arkansas	18%	18%	29%	—	—	—	—	—	—
California	13%	14%	18%	—	—	—	—	—	—
Colorado	13%	14%	21%	—	—	—	—	—	—
Connecticut	11%	11%	18%	7%	9%	15%	4%	5%	7%
Delaware	11%	12%	20%	9%	10%	24%	4%	5%	11%
District of Columbia	11%	10%	20%	6%	6%	18%	3%	—	—
Florida	18%	17%	28%	—	—	—	—	—	—
Georgia	19%	20%	32%	12%	15%	24%	7%	8%	14%
Hawaii	9%	9%	16%	—	—	—	—	—	—
Idaho	16%	19%	32%	9%	13%	25%	5%	8%	17%
Illinois	12%	12%	23%	9%	13%	21%	4%	—	11%
Indiana	15%	17%	26%	—	—	—	—	—	—
Iowa	8%	11%	15%	7%	9%	15%	3%	5%	6%
Kansas	12%	14%	21%	—	—	—	—	—	—
Kentucky	16%	18%	26%	12%	16%	25%	6%	7%	14%
Louisiana	17%	17%	30%	13%	17%	24%	8%	9%	16%
Maine	11%	12%	18%	—	—	—	—	—	—
Maryland	10%	11%	16%	6%	9%	15%	3%	5%	7%
Massachusetts	8%	9%	16%	9%	10%	19%	3%	3%	7%
Michigan	15%	16%	23%	10%	12%	21%	5%	5%	11%
Minnesota	9%	11%	17%	6%	9%	16%	3%	4%	8%
Mississippi	19%	19%	31%	13%	16%	25%	8%	11%	17%
Missouri	13%	15%	23%	—	—	—	—	—	—
Montana	12%	15%	23%	8%	11%	20%	4%	6%	14%
Nebraska	12%	14%	22%	8%	12%	21%	4%	7%	12%
Nevada	17%	17%	25%	10%	16%	21%	6%	8%	11%
New Hampshire	11%	9%	25%	8%	10%	23%	4%	5%	13%
New Jersey	14%	14%	24%	9%	12%	19%	5%	5%	12%
New Mexico	17%	17%	27%	10%	14%	22%	6%	6%	12%
New York	14%	15%	21%	9%	13%	18%	4%	6%	11%
North Carolina	16%	18%	29%	12%	14%	27%	7%	7%	16%
North Dakota	7%	8%	19%	5%	6%	15%	3%	—	11%
Ohio	13%	13%	26%	10%	12%	25%	5%	5%	14%
Oklahoma	15%	16%	23%	—	—	—	—	—	—
Oregon	14%	14%	22%	11%	11%	20%	6%	6%	11%
Pennsylvania	12%	13%	20%	10%	13%	20%	5%	7%	8%
Rhode Island	12%	11%	23%	9%	9%	22%	5%	4%	12%
South Carolina	18%	18%	31%	13%	15%	27%	8%	8%	17%
South Dakota	10%	10%	21%	—	—	—	—	—	—
Tennessee	16%	16%	25%	11%	12%	24%	6%	7%	13%
Texas	18%	19%	30%	—	—	—	—	—	—
Utah	14%	17%	27%	9%	13%	25%	5%	7%	15%
Vermont	9%	10%	16%	7%	10%	17%	3%	4%	8%
Virginia	13%	15%	22%	9%	13%	21%	5%	7%	12%
Washington	12%	13%	20%	7%	11%	17%	4%	5%	10%
West Virginia	17%	18%	22%	13%	15%	22%	7%	8%	12%
Wisconsin	10%	12%	22%	8%	12%	23%	4%	6%	13%
Wyoming	12%	14%	25%	—	—	—	—	—	—

— Data not available.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.

## Appendix 2c. Select Health Care Experiences by Population Segment and State: Delays in Receiving Care

	Delayed needed care for reasons other than cost			Primary reason for delay: transportation			Primary reason for delay: could not get an appointment on time			Primary reason for delay: waited too long in doctor's office		
	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need	Total	Multiple chronic	High need
<b>United States</b>	<b>20%</b>	<b>20%</b>	<b>35%</b>	<b>21%</b>	<b>17%</b>	<b>37%</b>	<b>32%</b>	<b>35%</b>	<b>23%</b>	<b>16%</b>	<b>16%</b>	<b>13%</b>
Alabama	21%	21%	39%	18%	13%	28%	20%	24%	18%	14%	12%	12%
Alaska	19%	25%	38%	24%	16%	52%	35%	47%	20%	15%	—	—
Arizona	25%	24%	38%	21%	17%	35%	35%	37%	32%	16%	20%	13%
Arkansas	—	—	—	—	—	—	—	—	—	—	—	—
California	—	—	—	—	—	—	—	—	—	—	—	—
Colorado	—	—	—	—	—	—	—	—	—	—	—	—
Connecticut	20%	20%	31%	22%	23%	40%	34%	31%	24%	16%	16%	15%
Delaware	19%	20%	33%	20%	—	35%	34%	38%	27%	14%	—	—
District of Columbia	26%	28%	46%	20%	—	35%	41%	42%	26%	18%	—	—
Florida	—	—	—	—	—	—	—	—	—	—	—	—
Georgia	20%	20%	35%	28%	24%	42%	28%	26%	22%	17%	18%	14%
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	16%	20%	36%	20%	—	44%	38%	48%	34%	15%	—	—
Illinois	18%	18%	34%	15%	—	32%	33%	36%	—	13%	—	—
Indiana	—	—	—	—	—	—	—	—	—	—	—	—
Iowa	17%	21%	32%	15%	14%	35%	27%	32%	24%	12%	11%	—
Kansas	—	—	—	—	—	—	—	—	—	—	—	—
Kentucky	18%	19%	31%	24%	15%	42%	35%	41%	27%	18%	17%	16%
Louisiana	20%	19%	34%	19%	18%	33%	24%	29%	18%	14%	—	13%
Maine	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	20%	20%	30%	20%	13%	37%	33%	45%	25%	18%	13%	10%
Massachusetts	20%	18%	38%	22%	17%	43%	35%	38%	19%	15%	14%	14%
Michigan	21%	22%	36%	25%	23%	40%	32%	33%	23%	17%	16%	15%
Minnesota	12%	13%	27%	20%	14%	41%	36%	41%	30%	15%	13%	10%
Mississippi	20%	25%	34%	18%	—	23%	19%	25%	16%	20%	—	22%
Missouri	—	—	—	—	—	—	—	—	—	—	—	—
Montana	19%	20%	36%	14%	17%	28%	34%	33%	36%	12%	8%	—
Nebraska	13%	13%	27%	21%	18%	46%	32%	38%	24%	17%	16%	13%
Nevada	31%	32%	49%	13%	—	26%	31%	35%	25%	21%	—	—
New Hampshire	15%	15%	34%	21%	—	49%	35%	35%	20%	11%	—	—
New Jersey	19%	18%	34%	15%	10%	30%	32%	37%	20%	24%	21%	21%
New Mexico	28%	31%	42%	19%	17%	31%	40%	44%	36%	21%	18%	16%
New York	23%	24%	39%	24%	19%	44%	34%	40%	27%	25%	26%	17%
North Carolina	19%	20%	33%	17%	—	31%	28%	35%	20%	12%	14%	11%
North Dakota	14%	15%	33%	21%	—	41%	44%	47%	40%	14%	16%	—
Ohio	19%	21%	37%	22%	18%	39%	30%	30%	20%	14%	13%	13%
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	21%	20%	36%	22%	—	40%	39%	45%	34%	9%	—	—
Pennsylvania	18%	19%	34%	23%	18%	48%	35%	35%	19%	14%	15%	9%
Rhode Island	21%	17%	35%	23%	19%	45%	36%	35%	18%	12%	—	14%
South Carolina	23%	19%	37%	19%	19%	35%	28%	32%	20%	19%	16%	16%
South Dakota	—	—	—	—	—	—	—	—	—	—	—	—
Tennessee	18%	22%	30%	15%	—	26%	24%	30%	22%	12%	—	11%
Texas	—	—	—	—	—	—	—	—	—	—	—	—
Utah	15%	17%	29%	16%	15%	34%	41%	47%	34%	17%	15%	10%
Vermont	16%	17%	33%	25%	20%	48%	38%	42%	24%	10%	—	—
Virginia	17%	18%	34%	21%	16%	36%	33%	37%	32%	17%	19%	13%
Washington	17%	17%	31%	22%	17%	37%	36%	38%	26%	14%	17%	13%
West Virginia	18%	19%	29%	26%	24%	43%	24%	29%	19%	5%	—	—
Wisconsin	21%	22%	40%	18%	20%	36%	25%	34%	20%	9%	—	—
Wyoming	—	—	—	—	—	—	—	—	—	—	—	—

— Data not available.

Data: 2014 Behavioral Risk Factor Surveillance System (BRFSS) representing U.S. civilian, noninstitutionalized adults.



## HOW THIS STUDY WAS CONDUCTED

We conducted a retrospective cohort analysis of data from the 2014 Behavioral Risk Factor Surveillance System (BRFSS) survey. BRFSS is representative of the noninstitutionalized civilian adult population in each state.<sup>a</sup>

Following the general approach used in our previous analysis and prior research,<sup>b</sup> BRFSS respondents were classified into three mutually exclusive cohorts: those with multiple chronic conditions and no functional limitations; those with multiple chronic conditions and a functional limitation — referred to as “high-need” adults; and the total adult population. In previous analysis, we defined “multiple chronic conditions” to mean three or more chronic conditions including high blood pressure and high cholesterol. Since the 2014 BRFSS survey did not ask respondents about high blood pressure and high cholesterol, we defined multiple chronic conditions to mean two or more chronic conditions for the purposes of this analysis.

The presence of chronic conditions was based on respondent self-report. Respondents were asked if a doctor ever told them they had the following common chronic illnesses or related events: coronary heart disease; acute myocardial infarction; stroke; diabetes; asthma (we only included those who reported currently having asthma and excluded those reporting “ever told” they had asthma); chronic obstructive pulmonary disease; skin or other forms of cancer; arthritis (which could include: osteoarthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia); kidney disease (excluding kidney stones, bladder infection, or incontinence); or depression. Respondents also were asked about height and weight; given the illness burden associated with obesity, we included respondents with a body mass index (BMI) greater than or equal to 35 as having a chronic condition.<sup>c</sup>

Functional limitations also were assigned based on respondent self-report. Respondents were considered to have a functional limitation if they reported difficulty walking or climbing stairs; dressing or bathing; or doing errands (such as shopping or visiting a doctor’s office) alone.

We defined adults with two or more chronic diseases and a functional limitation as “high need,” and compared this cohort to adults with two or more chronic diseases and no functional limitations and the total adult population on sociodemographic characteristics (e.g., age distribution, race/ethnicity, income, insurance coverage status); health care utilization (e.g., self-reported number of doctor visits during the year).

**Limitations.** All of the data reported in the BRFSS are based on respondent self-report and therefore subject to recall bias. Additionally, those who face financial or other barriers to care, or who are less likely to seek care when medically needed, may be underrepresented in counts of chronic diseases because they have not had the opportunity to be medically evaluated and diagnosed. Chronic conditions may be undercounted in this analysis in comparison to our previous analysis of the Medical Expenditure Panel Survey, which considered a larger number of chronic conditions based on diagnosis codes.

All authors contributed to project conception and data interpretation. Data analysis was conducted by David Radley, senior study director at Westat, under a grant from the Commonwealth Fund. This brief builds on a prior analysis of Medical Expenditure Panel Survey (MEPS) data, conducted by Claudia A. Salzberg under a grant to the Johns Hopkins Bloomberg School of Public Health.

<sup>a</sup> Centers for Disease Control and Prevention, *Overview: BRFSS 2013* (CDC, Aug. 15, 2014).

<sup>b</sup> G. F. Anderson and J. R. Knickman, “[Changing the Chronic Care System to Meet People’s Needs](#),” *Health Affairs*, Nov./Dec. 2001 20(6):146–60.

<sup>c</sup> A. Talwalkar and F. McCarty, *Characteristics of Physician Office Visits for Obesity by Adults Aged 20 and Over: United States, 2012* (National Center for Health Statistics, March 2016); and National Heart, Lung, and Blood Institute, *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* (National Institutes of Health, 1998).