

OHIO MEDICAID ASSESSMENT SURVEY

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Taking the pulse of health in Ohio

CHRONIC DISEASE PREVALENCE AMONG ADULTS IN OHIO

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1. INTRODUCTION

According to the Centers for Disease Control and Prevention, chronic diseases account for 7 of 10 deaths among Americans each year.¹ These conditions include heart disease, stroke, cancer, and diabetes, among others. Chronic diseases are the primary driver of healthcare spending, as an estimated 75% of national healthcare expenditures are attributed to treatment of chronic diseases.² According to a 2007 report, the most common seven chronic diseases (cancer, heart disease, hypertension, mental disorders, diabetes, pulmonary diseases, and stroke) cost more than \$1 trillion annually.³ These costs include not only treatment-related costs, but also costs associated with productivity losses and long-term economic losses.

Smoking and overweight/obesity are the two leading “actual” causes of death in the United States,⁴ as they are major risk factors for a variety of chronic diseases. DeVoll and Bedroussian estimate that reducing the prevalence of obesity and smoking by 2023 could have a significant impact on the economy: \$91 billion less in treatment and a \$333 increase in productivity.³

In Ohio, cancer and heart disease are the leading causes of death, with death rates of 192 and 187, respectively, per 100,000 in the population.⁵ The burden of chronic disease and risk factors in Ohio is rather high. DeVoll and Bedroussian created a “Chronic Disease Index” to estimate the burden of chronic diseases and risk factors within states. Ohio is in the bottom half of the distribution of states, with a ranking of 29th among all states. Utah ranks first and West Virginia last.

This report has *four objectives*.

- a. To estimate the prevalence of five chronic diseases in Ohio – heart disease, stroke, diabetes, hypertension, and cancer;
- b. To estimate the prevalence of having a non-emergency room usual source of care, utilization of the health care system, and insurance type among adults with no chronic diseases, one or more chronic diseases, and two or more chronic diseases;
- c. To estimate the prevalence of smoking and weight status and how these risk factors relate to chronic disease prevalence; and
- d. To compare the Medicaid to the non-Medicaid population among adults living at or below 138% of the Federal Poverty Level (FPL) with respect to chronic disease and risk factor prevalence. This cut-point is important because it has been used to define the proposed Medicaid expansion population.

2. METHODS

Data from the 2012 Ohio Medicaid Assessment Survey (OMAS) were analyzed. For the group of cardiovascular diseases, participants were asked “Has a doctor, nurse or other health professional ever told you that you had any of the following? For each, tell me Yes, No or you’re not sure.” The interviewer then asked about, “A heart attack, also called a myocardial infarction,” “Coronary heart disease, also known as coronary artery disease, congestive heart disease or angina,” “A stroke,” and “Congestive heart failure.” For this report, stroke was analyzed separately from coronary heart disease, which included myocardial infarction, coronary heart disease and congestive heart failure. Hypertension, diabetes, and cancer were measured by asking similar questions.

Current smoking was defined as ever smoking 100 cigarettes in one’s lifetime and currently smoking every day or some days. Self-reported height and weight were used to calculate body mass index (BMI). Normal weight or underweight was defined as a BMI under 25. Overweight was defined as a BMI between 25 and 29.9. Obese was defined as a BMI of 30 or higher.

For the first objective, the prevalence of each chronic disease was examined by demographic variables (age, gender, race/ethnicity), income (percent of the Federal Poverty Level [FPL]), insurance type, county type (Appalachia, rural non-Appalachia, suburban, and metropolitan), and health-related variables (self-rated health and mentally distressed days defined as the number of days in the past 30 that stress, depression, and problems with emotions or substance abuse kept one from doing work or other usual activities).

For the second objective, the prevalence of having a usual source of care that is not an emergency room (i.e., it is a clinic, health center, or doctor’s office, or hospital outpatient department) was examined among adults with no chronic

diseases, one or more chronic diseases, and two or more chronic diseases. We also examined the prevalence of having an emergency department visit in the past year and, separately, a hospitalization in the past year among these three groups. The prevalence of each insurance type (Medicaid & Medicare, Medicaid without Medicare, Medicare without Medicaid, Job-based coverage, Directly Purchased, Other/unknown, and Uninsured), was also examined by the number of chronic diseases.

For the third objective, the prevalence of smoking and overweight/obesity were estimated among adults with no chronic diseases, one or more chronic diseases, and two or more chronic diseases.

For the fourth objective, the analysis was limited to adults who lived at or below 138% of FPL (\$25,571 in annual family income for a family of three in 2011). We examined the prevalence of the individual chronic diseases and the prevalence of no chronic diseases, one or more chronic diseases, and two or more chronic diseases by Medicaid status. Next, we examined the prevalence of risk factors among adults enrolled in Medicaid and those not enrolled in Medicaid. Finally, we examined the prevalence of having one or more chronic diseases by Medicaid Managed Care Service Region and Medicaid status.

3. RESULTS

3.1 Chronic Disease Prevalence in Ohio

The prevalence of the individual chronic diseases, as well as the prevalence of having one or more chronic diseases and two or more chronic diseases, is presented in Table 1.

Table 1. Estimates of the burden of five chronic diseases among Ohio adults ages 19 and older in 2012

	Prevalence (90% CI)	Estimated Total # of Adults (90% CI)
Coronary Heart Disease*	10.3% (9.9-10.7)	886,751 (853,035-920,467)
Stroke	3.9% (3.6-4.1)	334,046 (312,708-355,384)
Diabetes	13.8% (13.3-14.2)	1,189,019 (1,149,039-1,228,998)
Hypertension	37.3% (36.6-38.0)	3,220,408 (3,160,096-3,280,720)
Cancer	10.8% (10.4-11.2)	932,932 (898,688-967,175)
1 or more chronic diseases	47.0% (46.3-47.7)	4,056,657 (3,992,448-4,120,866)
2 or more chronic diseases	20.4% (19.9-21.0)	1,741,470 (1,696,595-1,786,344)

*Coronary heart disease includes coronary heart disease, heart attack, and congestive heart failure.

3.2 Objective 1: To estimate the prevalence of five chronic diseases in Ohio – heart disease, stroke, diabetes, hypertension, and cancer.

Key Findings:

- All of the chronic diseases examined in this report increase in prevalence with increasing age.
- There was no consistent relationship found between race/ethnicity or gender and chronic disease prevalence. However, the cardiovascular diseases (heart disease, stroke, diabetes, and hypertension) tended to be more prevalent among blacks in Ohio and cancer was more prevalent among whites.
- Coronary heart disease, stroke, diabetes, and hypertension are more prevalent among lower income groups. Cancer, however, does not have a clear relationship with income.
- There was no consistent relationship found between county type groupings and chronic disease prevalence.
- All of the chronic diseases examined in this report are more prevalent among adults with fair or poor self-rated health and among adults with a greater number of mentally distressed days.

3.2.1 Coronary Heart Disease

The overall prevalence of coronary heart disease was 10.3% among adults. The prevalence varied greatly by age, gender, and race/ethnicity, with older adults, men and non-Asian groups having the highest prevalence estimates, as indicated in Table 2.

Table 2. Coronary heart disease prevalence* among Ohio adults ages 19 and older by age, gender, and race/ethnicity

	Coronary Heart Disease Prevalence*	90% CI for Prevalence
Age Group		
19-24 years	1.0%	(0.4-1.6)
25-34 years	1.7%	(1.1-2.3)
35-44 years	3.9%	(3.2-4.7)
45-54 years	8.6%	(7.7-9.5)
55-64 years	15.4%	(14.4-16.5)
65 years and older	25.9%	(24.9-27)
Gender		
Male	12.0%	(11.3-12.6)
Female	8.7%	(8.2-9.2)
Race/ethnicity		
White	10.3%	(9.9-10.7)
Black	12.0%	(10.8-13.2)
Hispanic	9.4%	(6.6-12.2)
Asian	2.4%	(1.2-3.7)
Other	9.5%	(7.4-11.7)

*Coronary heart disease includes coronary heart disease, heart attack, and congestive heart failure.

Table 3 presents the coronary heart disease prevalence estimates by income, insurance type, and county type. Coronary heart disease was more prevalent among lower income groups, and among adults with either Medicare without Medicaid or Medicare and Medicaid (dual-eligible enrollees), which is consistent with the age finding presented above. The prevalence of coronary heart disease was highest in Appalachia, compared to other county type groupings.

Table 3. Coronary heart disease prevalence* among Ohio adults ages 19 and older in 2012 by income, insurance type, and county groupings

	Coronary Heart Disease Prevalence*	90% CI for Prevalence
Percent of Federal Poverty Level		
Less than 100%	13.8%	(12.5-15.2)
101-150%	14.5%	(12.8-16.2)
151-200%	12.1%	(10.5-13.7)
201-250%	9.6%	(8.1-11.0)
251-300%	8.6%	(7.1-10.2)
301-400%	7.5%	(6.4-8.5)
401% or higher	6.2%	(5.6-6.8)
Insurance Coverage		
Medicaid & Medicare	29.4%	(26.5-32.3)
Medicaid without Medicare	9.8%	(8.3-11.2)
Medicare without Medicaid	25.0%	(23.9-26.1)
Job-based coverage	4.4%	(4.0-4.8)
Directly Purchased	5.1%	(3.6-6.5)
Other/unknown	9.9%	(7.9-11.8)
Uninsured	6.6%	(5.6-7.6)
County Groupings		
Appalachia	12.4%	(11.4-13.5)
Rural, non-Appalachia	10.1%	(9.1-11.2)
Metropolitan	9.9%	(9.4-10.4)
Suburban	9.6%	(8.6-10.6)

*Coronary heart disease includes coronary heart disease, heart attack, and congestive heart failure.

Finally, coronary heart disease prevalence varied with both health-related indicators. As indicated in Table 4, coronary heart disease is more common among adults with fair and poor self-rated health and those with more mentally distressed days.

Table 4. Coronary heart disease prevalence* among Ohio adults ages 19 and older in Ohio in 2012 by health status

	Coronary Heart Disease Prevalence*	90% CI for Prevalence
Self-Rated Health		
Excellent/very good	3.3%	(3-3.6)
Good	10.4%	(9.6-11.1)
Fair	21.5%	(20.2-22.9)
Poor	39.4%	(36.7-42.1)
Mentally Distressed Days		
0 days in past 30	9.2%	(8.8-9.6)
1-6 days in past 30	10.6%	(8.9-12.4)
7-13 days in past 30	22.2%	(18.1-26.4)
14+ days in past 30	17.9%	(15.8-19.9)

*Coronary heart disease includes coronary heart disease, heart attack, and congestive heart failure.

3.2.2 Stroke

The overall prevalence of stroke was 3.9% among adults. The prevalence varied greatly by age and race/ethnicity, with older adults and blacks and other race groups experiencing the highest prevalence estimates, as indicated in Table 5.

Table 5. Stroke prevalence among Ohio adults ages 19 and older in 2012 by age, gender, and race/ethnicity

	Stroke Prevalence	90% CI for Prevalence
Age Group		
19-24 years	0.3%	(0-0.6)
25-34 years	1.3%	(0.7-1.8)
35-44 years	1.6%	(1.1-2.1)
45-54 years	3.1%	(2.6-3.7)
55-64 years	6.0%	(5.2-6.7)
65 years and older	9.2%	(8.5-9.9)
Gender		
Male	3.7%	(3.4-4.1)
Female	4.0%	(3.7-4.3)
Race/ethnicity		
White	3.7%	(3.4-4.0)
Black	5.8%	(5.0-6.7)
Hispanic	3.2%	(1.7-4.8)
Asian	0.7%	(0.2-1.2)
Other	6.0%	(4.2-7.8)

As indicated in Table 6, stroke prevalence also varied with income and insurance type. The highest prevalence estimates were found among the lowest income groups and among the Medicaid and Medicare population, as well as the Medicare without Medicaid population. There was little variability among the county type groups.

Table 6. Stroke prevalence among Ohio adults ages 19 and older in 2012 by income, insurance type, and county groupings

	Stroke Prevalence	90% CI for Prevalence
Percent of Federal Poverty Level		
Less than 100%	6.1%	(5.4-6.8)
101-150%	6.6%	(5.6-7.5)
151-200%	4.5%	(3.7-5.4)
201-250%	3.5%	(2.7-4.3)
251-300%	3.0%	(2.2-3.8)
301-400%	1.9%	(1.4-2.4)
401% or higher	2.0%	(1.7-2.3)
Insurance Coverage		
Medicaid & Medicare	12.6%	(10.5-14.6)
Medicaid without Medicare	5.5%	(4.3-6.6)
Medicare without Medicaid	9.2%	(8.4-9.9)
Job-based coverage	1.3%	(1.1-1.5)
Directly Purchased	2.6%	(1.5-3.6)
Other/unknown	3.0%	(2.1-3.8)
Uninsured	2.5%	(1.9-3.2)
County Groupings		
Appalachia	4.5%	(3.9-5.1)
Rural, non-Appalachia	4.2%	(3.4-4.9)
Metropolitan	3.7%	(3.4-4.1)
Suburban	3.5%	(2.9-4.1)

Finally, as indicated in Table 7, the prevalence of stroke was much higher among adults who self-rated fair and poor health, compared to those in better health. Stroke prevalence also increased as the number of mentally distressed days in the past 30 increased.

Table 7. Stroke prevalence among Ohio adults ages 19 and older in 2012 by health status

	Stroke Prevalence	90% CI for Prevalence
Self-Rated Health		
Excellent/very good	1.2%	(1.0-1.4)
Good	3.7%	(3.2-4.1)
Fair	7.5%	(6.6-8.3)
Poor	17.9%	(15.8-20.0)
Mentally Distressed Days		
0 days in past 30	3.2%	(2.9-3.4)
1-6 days in past 30	4.7%	(3.4-5.9)
7-13 days in past 30	6.5%	(4.5-8.6)
14+ days in past 30	9.5%	(7.9-11.1)

3.2.3 Diabetes

The overall prevalence of diabetes was 13.8% among adults. The prevalence varied greatly by age and race/ethnicity, with older adults and blacks experiencing the highest estimated prevalence, as indicated in Table 8.

Table 8. Diabetes prevalence among Ohio adults ages 19 and older in 2012 by age, gender, and race/ethnicity

	Diabetes Prevalence	90% CI for Prevalence
Age Group		
19-24 years	2.8%	(1.8-3.8)
25-34 years	5.1%	(4.1-6.1)
35-44 years	8.1%	(7.0-9.1)
45-54 years	14.3%	(13.2-15.5)
55-64 years	20.2%	(19.0-21.3)
65 years and older	26.5%	(25.5-27.6)
Gender		
Male	13.3%	(12.6-14.0)
Female	14.3%	(13.6-14.9)
Race/ethnicity		
White	13.4%	(12.9-13.9)
Black	18.1%	(16.6-19.5)
Hispanic	14.8%	(11.8-17.8)
Asian	6.0%	(3.8-8.2)
Other	12.5%	(10.0-15.1)

Data in Table 9 suggest that diabetes is more prevalent among lower income groups, as well as among adults who have Medicare or both Medicare and Medicaid. The prevalence of diabetes does not vary much by county type groupings.

Table 9. Diabetes prevalence among Ohio adults ages 19 and older in 2012 by income, insurance type, and county groupings

	Diabetes Prevalence	90% CI for Prevalence
Percent of Federal Poverty Level		
Less than 100%	17.0%	(15.9-18.2)
101-150%	18.1%	(16.5-19.6)
151-200%	15.2%	(13.6-16.8)
201-250%	13.3%	(11.8-14.8)
251-300%	13.2%	(11.5-14.8)
301-400%	12.1%	(10.9-13.4)
401% or higher	10.1%	(9.3-10.8)
Insurance Coverage		
Medicaid & Medicare	32.3%	(29.2-35.4)
Medicaid without Medicare	14.1%	(12.3-15.8)
Medicare without Medicaid	26.4%	(25.2-27.5)
Job-based coverage	8.8%	(8.2-9.4)
Directly Purchased	8.1%	(6.4-9.8)
Other/unknown	13.9%	(11.6-16.2)
Uninsured	9.7%	(8.5-11.0)
County Groupings		
Appalachia	15.1%	(14.0-16.2)
Rural, non-Appalachia	13.2%	(12.0-14.5)
Metropolitan	13.6%	(12.9-14.2)
Suburban	13.7%	(12.5-14.9)

The results in Table 10 indicate that diabetes prevalence increased steadily as self-rated health declined. Diabetes was also more common among individuals who had a greater number of mentally distressed days in the past month.

Table 10. Diabetes prevalence among Ohio adults ages 19 and older in 2012 by health status

	Diabetes Prevalence	90% CI for Prevalence
Self-Rated Health		
Excellent/very good	5.1%	(4.7-5.5)
Good	16.8%	(15.9-17.8)
Fair	27.8%	(26.2-29.4)
Poor	36.7%	(34.0-39.4)
Mentally Distressed Days		
0 days in past 30	12.6%	(12.2-13.1)
1-6 days in past 30	15.6%	(13.4-17.7)
7-13 days in past 30	20.5%	(16.6-24.3)
14+ days in past 30	22.8%	(20.4-25.2)

3.2.4 Hypertension

Of the five chronic diseases examined in this report, hypertension is the most prevalent in the population, with over one-third of adults in Ohio ever having diagnosis of hypertension (37.3%). As indicated in Table 11, hypertension becomes more common with age, affecting over half of adults age 55 or older. It is also more common among blacks, followed by whites, when examining the prevalence by race and ethnicity.

Table 11. Hypertension prevalence among Ohio adults ages 19 and older in 2012 by age, gender, and race/ethnicity

	Hypertension Prevalence	90% CI for Prevalence
Age Group		
19-24 years	9.5%	(7.8-11.2)
25-34 years	17.5%	(15.8-19.2)
35-44 years	23.8%	(22.1-25.5)
45-54 years	39.0%	(37.4-40.6)
55-64 years	53.6%	(52.1-55.0)
65 years and older	66.4%	(65.2-67.5)
Gender		
Male	38.1%	(37.0-39.2)
Female	36.5%	(35.6-37.4)
Race/ethnicity		
White	37.0%	(36.2-37.8)
Black	47.5%	(45.4-49.6)
Hispanic	24.3%	(20.7-28.0)
Asian	13.8%	(10.5-17.1)
Other	33.8%	(29.7-37.9)

As seen in Table 12, hypertension prevalence decreases with increasing income. Additionally, adults with Medicare alone or Medicare and Medicaid also have the highest prevalence of hypertension. Finally, the prevalence of hypertension does not vary much by county type groupings.

Table 12. Hypertension prevalence among Ohio adults ages 19 and older in 2012 by income, insurance type, and county groupings

	Hypertension Prevalence	90% CI for Prevalence
Percent of Federal Poverty Level		
Less than 100%	41.6%	(40.0-43.2)
101-150%	42.2%	(40.0-44.3)
151-200%	39.3%	(36.9-41.6)
201-250%	39.5%	(37.1-41.9)
251-300%	36.0%	(33.5-38.6)
301-400%	33.5%	(31.5-35.4)
401% or higher	32.6%	(31.4-33.8)
Insurance Coverage		
Medicaid & Medicare	64.1%	(60.7-67.5)
Medicaid without Medicare	35.3%	(32.7-37.9)
Medicare without Medicaid	65.0%	(63.8-66.3)
Job-based coverage	27.7%	(26.7-28.6)
Directly Purchased	24.9%	(21.9-27.9)
Other/unknown	37.1%	(33.6-40.6)
Uninsured	29.5%	(27.5-31.6)
County Groupings		
Appalachia	38.8%	(37.1-40.4)
Rural, non-Appalachia	35.6%	(33.7-37.5)
Metropolitan	37.3%	(36.3-38.2)
Suburban	37.4%	(35.6-39.2)

The data in Table 13 suggest that hypertension is much more common among adults with a fair or poor self-rated health. Also, it is more common among adults with a greater number of mentally distressed days in the past month.

Table 13. Hypertension prevalence among Ohio adults ages 19 and older in 2012 by health status

	Hypertension Prevalence	90% CI for Prevalence
Self-Rated Health		
Excellent/very good	23.1%	(22.2-23.9)
Good	44.9%	(43.6-46.3)
Fair	58.2%	(56.3-60.1)
Poor	68.5%	(65.7-71.3)
Mentally Distressed Days		
0 days in past 30	35.4%	(34.7-36.2)
1-6 days in past 30	37.3%	(34.2-40.5)
7-13 days in past 30	47.2%	(42.0-52.5)
14+ days in past 30	55.1%	(52.1-58.2)

3.2.5 Cancer

The overall cancer prevalence in Ohio was 10.8% in 2010. As reported in Table 14, cancer is much more common among older adults in Ohio. Over one-quarter of adults age 65 and older report having been told they have/had cancer. In contrast to the other chronic diseases in this report, the prevalence of cancer is higher among women and whites.

Table 14. Cancer prevalence* among Ohio adults ages 19 and older in 2012 by age, gender, and race/ethnicity

	Cancer Prevalence*	90% CI for Prevalence
Age Group		
19-24 years	2.0%	(1.2-2.8)
25-34 years	2.7%	(2.0-3.4)
35-44 years	5.1%	(4.2-5.9)
45-54 years	9.9%	(8.9-10.9)
55-64 years	14.2%	(13.3-15.2)
65 years and older	26.1%	(25-27.1)
Gender		
Male	8.8%	(8.3-9.4)
Female	12.6%	(12.1-13.2)
Race/ethnicity		
White	11.7%	(11.3-12.2)
Black	7.4%	(6.4-8.4)
Hispanic	5.2%	(3.2-7.1)
Asian	1.1%	(0.4-1.8)
Other	9.9%	(7.3-12.6)

**Includes previous and current diagnoses of cancer*

The data presented in Table 15 suggest that cancer prevalence does not vary much by income. The prevalence is highest among Medicare without Medicaid and Medicare and Medicaid-enrolled adults, which is consistent with the age finding in the previous table. There is also little variability in the prevalence of cancer by county type.

Table 15. Cancer prevalence* among Ohio adults ages 19 and older in 2012 by income, insurance type, and county groupings

	Cancer Prevalence*	90% CI for Prevalence
Percent of Federal Poverty Level		
Less than 100%	10.6%	(9.7-11.5)
101-150%	11.8%	(10.6-13)
151-200%	12.6%	(11.2-14.1)
201-250%	11.7%	(10.3-13)
251-300%	10.9%	(9.4-12.3)
301-400%	9.4%	(8.4-10.5)
401% or higher	10.4%	(9.6-11.1)
Insurance Coverage		
Medicaid & Medicare	15.5%	(13.3-17.8)
Medicaid without Medicare	8.2%	(6.8-9.5)
Medicare without Medicaid	24.9%	(23.8-26)
Job-based coverage	7.0%	(6.4-7.5)
Directly Purchased	7.4%	(5.8-9.1)
Other/unknown	9.2%	(7.3-11.2)
Uninsured	6.3%	(5.2-7.3)
County Groupings		
Appalachia	12.1%	(11.0-13.1)
Rural, non-Appalachia	9.8%	(8.8-10.8)
Metropolitan	10.6%	(10.0-11.1)
Suburban	11.2%	(10.2-12.3)

**Includes previous and current diagnoses of cancer*

Table 16 presents the prevalence of cancer by self-rated health and the number of mentally distressed days. The prevalence of cancer increases with decreasing self-reported health. The prevalence of cancer is also slightly higher among adults with 7 or more mentally distressed days.

Table 16. Cancer prevalence* among Ohio adults ages 19 and older in 2012 by health status

	Cancer Prevalence*	90% CI for Prevalence
Self-Rated Health		
Excellent/very good	7.2%	(6.7-7.7)
Good	11.5%	(10.7-12.3)
Fair	16.4%	(15.2-17.7)
Poor	23.6%	(21.2-25.9)
Mentally Distressed Days		
0 days in past 30	10.4%	(10.0-10.9)
1-6 days in past 30	9.3%	(7.6-11.0)
7-13 days in past 30	14.1%	(10.7-17.5)
14+ days in past 30	15.6%	(13.5-17.7)

**Includes previous and current diagnoses of cancer*

3.3 Objective 2: To estimate the prevalence of having a non-emergency room usual source of care and utilization of the health care system among adults with no chronic diseases, one or more chronic diseases, and two or more chronic diseases.

Key Findings:

- The prevalence of having a non-emergency room usual source of care is higher among adults with chronic diseases.
- Emergency room visits and hospitalizations become more common with an increasing chronic disease burden.
- Job-based coverage and uninsured status become less common as the burden of chronic disease increases, and Medicare and combined Medicare and Medicaid coverage becomes more common.

Table 17. Healthcare utilization and health insurance type by the number of chronic diseases among Ohio adults ages 19 and older in 2012

	0 Chronic Diseases		1 or More Chronic Diseases		2 or More Chronic Diseases	
	Prev	90% CI	Prev	90% CI	Prev	90% CI
Non-ER usual source of care	80.0%	(78.9-80.8)	87.7%	(87.0-88.4)	88.8%	(87.8-89.7)
ER visits in past year						
0 visits	81.3%	(80.4-82.2)	69.6%	(68.6-70.5)	62.2%	(60.8-63.6)
1-2 visits	14.7%	(13.9-15.6)	23.1%	(22.2-23.9)	28.2%	(26.9-29.5)
3 or more visits	3.7%	(3.2-4.2)	6.8%	(6.3-7.4)	9.0%	(8.1-9.9)
Any hospitalization in past year	8.9%	(8.3-9.6)	21.6%	(20.8-22.4)	30.2%	(28.9-31.5)
Insurance type						
Medicaid & Medicare	1.4%	(1.2-1.6)	5.8%	(5.4-6.2)	8.1%	(7.4-8.8)
Medicaid without Medicare	9.0%	(8.4-9.7)	8.1%	(7.5-8.7)	8.2%	(7.3-9.0)
Medicare without Medicaid	6.9%	(6.5-7.3)	32.3%	(31.4-33.1)	43.9%	(42.5-45.2)
Job-based coverage	54.8%	(53.6-55.9)	34.8%	(33.8-35.8)	22.9%	(21.7-24.2)
Directly Purchased	5.9%	(5.3-6.4)	3.2%	(2.8-3.5)	2.6%	(2.1-3.1)
Other/unknown	5.2%	(4.6-5.8)	4.6%	(4.2-5.1)	5.2%	(4.5-5.9)
Uninsured	16.8%	(15.9-17.7)	11.2%	(10.5-12.0)	9.1%	(8.1-10.1)

3.4 Objective 3: To estimate the prevalence of smoking and weight status and how these risk factors relate to chronic disease prevalence.

Key Findings:

- Smoking and weight status vary with chronic disease prevalence.
- The prevalence of “never smoking” decreases as the burden of chronic disease increases. The prevalence of former smoking increases with the burden of chronic diseases, while there was little variation in current smoking prevalence.
- The prevalence of obesity increases while the prevalence of normal weight decreases as the burden of chronic disease increases. The prevalence of underweight and overweight status does not vary greatly with the chronic disease burden.

Table 18. Healthcare utilization and health insurance type by the number of chronic diseases among Ohio adults ages 19 and older in 2012

	0 Chronic Diseases		1 or More Chronic Diseases		2 or More Chronic Diseases	
	Prev	90% CI	Prev	90% CI	Prev	90% CI
Smoking Status						
Never smokers	56.2%	(55.0-57.3)	44.5%	(43.5-45.5)	40.5%	(39.1-41.8)
Former smokers	18.2%	(17.3-19.0)	30.1%	(29.2-31.0)	35.6%	(34.3-36.9)
Current smokers	25.6%	(24.6-26.7)	25.3%	(24.3-26.2)	23.9%	(22.5-25.2)
Weight Status						
Underweight (BMI < 18.5)	2.2%	(1.9-2.6)	1.4%	(1.2-1.6)	1.3%	(0.9-1.6)
Normal (BMI 18.5 to < 25)	39.4%	(38.2-40.5)	21.7%	(20.9-22.5)	18.2%	(17.1-19.3)
Overweight (BMI 25 to < 30)	35.6%	(34.5-36.7)	33.1%	(32.1-34.0)	31.3%	(30.0-32.6)
Obese (BMI 30 or higher)	22.9%	(21.9-23.8)	43.8%	(42.8-44.8)	49.2%	(47.8-50.6)

3.5 Objective 4: To compare the Medicaid to the non-Medicaid population among adults living at or below 138% of the Federal Poverty Level (FPL) with respect to chronic disease and risk factor prevalence.

Key Findings:

- As seen in Table 19, the chronic disease burden appears to be greater among Medicaid-enrolled adults (both Medicaid without Medicare and those covered by Medicaid and Medicare) compared to low-income adults without Medicaid, as indicated by the higher individual disease prevalence estimates (except for cancer) and the higher prevalence of 1 or more and 2 or more chronic diseases.
- As indicated in Tables 19 and 20, adults with Medicaid also appear to smoke at a greater rate, as indicated by the higher current smoking prevalence, and lower never smoking prevalence. This is true regardless of the presence of chronic diseases.
- As indicated in Table 19, fewer Medicaid-enrolled adults are in the normal weight range and more are in the obese category.
- As indicated in Table 20, Medicaid-enrolled adults appear to have a higher rate of emergency room use, irrespective of the presence of chronic diseases.
- There appears to be a great deal of variability in the chronic disease prevalence by Medicaid Managed Care Region, with estimates ranging from 43% to approximately 60% among both groups (Table 21). However, due to small sample size most of the differences between regions in the Medicaid population are not statistically significant.

Table 19. Chronic disease prevalence and risk factors by the number of chronic diseases among Ohio adults ages 19 and older in 2012 living at or below 138% of poverty, by Medicaid status

Indicator	Medicaid Adults LE 138% FPL		Non-Medicaid Adults LE 138% FPL	
	Prevalence	90% CI	Prevalence	90% CI
Chronic Diseases				
Coronary Heart Disease	16.0%	(14.4-17.5)	12.9%	(11.9-13.9)
Stroke	7.4%	(6.3-8.5)	5.8%	(5.1-6.5)
Diabetes	20.3%	(18.4-22.1)	15.9%	(14.8-17.0)
Hypertension	44.3%	(41.9-46.6)	40.4%	(38.8-42.0)
Cancer	10.3%	(9.0-11.6)	11.1%	(10.1-12.0)
Number of Chronic Diseases				
0 chronic diseases	43.8%	(41.3-46.2)	48.0%	(46.3-49.7)
1 or more chronic disease	54.6%	(52.1-57.0)	50.2%	(48.5-51.9)
2 or more chronic diseases	27.4%	(25.4-29.4)	24.0%	(22.7-25.3)
Risk Factors				
Smoking Status				
Never smoker	33.6%	(31.3-35.9)	46.9%	(45.2-48.6)
Former smoker	17.7%	(16.0-19.5)	20.0%	(18.8-21.3)
Current smoker	48.5%	(46.1-51.0)	33.0%	(31.3-34.6)
Weight Status				
Underweight (BMI < 18.5)	2.9%	(2.0-3.7)	3.2%	(2.6-3.8)
Normal (BMI 18.5 to < 25)	26.9%	(24.7-29.1)	31.5%	(29.9-33.1)
Overweight (BMI 25 to < 30)	28.2%	(26.0-30.4)	32.0%	(30.4-33.6)
Obese (BMI 30 or higher)	42.1%	(39.7-44.4)	33.3%	(31.8-34.9)

Table 20. Smoking status and emergency room visits by the presence of chronic diseases among Ohio adults ages 19 and older in 2012 living at or below 138% of poverty, by Medicaid status

	0 Chronic Diseases		1 or More Chronic Diseases	
	Medicaid Adults LE 138% FPL	Non-Medicaid Adults LE 138% FPL	Medicaid Adults LE 138% FPL	Non-Medicaid Adults LE 138% FPL
Smoking Status				
Never smokers	38.7%(34.9-42.5)	54.1% (51.4-56.8)	29.4% (26.6-32.1)	40.3% (38.3-42.4)
Former smokers	10.0% (7.7-12.2)	12.3% (10.7-14.0)	24.0% (21.5-26.5)	27.5% (25.7-29.4)
Current smokers	51.3% (47.4-55.3)	33.6% (31.0-36.2)	46.6% (43.5-49.7)	32.0% (29.9-34.1)
ER visits in past year				
0 visits	62.6% (58.7-66.5)	76.0% (73.6-78.4)	49.1% (46.1-52.2)	62.1% (60.0-64.2)
1-2 visits	21.8% (18.5-25.2)	17.3% (15.2-19.4)	30.4% (27.6-33.2)	28.1% (26.2-30.1)
3 or more visits	14.6% (11.7-17.4)	6.4% (5.0-7.9)	19.3% (16.8-21.7)	8.9% (7.5-10.2)

Table 21. Chronic disease prevalence among Ohio adults ages 19 and older in 2012 living at or below 138% of poverty, by Medicaid status and Medicaid Managed Care Region

Medicaid Managed Care Region	Medicaid Adults LE 138% FPL		Non-Medicaid Adults LE 138% FPL	
	Prevalence of one or more chronic diseases	90% CI for Prevalence	Prevalence of one or more chronic diseases	90% CI for Prevalence
Northwest	53.5%	(46.1-60.9)	46.7%	(42.0-51.5)
Northeast	50.2%	(44.3-56.1)	56.0%	(51.8-60.3)
Northeast Central	45.0%	(36.3-53.6)	50.5%	(44.1-56.9)
East Central	58.8%	(52.3-65.3)	53.8%	(49.2-58.4)
Central	59.5%	(53.6-65.4)	43.1%	(39.1-47.1)
West Central	59.7%	(52.1-67.2)	54.2%	(49.0-59.4)
Southwest	49.5%	(43.1-55.8)	48.5%	(44.2-52.8)
Southeast	57.9%	(50.4-65.4)	53.6%	(47.6-59.5)

4. DISCUSSION

In this report we provided updated prevalence estimates for five major chronic diseases among Ohio adults: coronary heart disease, stroke, diabetes, hypertension, and cancer. Like others, we found that the burden of chronic diseases increases substantially with age and that cardiovascular diseases (versus cancer) tend to be more common among lower income groups and blacks. It will be important to continue to track the prevalence of chronic diseases and their major risk factors (weight status and tobacco use) at the population level in order to determine whether changes in health insurance coverage have an impact on either the prevalence of chronic diseases or the prevalence of risk factors for these diseases.

This report is not without limitations. First, we only examined five major chronic diseases. We did not also include questions about specific mental disorders and pulmonary disease, which are two other leading causes of morbidity and mortality in the United States. Questions on these conditions were not included in the health status question section of the 2012 OMAS questionnaire. Second, we can only examine the prevalence of these chronic diseases given the cross-sectional nature of the OMAS. Incidence would give us a better idea of the factors that contribute to chronic disease at the population level and also the racial/ethnic variations. Mortality, too, gives us a different picture of variations in the stage of chronic disease at diagnosis. For example, other data sources suggest that while the incidence of breast cancer may be higher among white women, the mortality is higher among black women.⁶ This finding suggests that black women are being diagnosed at a later stage than white women. Third, given that this was a telephone survey, self-reported data were used to measure the prevalence of the various chronic diseases, rather than clinical data. The questions used, however, are standard questions that have been used in other similar investigations. Thus, they have been tested for validity and reliability.

5. KEY CONSIDERATIONS

- Chronic disease prevention is important: The Centers for Disease Control and Prevention (CDC) state that four modifiable health risk behaviors are responsible for much of the burden of chronic diseases.⁷ These behaviors include lack of physical activity and poor nutrition (overweight/obesity are proxies of these behaviors), tobacco use, and excess alcohol consumption. They further recommend regular physical activity and good nutrition to prevent chronic disease incidence. Additionally, the CDC states that, “Evidence-based, statewide tobacco control programs that are comprehensive, sustained, and accountable have been shown to reduce smoking rates, tobacco-related deaths, and disease caused by smoking.”⁷
- The data suggest that adults covered by Medicaid are smoking at an elevated rate and would benefit from targeted cessation efforts. Other researchers have found that both Medicaid enrollees and physicians are largely unaware of Medicaid’s cessation pharmacotherapy coverage options, and that those who are aware are more likely to use pharmacotherapy.⁸⁻¹⁰ Educating Medicaid enrollees about smoking cessation pharmacotherapy options could increase the rate at which they use therapy when attempting a quit, which more than doubles quit rates.¹¹

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