QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA 2018 REPORT







TABLE OF CONTENTS

- 2 Introduction
- 7 Results for Chronic Condition Measures Diabetes, Circulatory and Respiratory
- 23 Definitions

ONLINE APPENDICES

- Methodology
- Detailed Medical Group and Clinic Level Tables

Who is MN Community Measurement?

MN Community Measurement (MNCM) is a non-profit organization that empowers the community with data and information to drive improvement in health care cost and quality. MNCM was formed as a community resource where all health care stakeholders – whether they buy, manage, provide, deliver, oversee, or consume health care – come together and mutually invest in improvement for a better tomorrow.

MNCM specializes in developing, collecting, analyzing, and publicly reporting information on health care quality, cost, and patient experience. Founded in 2005, our multi-stakeholder collaborative includes physicians, hospitals and health systems, health plans, employers, consumers, and state government.

MNCM strives to deliver data and information that is timely, actionable, and relevant for each stakeholder in the community to fulfill their role in advancing improvement and affordability.

REPORT PREPARATION DIRECTION

Anne Snowden, MPH, CPHQ Director, Measurement and Reporting

KEY CONTRIBUTORS

Jess Amo, MPH, BSN, RN, PHN Measure Development Specialist Ellen Kormanik, MPH Project Coordinator Collette Pitzen, RN, BSN, CPHQ Clinical Measure Developer

©2018 MN Community Measurement. All Rights Reserved.

DIRECT QUESTIONS OR COMMENTS TO: Anne Snowden | snowden@mncm.org

INTRODUCTION

While Minnesota has some of the best health indicators in the country, measurement results show a pattern of wide variation in health care quality overall and significantly different outcomes among some patient populations. MN Community Measurement (MNCM) has been empowering the community with data and information to drive improvement in health care quality and cost since 2005. This report presents data collected by MNCM in 2018 on quality measures for chronic disease. It includes chronic diseases with the highest impacts in terms of prevalence and costs – diabetes, vascular disease, hypertension and asthma. The measures were developed or selected for their potential to reduce the modifiable risks and complications associated with these conditions.

Chronic disease is defined as a condition that lasts one year or more and requires ongoing medical attention or limits activities of daily living or both.¹

- » Sixty percent of adults in the United States have a chronic disease and 40 percent of adults have two or more.¹
- » Chronic diseases such as diabetes, heart disease, stroke or cancer are the leading causes of death and disability in the U.S.¹
- » Chronic diseases are also a significant share of health care costs, with over 90 percent of the nation's \$3 trillion in annual health care expenditures attributed to people with chronic and mental health conditions.²

MNCM has been collecting and publishing information on chronic disease measures since 2004.

Chronic diseases are an important focus for measurement because of the large numbers of adults and children living with these conditions and known gaps in care related to optimal treatment. Americans with chronic conditions use the health care system far more frequently than people without a chronic disease, and chronic diseases represent the majority of health care spending. In addition, the number of people with chronic conditions is estimated to increase rapidly – by 2025, nearly half of the U.S. population will have a chronic disease.³ The good news is that many chronic diseases could be prevented, delayed, improved or better managed through modest lifestyle changes. In fact, CDC estimates that eliminating three risk factors (poor diet, inactivity, smoking) would prevent 80 percent of heart disease, stroke, and type 2 diabetes.³

Chronic disease measures, as measured by MN Community Measurement (MNCM), tend to improve slowly in part because these diseases are multifaceted. Because of this complexity, several of MNCM's chronic disease measures are constructed as all-or-none composite measures in which the desired goal is for the patient to achieve multiple clinical outcomes and/or medication use targets to best reduce their overall risk of developing long term complications from the disease. These measures are considered "gold standard" because they reflect best patient outcomes by reducing several modifiable risks. A recent study, reinforcing the value of the composite measure construct, found that diabetes patients who were

MNCM's Composite Measures

- » Optimal Diabetes Care
- » Optimal Vascular Care
- » Optimal Asthma Control Adults
- » Optimal Asthma Control Children

successful in achieving targets for all five risk factors had little or no excess risk of death, heart attack or stroke compared to the general population.⁴

Frequent monitoring of patients with one or more chronic conditions correlates with better outcomes. While there are many factors that can influence successful treatment of chronic conditions, medical groups with higher performance on these measures often find that a team-based approach incorporates a mutually respectful patient/provider relationship, shared decision-making, consistent follow-up, and care coordination with specialists and community/public health services to be effective.

The Impact of Chronic Disease

Diabetes is the seventh leading cause of death in the United States.^{5,6}

- » Diabetes is a condition characterized by hyperglycemia resulting from the body's inability to use blood glucose for energy. In Type 1 diabetes, the pancreas no longer makes insulin and therefore blood glucose cannot enter the cells to be used for energy. In Type 2 diabetes, either the pancreas does not make enough insulin or the body is unable to use insulin correctly.⁷
- » Over 30 million people in the U.S. have diabetes (about 1 in 10), and approximately 90 percent of them have type 2 diabetes.⁸ In Minnesota, nearly 320,000 people (8 percent of adults) had diabetes in 2015.9
- » Type 2 diabetes most often develops in people over 45, but is becoming more common in children, teens, and young adults. Type 1 diabetes is usually diagnosed in children, teens and young adults, but it can develop at any age.⁵
- » Age, family history and a previous history of gestational diabetes are indicators of increased risk for diabetes, along with being African American, Asian American, Hispanic/Latino or American Indian. Potentially modifiable risk factors for developing diabetes include: obesity, inactivity, high blood pressure and abnormal cholesterol levels. Studies show that people at high risk for type 2 diabetes can prevent or delay the onset of the disease by maintaining a healthy diet and regular exercise.¹⁰

Diabetes Measures

Optimal Diabetes Care: The percentage of patients 18–75 years of age with diabetes (type 1 or type 2) and whose diabetes was optimally managed as defined by achieving ALL five of the following:

- » HbA1c less than 8.0 mg/dL
- » Blood Pressure less than 140/90 mmHg
- » On a statin medication, unless allowed contraindications or exceptions are present
- » Non-tobacco user
- » Patient with ischemic vascular disease on daily aspirin or anti-platelets, unless allowed contraindications or exceptions are present

Diabetes Eye Exams: The percentage of patients 18–75 years of age with diabetes (type 1 or type 2) who had a retinal eye exam.

Cardiovascular disease is the leading cause of death for both men and women in the United States.¹¹

- » Cardiovascular disease can refer to a number of conditions including heart disease, heart attack, stroke, heart failure, arrythmia and valve problems. Ischemic vascular diseases of the heart and blood vessels are related to atherosclerosis, a process where plaque builds up inside arteries and restricts the normal flow of blood.¹²
- » Heart disease is the leading cause of death for people of most racial/ethnic groups in the United States, including African Americans, Hispanics, and whites. For Asian Americans or Pacific Islanders and American Indians or Alaska Natives, heart disease is second only to cancer.¹¹
- » More than 18 percent of all deaths in Minnesota are due to heart disease, making it the 2nd-leading cause of death in the state behind cancer.¹³

Hypertension or high blood pressure is a common and dangerous condition. It increases the risk for heart disease and stroke, two of the leading causes of death for Americans.¹⁴

- » One out of every three Americans has hypertension or high blood pressure. Even with the availability of effective treatment options, only half of Americans with hypertension have their blood pressure under control.¹⁴
- » According to the American Heart Association, the death rate attributed to high blood pressure increased by over 10 percent between 2005 and 2015, and the number of deaths attributed to high blood pressure rose by over 37 percent.¹⁵

Circulatory Measures

Optimal Vascular Care: The percentage of patients 18–75 years of age who had a diagnosis of ischemic vascular disease (IVD) and whose IVD was optimally managed as defined by achieving ALL four of the following:

- » Blood Pressure less than 140/90 mmHg
- » On a statin medication, unless allowed contraindications or exceptions are present
- » Non-tobacco use
- » On daily aspirin or anti-platelets, unless allowed contraindications or exceptions are present

Controlling High Blood Pressure: The percentage of adults 18–75 years of age who had a diagnosis of hypertension (HTN) and whose blood pressure was adequately controlled based on the following:

- » Adults 18–59 years of age whose BP was <140/90 mm Hg.</p>
- » Adults 60–85 years of age with a diagnosis of diabetes whose BP was <140/90 mm Hg.
- » Adults 60–85 years of age without a diagnosis of diabetes whose BP was <150/90 mm Hg.

4 · QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA

Asthma is a common respiratory disease. It is a chronic disease of the lungs that affects adults and children of all ages. It is characterized by repeated episodes of wheezing, breathlessness, chest tightness and coughing.¹⁶

- » Asthma is a serious public health problem affecting over 26 million people in the United States, including 6 million children.¹⁷ Over 400,000 adults and children have asthma in Minnesota.¹⁸
- Asthma is a significant health and economic burden to patients, their families and society, and it's getting worse. In the last decade the proportion of people with asthma in the United States grew by nearly 15 percent. Nationally, nearly 2 million people visited an emergency department (ED) for asthma-related care and over 470,000 people were hospitalized because of asthma.¹⁶
 In 2014, there were over 21,000 ED visits and over 3,400 hospitalizations for asthma across Minnesota.¹⁸
- » Regarding race and ethnicity, multi-race and black adults are more likely to have asthma than white adults, and black children are 2 times more likely to have asthma than white children.¹⁶ In Minnesota, among those who were under age 65 when they died, the asthma death rate for African Americans was six times higher than it was for whites.¹⁸

Chronic Obstructive Pulmonary Disease (COPD) is a progressive lung disease that damages the airways and leads to shortness of breath. It's sometimes called emphysema or chronic bronchitis. It is the third leading cause of death in the United States.¹⁹

- » More than 11 million people have been diagnosed with COPD, but millions more may have the disease without knowing it. While there's no cure, early diagnosis and treatment can help make it manageable.¹⁹
- » In Minnesota, COPD is the fifth leading cause of death and one of the most prevalent chronic conditions. A Minnesota Department of Health report found that Minnesota spent nearly \$2 billion on COPD care in 2012.²⁰

Respiratory Measures

Optimal Asthma Care – Adults: The percentage of adults 18–50 years of age who had a diagnosis of asthma and whose asthma was optimally controlled as defined by achieving the following:

- » Asthma well-controlled as defined by the most recent asthma control tool result
- Patient not at risk of exacerbation (i.e., fewer than two emergency department visits and/or hospitalizations due to asthma in the last 12 months)

Optimal Asthma Care – Children: The percentage of children (5–17 years of age) who had a diagnosis of asthma and whose asthma was optimally controlled as defined by achieving the following:

- » Asthma well-controlled as defined by the most recent asthma control tool result
- Patient not at risk of exacerbation (i.e., fewer than two emergency department visits and/or hospitalizations due to asthma in the last 12 months)

Use of Spirometry Testing in the Assessment and Diagnosis of COPD: The percentage of adults 40 years of age and older with a new diagnosis of COPD or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.

5 · QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA

Key Findings

- » Statewide results for all chronic condition measures have been relatively stable over the last three years but show continued room for improvement.
- » Despite overall slow improvement in statewide rates for chronic conditions, there are bright spots with several medical groups and clinics achieving noteworthy outcome rates.
- » Rates are, on average, significantly better for patients with chronic conditions who live in metro areas.
- » In general, measures of how well chronic conditions are managed mostly improve with age. The highest rates occur among people age 60 and older with ischemic vascular disease.
- » For asthma, there is no difference in rates by gender; however, for the diabetes and vascular measures, the gender differences are significant.
- » Outcome rates vary by race and Hispanic ethnicity. In general, rates for diabetes, vascular, and asthma measures are lower for American Indians, African Americans, and Hispanics.
- » Rates also vary by preferred language and country of origin but people who speak English or who are born in the United Stated do not necessarily have better outcomes than people who speak other languages or are born elsewhere. The Optimal Asthma Control measures for adults and children are exceptions, with people who speak English having significantly better asthma outcomes than people who speak other languages.

RESULTS FOR CHRONIC CONDITION MEASURES – DIABETES, CIRCULATORY AND RESPIRATORY

MNCM reports on seven chronic disease measures. The figures display results at a statewide level, over time, and illustrate variation across medical groups. For some measures, results are further segmented by geography, age, gender, race, Hispanic ethnicity, preferred language and country of origin. Detailed results by medical group and clinic are available in the online appendix to this report, and at *mnhealthscores.org*.

Data Source Enables Reporting Capability

The measures in this report are collected from two separate data sources: clinics and health plans. Direct Data Submission (DDS) measures use data from clinics. This data enables reporting of results by clinic location as well as by medical group. In contrast, the Healthcare Effectiveness Data and Information Set (HEDIS) measures use data from health plans. This data enables reporting of results by medical group only. So, clinic level results are only reported for DDS measures but not for HEDIS measures. In addition, in this report, only DDS measures are reported by geography, age, gender, race, Hispanic ethnicity, language, and country of origin.

Diabetes Measures Circulatory Measures Respiratory Measures 100% 90% 80% 78% 70% 66% 62% 60% 58% 51% 50% 45% 40% 200/ 30% 20% 10% 0% Optimal Diabetes Care Diabetes Eye Exam Optimal Vascular Care Controlling High Optimal Asthma Optimal Asthma COPD Blood Pressure Control - Adults Control - Children Total number of patients: Total number of patients: Total number of patients: Optimal Diabetes Care = 307,158 Optimal Vascular Care = 177,822 Optimal Asthma Control - Adults = 133,714 Eye Exams = 152,396 Controlling BP = 15,454 Optimal Asthma Control - Children = 72,158 COPD = 12.210

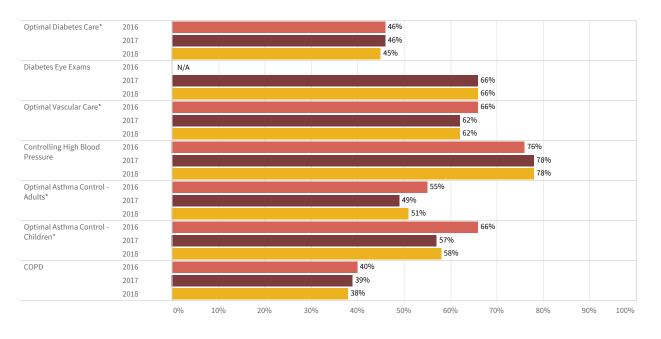
FIGURE 1: Statewide Results

(2018 report year – current year only)

Rates for all chronic disease measures indicate room for improvement. In Minnesota, 78 percent of patients with high blood pressure have their condition under control; however, only one third of adults are receiving appropriate spirometry testing to confirm a diagnosis of COPD.

FIGURE 2: Statewide trend over 3 years

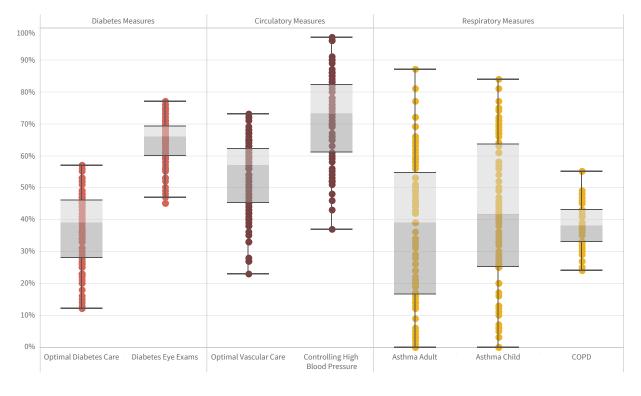
(2016, 2017, 2018 report years)



Results for the chronic disease measures have remained relatively stable over the last three years. Diabetes, vascular, and asthma results dropped over time, due in part to a more inclusive denominator definition. *Changes to measure denominator definitions in 2017 resulted in significant expansion of the measure population for noted measures above. This change may have contributed to the change in statewide rates for these measures.

FIGURE 3: Variation by Medical Group

(2018 report year)



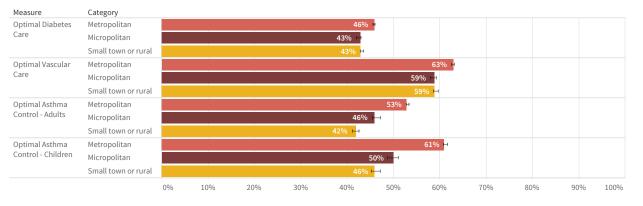
There is significant variation in medical group performance for all chronic condition measures. The range of variation is widest for the asthma measures. Rates for individual medical groups and clinics are included in the online appendix to this report.

How to interpret box plots: Box plots illustrate the distribution of medical group clinical measure results. Medical groups that fall within the 25th to 75th percentile of the range are located in the box (shaded region) and the line where the dark and light portions of the box meet is the median (50th percentile). The bars on the outside, or "whiskers," represent 1.5 times the interquartile range (25th to 75th percentiles) and dots outside of the whiskers are considered to be outliers.

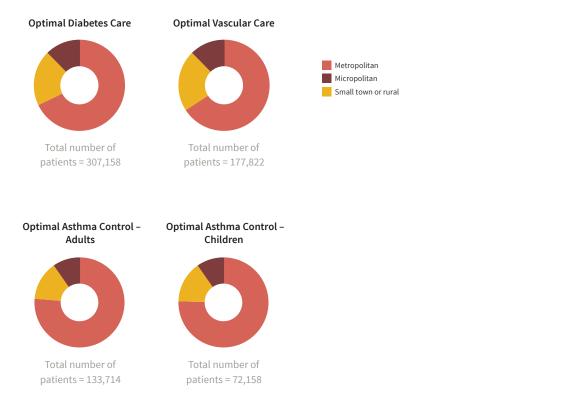
9 · QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA

FIGURE 4: Results by Geographic Location

(metro, micro, small town/rural)

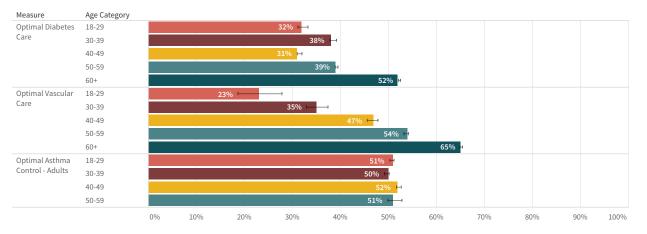


Demographic details only available for measures listed above; 95 percent confidence intervals.



Patients living in metropolitan areas have significantly better rates for the chronic disease measures. For asthma, patients living in small towns or rural areas have the lowest rates.

FIGURE 5: Results by Age Category



Demographic details only available for measures listed above; 95 percent confidence intervals.

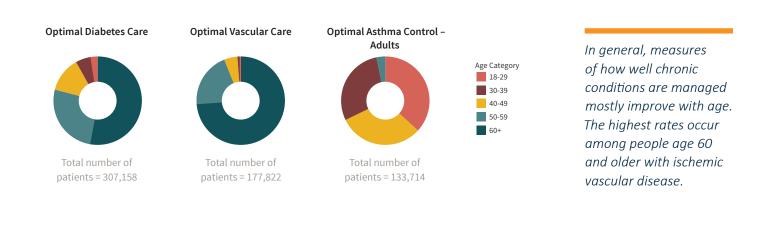
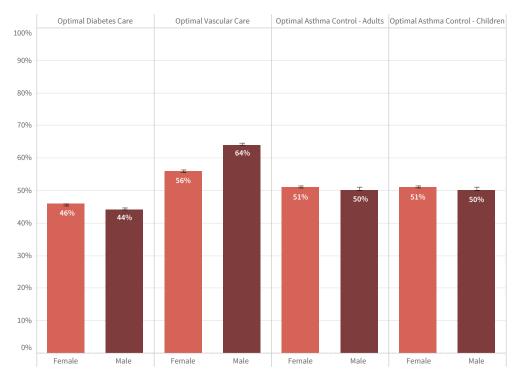


FIGURE 6: Results by Gender

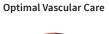


Demographic details only available for measures listed above; 95 percent confidence intervals.



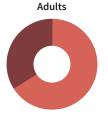


Total number of patients = 307,158



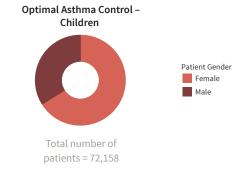


Total number of patients = 177,822



Optimal Asthma Control -

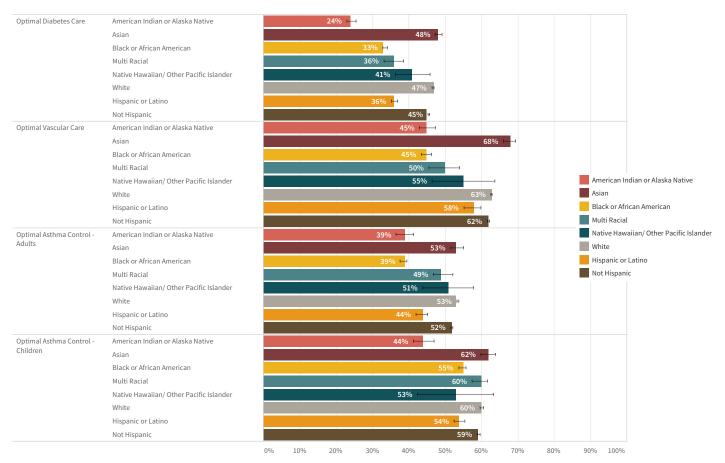
Total number of patients = 133,714



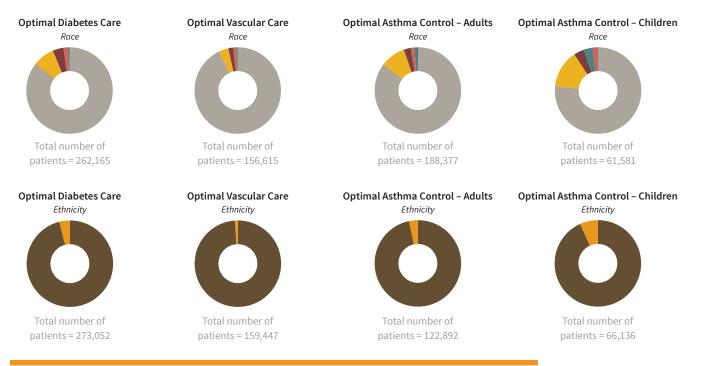
For asthma, there is no difference in rates by gender; however, for the diabetes and vascular measures, the gender differences are significant.

12 · QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA

FIGURE 7: Results by Race and Hispanic Ethnicity

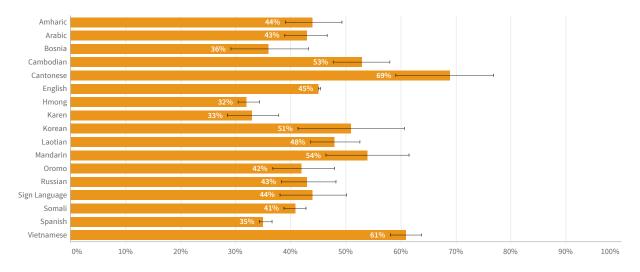


Demographic details only available for measures listed above; 95 percent confidence intervals.



Outcome rates vary by race and Hispanic ethnicity. In general, rates for diabetes, vascular, and asthma measures are lower for American Indians, African Americans, and Hispanics.

FIGURE 8: Results by Language – Optimal Diabetes Care



Demographic details only available for measures listed above; 95 percent confidence intervals.

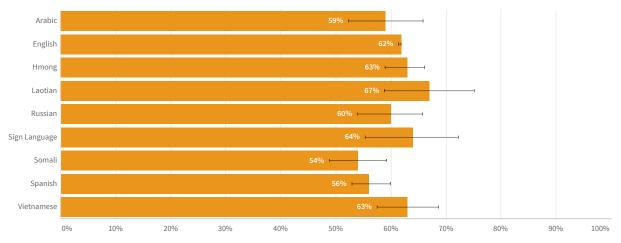


Total number of patients = 304,414

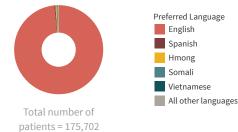


Rates vary by language. For the Optimal Diabetes Care measure, people who speak English do not necessarily have better outcomes than people who prefer to speak other languages. In general, people who speak Hmong and Karen have the lowest rates.



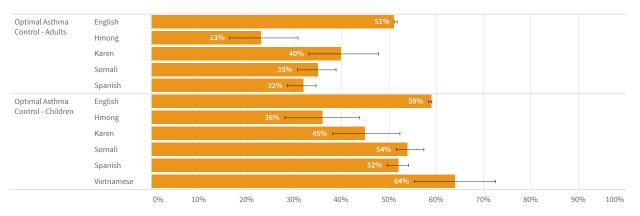


Demographic details only available for measures listed above; 95 percent confidence intervals.

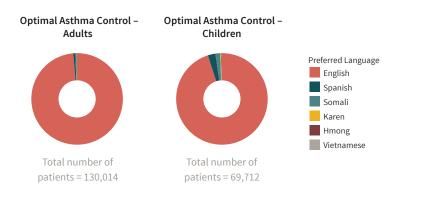


Rates vary by language. For the Optimal Vascular Care measure, people who speak English do not necessarily have better outcomes than people who prefer to speak other languages. In general, people who speak Somali and Spanish have the lowest rates.

FIGURE 10: Results by Language – Optimal Asthma Control, Adults and Children

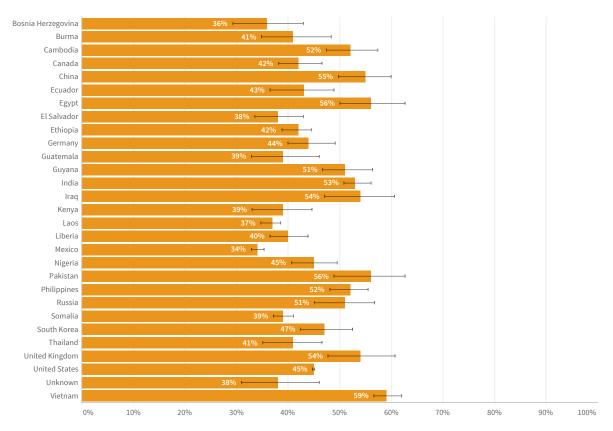


Demographic details only available for measures listed above; 95 percent confidence intervals.

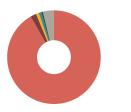


Rates vary by language. For the Optimal Asthma Control measures for adults and children, people who speak English generally have significantly better outcomes than people who prefer to speak other languages.

FIGURE 11: Results by Country of Origin – Optimal Diabetes Care



Demographic details only available for measures listed above; 95 percent confidence intervals.

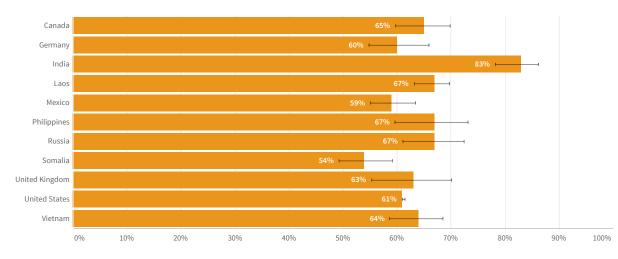


Total number of patients = 260,310



Rates vary by country of origin, but people who are born in the United States do not necessarily have better outcomes than people born elsewhere. In general, adults born in Mexico have the lowest rates.

FIGURE 12: Results by Country of Origin – Optimal Vascular Care



Demographic details only available for measures listed above; 95 percent confidence intervals.

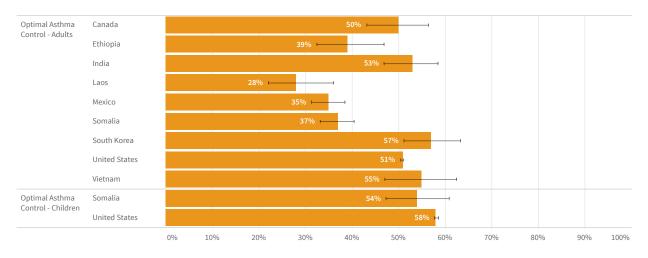


Total number of patients = 156,240

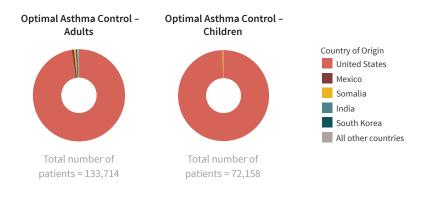


Rates vary by country of origin, but people who are born in the United States do not necessarily have better outcomes than people born elsewhere. In general, adults born in Mexico and Somalia have lower rates.

FIGURE 13: Results by Country of Origin – Optimal Asthma Control, Adults and Children



Demographic details only available for measures listed above; 95 percent confidence intervals.



Rates vary by country of origin, but people who are born in the United States do not necessarily have better outcomes than people born elsewhere. In general, people born in Laos, Mexico, and Somalia have lower rates.

Highest Performers for Chronic Condition Measures – Clinic Level Results (Primary Care)

Four of the chronic disease measures are reported at the clinic level including Optimal Diabetes Care, Optimal Vascular Care, Optimal Asthma Control – Adults, and Optimal Asthma Control – Children. There were 25 primary care clinics with rates significantly above the statewide average on all relevant chronic disease measures that have clinic level results (see *Table 1*). The results are adjusted for differences in patient characteristics. The adjustment accounts for differences in health insurance product type, patient age, diabetes type (diabetes only), and ZIP code level indicator of socioeconomic status.* The clinics are listed below in alphabetical order.**

TABLE 1: High Performers by Clinic (Primary Care)

Clinic Name
Affiliated Community Medical Centers – Litchfield Clinic (East)
Allina Health – Coon Rapids
Essentia Health East Duluth Clinic 1st St
Entira Family Clinics – Como/Roseville
Entira Family Clinics – North St. Paul
Entira Family Clinics – Shoreview
Entira Family Clinics – White Bear Lake-Bellaire Avenue
Fairview Andover Clinic
Fairview Bloomington Lake Minneapolis
Fairview Brooklyn Park Clinic
Fairview Burnsville Clinic
Fairview EdenCenter Clinic
Fairview Fridley Clinic
Fairview Lino Lakes Clinic
Fairview Oxboro Clinic
Fairview Rosemount Clinic
HealthPartners – Arden Hills
HealthPartners – Brooklyn Center
HealthPartners – Roseville
HealthPartners – West
Park Nicollet Clinic – Burnsville
Park Nicollet Clinic – Eagan
Park Nicollet Clinic – Golden Valley
Park Nicollet Clinic – Shakopee
Park Nicollet Clinic – Shorewood

* More information on risk adjustment is available in the Methodology appendix.

** The list includes clinics with above average results for all measures for which they were eligible (i.e., assigned to the measure or reportable).

Highest Performers for Chronic Condition Measures – Clinic Level Results (Specialty Care)

There were 39 specialty care clinics with rates significantly above the statewide average on all relevant chronic disease measures for which they were eligible (see *Table 2*). The results are adjusted for differences in patient characteristics. The adjustment accounts for differences in health insurance type, age, diabetes type (diabetes only), and ZIP code level indicator of socioeconomic status.* The clinics are listed below in alphabetical order by specialty.

TABLE 2: High Performers by Clinic (Specialty Care)

Pediatric Specialty

- CentraCare Health Plaza Pediatrics
- Central Pediatrics St. Paul
- Central Pediatrics Woodbury

Children's Respiratory & Critical Care Specialists -
Minneapolis
Children's Respiratory & Critical Care Specialists -
Minnetonka

Children's Respiratory & Critical Care Specialists -St Paul

Fairview Children's Clinic

Fridley Children's & Teenagers' Medical Center

Hennepin County Medical Center (HCMC) Clinics -**Downtown Pediatric Clinic**

Sanford Fargo Broadway Clinic - Pediatrics

Sanford Fargo Southpointe Clinic - Specialty Clinics

Sanford Moorhead Clinic - Pediatrics

Sanford Sioux Falls Children's Clinic

Sanford Sioux Falls Children's Clinic 26th & Sycamore Clinic

Sanford Sioux Falls Children's Clinic 69th & Louise Clinic

Sanford Sioux Falls Children's Specialty Clinic

South Lake Pediatrics - Chaska

- South Lake Pediatrics Eden Prairie
- South Lake Pediatrics Maple Grove
- South Lake Pediatrics Minnetonka
- South Lake Pediatrics Plymouth
- Wayzata Children's Clinic Chaska
- Wayzata Children's Clinic Delano
- Wayzata Children's Clinic Maple Grove
- Wayzata Children's Clinic Minnetonka
- Wayzata Children's Clinic Spring Park

Cardiology Specialty

HealthEast Heart Care - St. John's Hospital Campus HealthPartners - Regions Specialty Center Park Nicollet Clinic – Heart and Vascular Center Sanford Bemidji Main Clinic - Specialty Clinics Sanford Fargo Heart Center Sanford Sioux Falls Cardiovascular Institute St Luke's Clinics – Cardiology Associates University of Minnesota Health Heart Care -Burnsville

University of Minnesota Health Heart Care – Edina

Endocrinology Specialty

Park Nicollet Clinic - Endocrinology Sanford Fargo Southpointe Clinic – Endocrinology

Respiratory Specialty

Allergy, Asthma & Immunology – Shoreview MN Allergy & Asthma Clinic, PA

* The list includes clinics with above average results for all measures for which they were eligible (i.e., assigned to the measure or reportable).

Highest Performers for Chronic Condition Measures – Medical Group Level Results

There were 10 primary care or multi-specialty medical groups that had rates significantly above the statewide average on at least 50 percent of the chronic disease measures for which they were eligible (see *Table 3*). They are listed below in alphabetical order.

TABLE 3: High Performers by Medical Group (Primary Care)

	DIABETES		CIRCULATORY		RESPIRATORY		
MEDICAL GROUP	Optimal Diabetes Care	Diabetes Eye Exams	Optimal Vascular Care	Controlling High Blood Pressure	Optimal Asthma Control – Adult	Optimal Asthma Control – Child	COPD
Allina Health	•	•		•	•	•	
CentraCare Health	•	•		•		•	
Entira Family Clinics	•		•	•	•	•	
Essentia Health	•	•	•	•	•	•	
Fairview Health Services	•		•		•	•	•
HealthPartners Clinics	•	•	•		•	•	•
Mankato Clinic, Ltd.				•	•	•	٠
Park Nicollet Health Services	•	•	٠	•	•	•	•
Sanford Health – Fargo Region		•	٠	•		•	
Sanford Health – Sioux Falls Region				•	•	•	•

Performance ratings for all clinics and medical groups can be found on *mnhealthscores.org*.



DEFINITIONS

Composite Measures: A measure of two or more component measures, each of which individually reflects quality of care, combined into a single performance measure with a single score. MNCM's composite measures are patient level all-or-none measures. The individual components are treated equally (not weighted). Every component must meet criteria to be counted in the numerator for the overall composite measure. The composite measures in this report include:

- » Optimal Diabetes Care
- » Optimal Vascular Care
- » Optimal Asthma Control Adults
- » Optimal Asthma Control Children

Outcome Measures: These measures reflect the actual results of care. They are generally the most relevant measures for patients and the measures that providers most want to change. The outcome measures in this report include:

- » Optimal Diabetes Care
- » Optimal Vascular Care
- » Optimal Asthma Control Adults
- » Optimal Asthma Control Children
- » Controlling High Blood Pressure

Patient Reported Outcome (PRO): Information reported by the patient.

Patient Reported Outcome Measure (PROM): A validated instrument or tool administered to a patient. The tools that can be used for the asthma measures include: The Asthma Control Test (ACT; Childhood Asthma Control Test (C-ACT); Asthma Control Questionnaire (ACQ) and the Asthma Therapy Assessment Questionnaire (ATAQ).

Patient Reported Outcome – Performance Measure (PRO-PM): The measure built from a PROM. The PRO-PM measures in this report include:

- » Optimal Asthma Control Adults
- » Optimal Asthma Control Children

Process Measures: A measure that shows whether steps proven to benefit patients are followed correctly. They measure whether an action was completed (e.g., having a medical exam or test, writing a prescription, or administering a drug). The process measures in this report include:

- » Diabetes Eye Exams
- » Use of Spirometry Testing in the Assessment and Diagnosis of COPD

Online Appendices

- Methodology
- Detailed Medical Group and Clinic Level Tables

Endnotes

- ¹ Centers for Disease Control and Prevention. (2018). About chronic diseases. National Center for Chronic Disease Prevention and Health Promotion. Retrieved from *https://www.cdc.gov/chronicdisease/index.htm*
- ² Centers for Disease Control and Prevention. (2018). Health and economic costs of chronic diseases. National Center for Chronic Disease Prevention and Health Promotion. Retrieved from https://www.cdc.gov/ chronicdisease/about/costs/index.htm#ref
- ³ Partnership to Fight Chronic Disease. The growing crisis of chronic disease in the United States [Fact Sheet]. Retrieved from: https://www.fightchronicdisease.org/sites/default/files/docs/ GrowingCrisisofChronicDiseaseintheUSfactsheet_81009.pdf
- ⁴ Rawshani, A. et al. (2018). Risk factors, mortality, and cardiovascular outcomes in patients with type 2 diabetes. *New England Journal of Medicine*, *37*9, 633-644, DOI: 10.1056
- ⁵ Centers for Disease Control and Prevention. (2017). About diabetes. Diabetes Home. Retrieved from *https://www.cdc.gov/diabetes/basics/diabetes.html*
- ⁶ American Diabetes Association. (2018). Statistics about diabetes. Retrieved from http://www.diabetes.org/ diabetes-basics/statistics/
- ⁷ American Diabetes Association. (2014). Common Terms. Retrieved from http://www.diabetes.org/diabetesbasics/common-terms/?loc=db-slabnav
- ⁸ Centers for Disease Control and Prevention (2017). National diabetes statistics report. Retrieved from https:// www.cdc.gov/diabetes/data/statistics/statistics-report.html
- ⁹ Minnesota Department of Health. Quick facts: Diabetes in Minnesota. Retrieved from http://www.health.state. mn.us/divs/healthimprovement/data/quick-facts/diabetes.html
- ¹⁰ Knowler, W.C., et al. (2002). Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine*, 346 (6), 393–403.
- ¹¹ Centers for Disease Control and Prevention. (2017). Heart disease facts. Heart Disease. Retrieved from https:// www.cdc.gov/heartdisease/facts.htm
- ¹² American Heart Association. (2017). What is cardiovascular disease?. Retrieved from http://www.heart.org/en/ health-topics/consumer-healthcare/what-is-cardiovascular-disease
- ¹³ Minnesota Department of Health. Quick facts Heart disease in Minnesota. Retrieved from http://www.health. state.mn.us/divs/healthimprovement/data/quick-facts/heartdisease.html
- ¹⁴ Merai R, Siegel C, Rakotz M, Basch P, Wright J, Wong B; DHSc., Thorpe P. (2016). CDC Grand Rounds: A Public Health Approach to Detect and Control Hypertension. *MMWR Morb Mortal Wkly Rep.*, 65(45), 1261-1264. *https://www.cdc.gov/mmwr/volumes/65/wr/mm6545a3.htm*
- ¹⁵ American Heart Association, American Stroke Association. Heart disease and stroke statistics 2018 at-a-glance [Fact Sheet]. Retrieved from https://www.heart.org/-/media/data-import/downloadables/heart-disease-andstroke-statistics-2018---at-a-glance-ucm_498848.pdf
- ¹⁶ Center for Disease Control and Prevention. Asthma's impact on the nation [Fact Sheet]. National Asthma Control Program. Retrieved from https://www.cdc.gov/asthma/impacts_nation/asthmafactsheet.pdf
- ¹⁷ Centers for Disease Control and Prevention (2018). Most recent asthma data. Retrieved from https://www.cdc. gov/asthma/most_recent_data.htm
- ¹⁸ Minnesota Department of Health. Quick facts Asthma in Minnesota. Asthma Program. Retrieved from http:// www.health.state.mn.us/divs/hpcd/cdee/asthma/
- ¹⁹ American Lung Association. (2018). How serious is COPD. Lung Health & Diseases. Retrieved from https://www. lung.org/lung-health-and-diseases/lung-disease-lookup/copd/learn-about-copd/how-serious-is-copd.html
- ²⁰ Minnesota Department of Health. (2016, November 15). Minnesota's yearly COPD costs top \$1.9 billion [Press release]. Retrieved from http://www.health.state.mn.us/news/pressrel/2016/copd111516.html

24 · QUALITY OF CARE FOR CHRONIC CONDITIONS IN MINNESOTA