Health and
Human Services

Richard O. Brajer
Secretary

Dr. Randall Williams
Deputy Secretary for Health Services
State Health Director

December 30, 2016

SENT VIA ELECTRONIC MAIL

The Honorable Marilyn Avila, Co-Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
2217 Legislative Building
Raleigh, NC 27601-2808

The Honorable Josh Dobson, Co-Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
301N Legislative Office Building
Raleigh, NC 27603-5925

The Honorable Louis Pate, Co-Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
1028 Legislative Building
Raleigh, NC 27601-2808

Dear Chairmen:

North Carolina General Statute 130A-222.5 requires the Department of Health and Human Services' Divisions of Public Health and Medical Assistance and the State Health Plan for Teachers and State Employees, a division of the Department of the State Treasurer, to report by January 1 of every odd-numbered year how North Carolina is working to reduce the incidence of chronic disease and improve chronic care coordination within the State.

The attached report represents the collaborative efforts of the above agencies to date, as well as action plans for future collaboration and activities.

Should you have questions about the content of this report, please contact me at (919) 855-4800.

Health and
Human Services

Richard O. Brajer
Secretary

Dr. Randall Williams
Deputy Secretary for Health Services
State Health Director

Sincerely,

Dr. Randall Williams
Deputy Secretary for Health Services
State Health Director

cc: Dr. Randall Williams
Kolt Ulm
Rod Davis
Susan Jacobs
Danny Staley
Denise Thomas
Andy Munn
Joyce Jones
Brian Perkins
reports@ncleg.net
Marjorie Donaldson
Theresa Matula
Pam Kilpatrick
Lindsey Dowling

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SENT VIA ELECTRONIC MAIL

The Honorable Marilyn Avila, Co-Chair
Appropriations Subcommittee on
Health and Human Services
North Carolina General Assembly
Room 2217, Legislative Building
Raleigh, NC 27601-1096

The Honorable Josh Dobson, Co-Chair
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The Honorable William Brisson, Co-Chair
Appropriations Subcommittee on
Health and Human Services
North Carolina General Assembly
Room 405, Legislative Office Building
Raleigh, NC 27603-5925

The Honorable Chris Malone, Co-Chair
Appropriations Subcommittee on
Health and Human Services
North Carolina General Assembly
Room 603, Legislative Office Building
Raleigh, NC 27603-5925

Dear Chairmen:

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December 30, 2016

SENT VIA ELECTRONIC MAIL

The Honorable Ralph Hise, Co-Chair
Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 1026, Legislative Building
Raleigh, NC 27601-2808

The Honorable Louis Pate, Co-Chair
Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 1028, Legislative Building
Raleigh, NC 27601-2808

The Honorable Tommy Tucker, Co-Chair
Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 1127, Legislative Building
Raleigh, NC 27601-2808

Dear Chairmen:

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Health and
Human Services

Richard O. Brajer
Secretary

Dr. Randall Williams
Deputy Secretary for Health Services
State Health Director

December 30, 2016

SENT VIA ELECTRONIC MAIL

Mr. Mark Trogdon, Director
Fiscal Research Division
Suite 619, Legislative Office Building
Raleigh, NC 27603-5925

Dear Director Trogdon:

North Carolina General Statute 130A-222.5 requires the Department of Health and Human Services and the State Health Plan for Teachers and State Employees, a division of the Department of the State Treasurer, to report by January 1 of every odd-numbered year how North Carolina is working to reduce the incidence of diabetes, improve diabetes care, and control the complications associated with diabetes.

The attached report represents the collaborative efforts of the above agencies to date, as well as action plans for future collaboration and activities.

Should you have questions about the content of this report, please contact me at (919) 855-4800.

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Dr. Randall Williams
Deputy Secretary for Health Services
State Health Director

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NORTH CAROLINA

OFFICE OF THE TREASURER

JANET COWELL, TREASURER

January 1, 2017

SENT VIA ELECTRONIC MAIL

Representative Marilyn Avila, Co-chair
Joint Oversight Committee on
Health and Human Services
North Carolina House of Representatives
Room 2217, Legislative Office Building
Raleigh, NC 27601

Representative Josh Dobson, Co-Chair
Joint Oversight Committee on
Health and Human Services
North Carolina House of Representatives
Room 301N, Legislative Office Building
Raleigh, NC 27601

Senator Louis Pate, Co-chair
Joint Oversight Committee on
Health and Human Services
North Carolina Senate
Room 1028, Legislative Office Building
Raleigh, NC 27601

Dear Representatives Avila, Dobson, and Senator Pate:

Session Law 2013-207 amended Article 7 of Chapter 130 A of the General Statutes and directs the Department of State Treasurer's State Health Plan for Teachers and State Employees and the Department of Health and Human Services' Divisions of Public Health and Medical Assistance to submit an annual report on or before January 1 of each odd-numbered year on the coordination of activities to reduce chronic disease in North Carolina.

In response to the Session Law, the named agencies collaborated to develop and submit the first ***CHRONIC DISEASE REDUCTION AND STATEWIDE COORDINATION*** **Report** in January 2015. Please find attached the second report, demonstrating the ongoing collaborative efforts of the three agencies to date, as well as action plans for future collaboration and chronic care reduction activities.

For further questions or additional information, please contact Nidu Menon, PhD, Director, Integrated Health Management, nidu.menon@nctreasurer.com, (919) 785-5007.

Sincerely,

Janet Cowell

Janet Cowell
North Carolina State Treasurer

Cc:

Senator Ralph Hise
Representative William Brisson
Representative Chris Malone
Mr. Mark Trogdon
Ms. Theresa Matula
reports@ncleg.net
January 1, 2017

NORTH CAROLINA

OFFICE OF THE TREASURER

JANET COWELL, TREASURER

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Representative Marilyn Avila, Co-chair
Appropriations Committee on
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North Carolina House of Representatives
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Appropriations Committee on
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North Carolina House of Representatives
Room 405, Legislative Office Building
Raleigh, NC 27601

Representative Chris Malone, Co-chair
Appropriations Committee on
Health and Human Services
North Carolina House of Representatives
Room 603, Legislative Office Building
Raleigh, NC 27601

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North Carolina State Treasurer

Cc:

Senator Ralph Hise
Senator Louis Pate
Mr. Mark Trogdon
Ms. Theresa Matula
reports@ncleg.net

NORTH CAROLINA

OFFICE OF THE TREASURER

JANET COWELL, TREASURER

January 1, 2017

SENT VIA ELECTRONIC MAIL

Senator Ralph Hise, Co-chair
Appropriations Committee on Health
and Human Services
North Carolina Senate
Room 1026, Legislative Office Building
Raleigh, NC 27601

Senator Louis Pate, Co-Chair
Appropriations Committee on Health
and Human Services
North Carolina Senate
Room 1028, Legislative Office Building
Raleigh, NC 27601

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Sincerely,

Janet Cowell
North Carolina State Treasurer

Cc:

Representative Marilyn Avila
Representative William Brisson
Representative Josh Dobson

Representative Chris Malone
Mr. Mark Trogdon
Ms. Theresa Matula
reports@ncleg.net

NORTH CAROLINA

OFFICE OF THE TREASURER

JANET COWELL, TREASURER

January 1, 2017

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Mr. Mark Trogdon, Director
Fiscal Research Division
North Carolina General Assembly
Room 619, Legislative Office Building
Raleigh, NC 27603-5925

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In response to the Session Law, the named agencies collaborated to develop and submit the first ***CHRONIC DISEASE REDUCTION AND STATEWIDE COORDINATION*** **Report** in January 2015. Please find attached the second report, demonstrating the ongoing collaborative efforts of the three agencies to date, as well as action plans for future collaboration and chronic care reduction activities.

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Sincerely,

Janet Cowell
North Carolina State Treasurer

Cc:

Senator Ralph Hise
Senator Louis Pate
Representative Marilyn Avila
Representative Williams Brisson
Representative Josh Dobson

Representative Chris Malone
Ms. Theresa Matula
reports@ncleg.net

NC Chronic Disease Reduction and Statewide Coordination

GS 130A-222.5

Report to the

Senate Appropriations Committee on Health and Human Services
House Appropriations Subcommittee on Health and Human Services
Joint Legislative Oversight Committee on Health and Human Services
Fiscal Research Division

By

North Carolina Department of Health and Human Services
and
North Carolina Department of State Treasurer

December 31, 2016

NC CHRONIC DISEASE REDUCTION AND STATEWIDE COORDINATION

Executive Summary

Per Session Law 2013-207, which amended NC General Statute §130A-222.5, the Department of Health and Human Services' Division of Public Health (DPH) and Division of Medical Assistance (DMA), as well as the Department of State Treasurer's State Health Plan for Teachers and State Employees (Plan) shall report by January 1 of every odd-numbered year on activities undertaken to reduce the incidence of chronic disease and improve chronic care coordination within the State.

Scope of the Problem
Of the approximately 244 North Carolinians who die every day, 150 residents die as a result of a chronic disease. Cancer, heart disease, chronic lung disease, and stroke comprised four of the five leading causes of death in the State in 2015. Risk factors for chronic disease are increasing and more than two thirds of North Carolinians have one or more major risk factors for a preventable chronic disease. Obesity (30%), nutritional deficits (80%), physical inactivity (>50%), and smoking (19%) are the most common risk factors. Chronic disease disproportionately affects some racial groups, particularly non-Hispanic African Americans, who have higher rates of chronic disease than other groups. Chronic disease impacts a significant number of Plan members and Medicaid beneficiaries and has a major impact on costs for both agencies.

Financial Impact
Chronic diseases are the leading cause of hospital utilization. Cardiovascular disease was the most common cause for inpatient admissions in 2014. Patients with chronic disease cost significantly more than those without a chronic disease. The Plan has found the annual cost for members with chronic conditions is nearly six times the cost for members who do not have any chronic condition-related claims ($9,545 vs. $1,624). Medicaid patients with one or more chronic conditions have been found to be at higher risk of admission and readmission. Patients with multiple conditions have the highest risk of readmission and benefit from intense care management to reduce hospital utilization.

Effectiveness of Programs
A variety of evidence-based programs and interventions targeting chronic disease management and risk factors are provided to Plan members and Medicaid beneficiaries including: weight management, health coaching, tobacco treatment and control, cancer screening and treatment, and care alerts for both prevention and disease management. Several of these programs and services are also extended to all North Carolinians through DPH, including QuitlineNC (1-800-QUIT-NOW); Eat Smart, Move More, Weigh Less; and Eat Smart, Move More, Prevent Diabetes (both programs in partnership with NC State University).

Coordination
DPH, DMA, and the Plan have coordinated efforts around several of the chronic disease initiatives in the State. Examples of collaboration include: participation in the Justus-Warren Heart Disease and Stroke Prevention Task Force; Eat Smart, Move More NC Leadership Team; Diabetes

Advisory Council; NC Colorectal Cancer Roundtable; Million Hearts Advisory Board; Hypertension and Tobacco Advisory Groups; and the NC Advisory Committee on Cancer Coordination and Control. Other areas of collaboration include enhancing awareness of diabetes care and management, provider education, preventive care and screenings, and expanding coverage for evidence-based patient programs.

Action Plan

A variety of coordinated steps have been proposed to reduce the burden of chronic disease in North Carolina. In 2015, DMA, DPH, and the Plan focused on the initial goals of reducing hospital readmission rates, increasing transitional care, and providing comprehensive medication management to individuals with a chronic condition. These goals remain important as DMA, DPH, and the Plan move forward. Policy and programmatic areas of focus for continued collaboration and coordination include: promoting condition self-management; encouraging early detection and prevention; expanding access to tobacco cessation programs; expanding access to Eat Smart, Move More, Weigh Less; offering both onsite and online (Eat Smart, Move More, Prevent Diabetes) diabetes prevention programs; increasing the use of community health workers to reach underserved populations; and expanding coverage for evidence-based patient education programs.

DMA contractor for primary care coordination model, Community Care of North Carolina, will continue to ensure Medicaid recipients are enrolled in a patient-centered medical home. The patient-centered medical home provides added supports aimed at improving the quality of care, including preventive services, risk factor reduction, self-management, care management, and coordination of services within the medical neighborhood**.**

I. Introduction

The North Carolina Department of Health and Human Services' (DHHS) Division of Medical Assistance (DMA) and Division of Public Health (DPH) and the Department of State Treasurer's State Health Plan for Teachers and State Employees (Plan) continue to align their efforts in chronic disease reduction. These agencies continue to coordinate and share wellness and prevention plans and identified goals and benchmarks to both improve care coordination and reduce the incidence of multiple chronic health conditions. In addition, the above-named agencies continue to collaboratively develop action plans to reduce the financial impact of multiple chronic health conditions.

II. Agency Descriptions

A. North Carolina Division of Public Health

The Chronic Disease and Injury (CDI) Section within NC DHHS's DPH is comprised of the following:

1) the Cancer Prevention and Control Branch, including the Breast and Cervical Cancer Control Program, the WISEWOMAN (Well-Integrated Screening and Evaluation for Women Across the Nation) Program, and the Comprehensive Cancer Control Program;
2) the Community and Clinical Connections for Prevention and Health Branch (formerly Physical Activity and Nutrition, Diabetes Prevention and Control, and Heart Disease and Stroke Prevention);
3) the Forensic Tests for Alcohol Branch;
4) the Injury and Violence Prevention Branch; and
5) the Tobacco Prevention and Control Branch.

CDI supports North Carolinians in achieving and maintaining healthy lifestyles to reduce death and disability from chronic diseases by enabling individuals to make healthy choices through promotion and implementation of evidence- and practice-based interventions, system changes, and policies. This involves strong partnerships with local health departments, local community members, health care providers and systems, and State agencies. Preventing and reducing the burden of chronic disease in North Carolina will help reduce unnecessary medical treatment, medications and hospitalizations.

The following branches of the CDI Section were included in this workgroup:

- Community and Clinical Connections for Prevention and Health (CCCPH),
- Cancer Prevention and Control, and
- Tobacco Prevention and Control.

B. Division of Medical Assistance

NC DHHS's Division of Medical Assistance (DMA) administers the state and federally funded Medicaid and HC Health Choice programs that serve many low-income individuals and families in North Carolina, including low-income parents, children, seniors, and people with disabilities. NC Medicaid covers approximately 1.8 million North Carolinians. The goal of the program is to provide high quality, medically necessary health care for eligible North Carolina residents through

cost-effective purchasing of health care services and products. The program provides preventive and acute medical care, prescription drug coverage, dental services, long-term services and supports for people with disabilities or health issues, and mental health and substance abuse treatment.

DMA contracts with NC Community Care, Inc. (N3CN) to provide primary care case management for most Medicaid beneficiaries. The goals is to improve the value of care provided to Medicaid enrollees through care management and quality improvement activities. N3CN is comprised of 14 regional Community Care of NC (CCNC) networks of physicians, nurses, pharmacists, hospitals, health departments, social service agencies and other community organizations who provide cooperative care through the patient-center medical home (PCMH) model that matches each enrollee with a primary care physician.

DMA also collaborates with sister Divisions, including DPH. Sickle cell, women and children's services, tobacco cessation with the Quitline, and continuing education training for public health departments are just a few of the partnered relationships DMA shares with DPH.

C. State Health Plan for Teachers and State Employees

The Plan provides health care coverage to more than 700,000 teachers and local school personnel, state employees, retirees, current and former lawmakers, state university and community college faculty and staff, and their dependents. The Plan is self-insured and exempt from the Employee Retirement Income Security Act (ERISA) as a government-sponsored plan. The Plan operates as a division of the Department of State Treasurer. The Treasurer is responsible for administering and operating the Plan as described in Article 3B of Chapter 135 of the General Statutes subject to certain approvals by and consultations with the Board of Trustees. An Executive Administrator oversees the day-to-day operations of the Plan. The State Treasurer, Board of Trustees, and Executive Administrator are required to carry out their duties and responsibilities as fiduciaries for the Plan and report to the General Assembly as directed by the President Pro Tempore of the Senate and the Speaker of the House of Representatives.

Improving members' health is a strategic priority for the Plan. The strategic plan includes: promoting patient-provider relationships; assisting members to effectively manage high cost, high prevalence chronic conditions; offering health promoting and value based benefit designs; and promoting worksite wellness initiatives in an effort to improve members' overall health. The Plan's healthy living initiative, NC Health*Smart*, offers resources and supports to assist members in achieving their best health, which includes disease and case management as well as health coaching offered through the Plan's population health management vendor, ActiveHealth Management (AHM). In addition, NC Health*Smart* provides access for members to QuitlineNC, Eat Smart, Move More, Weigh Less (ESMMWL), and both onsite and online diabetes prevention programs (diabetesfreenc.com). The Plan strives to improve member health through strategic development of benefit design and delivery of population health management services aimed at improving care and health outcomes.

II.1. Scope of Chronic Disease in North Carolina

The World Health Organization (WHO) defines chronic diseases as diseases that are not

communicable, develop slowly, and persist for long periods of time. According to WHO, the four main types of chronic diseases are cardiovascular diseases (heart attack, stroke), cancer, chronic respiratory diseases (chronic obstructive pulmonary disease, asthma), and diabetes.[1]

Of the approximately 244 North Carolinians who die every day, 150 residents die as a result of a chronic disease. Altogether, chronic diseases, injury, and violence were responsible for almost 70% of North Carolina resident deaths and resulted in almost 62,000 resident deaths in 2015. Cancer, heart disease, chronic lower respiratory disease, and stroke were among the five leading causes of death in the State.

North Carolina's 2014 age-adjusted mortality rates were higher than US death rates for cancer, stroke, and chronic lower respiratory diseases. Heart disease is the only condition where North Carolina's age-adjusted rate is lower than the national rate for 2014. However, age-adjusted mortality rates for some cancers, heart disease, stroke, and diabetes have all declined substantially over the last decade.

Racial disparities in chronic disease mortality persist in North Carolina. Non-Hispanic African Americans have higher rates than non-Hispanic whites for the majority of chronic diseases. During 2010-2014, non-Hispanic African Americans had age-adjusted mortality rates that were more than two times higher than non-Hispanic whites for prostate cancer, diabetes, and kidney disease.

Over half of North Carolina resident deaths may be due to preventable causes. Among the leading contributors to preventable death in the State are tobacco use, unhealthy diet, and/or physical inactivity.

Chronic Disease and Health Care Utilization

In 2014, cardiovascular disease (CVD) was the leading cause of hospitalization in the State, with the highest discharge rate (17 discharges per 1,000 residents) and the highest total cost ($6.5 billion).[2] In 2014, CVD and asthma were the chronic diseases with the highest emergency department visit rates in North Carolina. Cancers also resulted in high average costs, averaging more than $55,000 per hospitalization.

Chronic Disease Incidence and Prevalence

Cancer. The North Carolina Central Cancer Registry projects that more than 58,000 North Carolinians will receive a cancer diagnosis yearly. North Carolina's 2009-2013 age-adjusted cancer incidence rate was 483.4 cases per 100,000 population. North Carolina males consistently have higher age-adjusted cancer incidence rates than females. North Carolina has significant disparities in cancer incidence, with non-Hispanic Asian and Pacific Islanders having the highest age- adjusted cancer incidence rate, and Hispanics experiencing the lowest rates during 2009-2013. In 2015, approximately 7.1% of North Carolina adults reported that they had been diagnosed with skin cancer, and 7.2% indicated that they had been diagnosed with any other type of cancer.

[1] NC Division of Public Health, State Center for Health Statistics. Special data query based on NC electronic mortality data files.
[2] Inpatient hospital utilization and charges by principal diagnosis and county of residence. State Center for Health Statistics. http://www.schs.state.Nc.us/schs/data/databook/

Cardiovascular Disease (CVD). Almost one in ten North Carolina adults report a history of CVD (heart attack, coronary heart disease or stroke) according to Behavioral Risk Factor Surveillance System (BRFSS) data collected in 2015. Approximately 3.7% of adults in the State reported a history of stroke, 4.3% reported a history of heart attack, and almost 4.7% reported a history of angina or coronary heart disease.

Chronic Obstructive Pulmonary Disease (COPD) and Asthma. In 2015, nearly 7.4% of North Carolina adults reported that a health professional had diagnosed them with COPD, emphysema, or chronic bronchitis. COPD rates were highest among those over the age of 75 (14.2%), adults having less than a high school education (14.8%), and those with annual household incomes of less than $15,000 (14.7%). Approximately 85-90% of COPD deaths are smoking related. In 2015, over 13% of North Carolina adults reported that they had been diagnosed with asthma and almost 8% reported that they currently had asthma. North Carolina's child health survey in 2012 revealed that 13.6% of North Carolina parents reported that their child currently had asthma. In 2014-15 asthma was the most common chronic health condition reported among K-12 public school students, affecting approximately 93,000of all students enrolled in public schools in the state, and was a leading cause for hospitalizations among children.

Diabetes. The World Health Organization (WHO) defines diabetes as a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. Hyperglycemia, or raised blood sugar, is a common effect of uncontrolled diabetes and over time can lead to serious complications such as heart attack, stroke, renal failure, blindness and lower limb amputations. The prevalence of diagnosed diabetes in North Carolina increased from 6.4% of the adult population in 1998 to 10.47% in 2015, an increase of 67%. North Carolina's 2014 diabetes rate of 10.84% was higher than the U.S. average rate (9.7%). Despite recent improvements in overall ranking, North Carolina still has the 18th highest prevalence of diabetes among the 50 states and the District of Columbia. North Carolina adults with lower education levels and lower incomes were more likely to report being diagnosed with diabetes. North Carolina's prevalence of type 2 diabetes is also higher than the national average. Type 2 (or adult-onset) diabetes may account for 90-95% of all diagnosed cases of diabetes and has many risk factors, including age and obesity. The prevalence of type 2 diabetes in North Carolina is also marked by significant racial, economic, and geographic disparities.

Mental Health. Mental health conditions are the most common chronic disease among Medicaid beneficiaries, with over 360,000 having at least one chronic mental health diagnosis. A person with a mental health diagnosis is more likely to have other chronic conditions and is also more likely to have higher costs and utilization than those with chronic conditions without a mental health diagnosis.

Since April 2013, DMA's mental health and substance abuse treatment delivery system has operated under a Medicaid 1915(b)/(c) managed care waiver, supplemented with State funds managed by the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS). Under this waiver, North Carolina's Local Management Entities, which once coordinated and offered publicly supported behavioral health care services, have become managed care organizations (LME-MCOs). The role of the LME-MCOs is to:

- coordinate care;
- manage provider networks;
- ensure access to mental health and substance abuse treatment and supports for individuals with intellectual and developmental disabilities;
- monitor for fraud and abuse; and
- pay providers for services out of capitation income received from DMA for each enrollee.

In addition, LME-MCOs manage State-appropriated funds and federal grants and pay for services and coordinate care for those without insurance or means to pay for services related to mental illness, substance abuse, intellectual/ developmental disabilities, and traumatic brain injury.

Mental health conditions also impact Plan members. From October 2012 to September 2013, 132,008 Plan members incurred a mental health or substance abuse diagnosis, an increase of 8.5% from the previous year. During the same period, $35,937,503 was paid for mental health and substance abuse-related services for Plan members. This is an increase of over 11% from the previous year.

Risk factors for Chronic Disease

Tobacco Use. Tobacco use exacts an enormous economic toll on North Carolina. Tobacco use remains the leading preventable cause of death in North Carolina, and the nation, and is responsible for more than 14,200 deaths each year in the State. For each one of these deaths, the Surgeon General estimates that another 30 people are sick or disabled due to smoking-attributable illnesses. Almost one in five (19.1%) North Carolina adults currently smokes cigarettes (1,470,000 adults) according to BRFSS[3] and NC census data. Additionally, 1,600 adults, children, and infants in North Carolina die each year from exposure to others' secondhand smoke.

Tobacco use is a costly problem for North Carolina. CDC data indicates that health care costs related to smoking are $3.81 billion (CDC, 2014)[4] per year, of which $931 million is a Medicaid cost. Health care costs from exposure to secondhand smoke are estimated to be an additional $293 million per year.[5] Research shows that the per capita excess medical care and lost productivity costs per smoking adult are almost $6,000 per year (Tob Control, 2014).[6] While smoking has declined among North Carolina high school students, all tobacco use has increased among North Carolina high school students, with an 88% increase in e-cigarette use from 2011-2015. E-cigarettes generally contain nicotine, which is addictive and impairs brain function in young people. Of U.S. adolescents and young adults who had never smoked but used e-cigarettes at baseline, they were 8.3 times more likely to progress to cigarette smoking than nonusers of e-cigarettes.

The Plan's 7-month evaluation determined that the Plan saved $20.60 in medical expenditures, lost productivity, and other costs for every $1 spent on QuitlineNC services and tobacco cessation

[3] North Carolina State Center for Health Statistics (2015). Retrieved from http://www.schs.state.nc.us/data/brfss/2015/nc/all/_smoker3.html.
[4] Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/stateandcommunity/index.htm.
[5] Plescia, M., Wansink, D., Waters H.R., and Hernson, S. (2011) Medical costs of second-hand smoke exposure in North Carolina, NC Medical Journal, 72(1), 7-12.
[6] Tob Control 2014;23:428-433 doi:10.1136/tobaccocontrol-2012-050888

media between May 2013 and April 2014. This ROI value was calculated using the 30-day respondent quit rate to estimate that 765 Plan members successfully quit using tobacco in 2013-14. Furthermore, it is estimated that the Plan will save $4.6 million by helping these 765 members quit.[7] It is also important to note that medical expenses were calculated specifically for North Carolina residents using the CDC's Smoking-Attributable Mortality, Morbidity, and Economics Costs software (SAMMEC21) survey while other costs used national estimates.

Obesity. The issue of excess weight and obesity continues to be one of the most pressing public health problems of our time. North Carolina has the 24th highest adult obesity rate for 2014 in the country. The percentage of North Carolina adults who are obese has more than doubled over the last two decades. In 1990, approximately 13% of adults in North Carolina were obese. In 2015, 30% of the North Carolina population was obese and more than two-thirds of North Carolina adults (66%) were overweight or obese. Like adults, a high percentage of North Carolina children are overweight or obese. According to 2012 child health survey data, 17% of children ages 10 through 17 were obese and another 19% were overweight based on their body mass index.

Nutrition. According to the 2015 BRFSS, only 13% of North Carolina adults reported consuming five or more servings of fruits, vegetables, or beans recommended daily. North Carolina children and adolescents have similar nutritional patterns to adults. Based on 2012 parental report survey data, only 44.3% of children were eating five or more fruits and/or vegetables on a typical day.

Physical Inactivity. Over half of North Carolina adults did not meet physical activity recommendations in 2015. North Carolina's physical activity rates rank the State in the bottom quartile of states with the lowest rates of physical activity in the country for 2013. Similarly, among North Carolina high school students in 2015, over half did not meet physical activity recommendations.

Chronic Disease and Mortality in NC

North Carolina Compared to United States in 2014. North Carolina age-adjusted mortality rates were comparable to the US for colon and pancreatic cancer. North Carolina age-adjusted mortality rates were lower than the US for heart disease, asthma, and chronic liver disease/cirrhosis. Chronic diseases with age-adjusted rates more than 20% or higher than the US rates included kidney disease (23% higher) and Alzheimer's disease (20% higher).

Trends in Mortality: 2000 – 2014. North Carolina's age-adjusted mortality rates have declined over the last fifteen years for most chronic diseases, with the exception of Alzheimer's disease (26% increase) and chronic liver disease and cirrhosis (4% increase). Several chronic diseases experienced declines of over 30% between 2000 and 2010, including stroke (45% decline), asthma (38% decline), heart disease (40% decline), and prostate cancer (38% decline).

Premature Mortality. Cancer and heart disease claimed the highest percentage of North Carolina lives in 2015, together comprising almost half (42.4%) of all resident deaths. In addition, three chronic diseases had average years of potential life lost greater than fifteen years: cancer (16 years), diabetes (16 years), and chronic liver disease/cirrhosis (22 years).

[7]Alere Wellbeing, Inc. (2015, February 27). North Carolina State Health Plan 7-Month Evaluation Report 2013-2014.

Racial Disparities in Mortality. North Carolina's age-adjusted mortality rates for non-Hispanic African Americans were more than two times greater than non-Hispanic whites for prostate cancer (2.3), diabetes (2.3), and kidney disease (2.3). In North Carolina in 2015, non-Hispanic African Americans had lower age-adjusted mortality rates than non-Hispanic whites for chronic lower respiratory diseases.

II.2. Financial Impact of Chronic Conditions to Division of Medical Assistance (DMA)

The average cost of a North Carolina Medicaid beneficiary enrolled with CCNC is $372.98 per month, of which $91.74 is pharmacy costs. Approximately 26.5% of the Medicaid population has at least one chronic condition and the average cost of a beneficiary with multiple chronic conditions is $1,402.48 per month.

The table below shows the total paid claims and per member per month (PMPM) costs for those Medicaid beneficiaries enrolled with CCNC with diabetes, ischemic vascular disease, asthma, COPD, hypertension, and mental health diagnoses. The most common chronic condition is mental health, with more Medicaid beneficiaries having mental health conditions than diabetes, ischemic vascular disease, and asthma combined.

CCNC Chronic Condition - JULY 1, 2015 - JUNE 30, 2016			
Chronic Disease	Members	Total Paid Claims	PMPM Cost
Diabetes	42,274	$ 803,208,099.51	$ 1,645.19
Ischemic Vascular Disease	16,122	$ 402,120,583.76	$ 2,166.14
Asthma	138,573	$ 998,508,206.60	$ 614.76
COPD	21,244	$ 495,192,947.83	$ 1,995.39
Hypertension	89,319	$ 1,415,836,590.65	$ 1,372.01
Mental Health	203,139	$ 2,029,353,482.14	$ 849.72

Paid claims are based on date of service and exclude NC Health Choice, Medicaid-Medicare dual eligibles, unenrolled partial eligibles, and deceased patients.

For more information on the prevalence of chronic disease among DMA's CCNC-enrolled population, please see ***Appendix C***.

II.3. Financial Impact of Chronic Conditions to the State Health Plan

While the Plan covers only a subset of the State's population – State employees, teachers, retirees, and State university staff and faculty – the prevalence and financial impact of chronic conditions and related utilization parallels patterns seen across the State. Forty-seven percent of the Plan's members have a chronic condition. Those members account for 76% of claims incurred. The Plan has found that the annual cost for members with chronic conditions is nearly six times the cost for members who do not have any chronic condition-related claims ($9,545 vs. $1,624).[8]

[8] Segal Consulting (2016, July 28). A Utilization Study of the State Health Plan Using CRG Risk Groupers.

Over $1.9 billion was incurred in 2015 for medical and pharmacy services provided for Active and non-Medicare members with at least one of the following conditions: diabetes, asthma, chronic obstructive pulmonary disease (COPD) or hypertension. High prevalence chronic conditions impacting Active and non-Medicare Plan members include: hypertension (10.5% or 131,920), diabetes (7.8% or 41,883), asthma (6.0% or 32,081), and mental illness (29.0% or 155,546). Although low in prevalence, congestive heart failure (0.3%), coronary artery disease (2.4%), and COPD (0.8%) represented the highest medical per member per year cost at $44,179, $18,877, and $16,737 respectively.[9]

III. Assessment of Benefits of Wellness and Prevention Programs

DPH, DMA, and the Plan have compiled an assessment of benefits derived from wellness and prevention programs implemented within the state with the goal of coordinating care. The above agencies have also included, where possible, state, federal, and other funds appropriated to the Divisions for wellness and prevention programs. It is important to note that each agency has distinct levers to use to incent wellness and prevention programs. The Plan can offer premium and copay credits for participating in high value health care activities while DMA has significantly less latitude per federal law and regulation to change member cost sharing. A description of current wellness and prevention activities by each agency and an assessment of benefits and funds is detailed below.

III.1.a. DPH Current Activities for Wellness and Prevention

The Chronic Disease and Injury (CDI) Section supports North Carolinians in achieving and maintaining healthy lifestyles to reduce death and disability from chronic diseases by enabling individuals to make healthy choices through promotion and implementation of evidence- and practice-based interventions, system changes, and policies. This involves strong partnerships with local health directors, local community members, health care providers and systems, and State agencies. Preventing and reducing the burden of chronic disease in North Carolina will reduce unnecessary medical treatment, medications, and hospitalizations.

For the purposes of this report, the following Branches of the CDI Section were included:

- Community and Clinical Connections for Prevention and Health (CCCPH) (formerly Diabetes, Heart Disease and Stroke and Physical Activity and Nutrition),
- Cancer Prevention and Control, and
- Tobacco Prevention and Control.

The CDI Section's current wellness and prevention activities strive to create a North Carolina where:

- All individuals and families have access to healthy foods and environments safe for physical activity;
- Employers, educational institutions, and governmental agencies enact policies that ensure access to healthy foods, beverages, and opportunity for physical activity;
- Individuals live, learn, work, play, and pray in 100% smoke-free/tobacco-free environments;

[9] Segal Consulting (2016, May 23). Using the Dashboard to Monitor the Public Health Profile of the Population.

- Young people learn about the dangers of all tobacco products, including new and emerging tobacco products, and live in communities where any tobacco use is not a social norm;
- Current tobacco users are encouraged and supported by health providers, employers and third party payers to quit and stay quit;
- Tobacco cessation treatment and programs, such as QuitlineNC, are more widely available and accessible, and well supported from the investment of employers and insurers to assist all North Carolinian tobacco users who want to quit;
- Health care professionals routinely address tobacco use and refer patients, as needed, to treatment programs;
- There is sustainable support for multi-component, multi-trigger in-home asthma interventions to help increase asthma management for at risk youth and families with moderate to severe asthma;
- Infrastructure exists to support access to widespread community-based programs which assist people in managing/preventing chronic diseases;
- All North Carolinians have access to and receive the recommended cancer screenings, referrals, and cancer care;
- Health care professionals are aware of, and able to, refer patients with chronic disease(s) to self-management programs that empower individuals to address healthy behaviors (e.g., QuitlineNC; Diabetes Self-Management Program; Eat Smart, Move More, Weigh Less; and CDC recognized Diabetes Prevention Programs; and
- Death and disability from chronic disease are reduced.

DPH CDI key efforts include addressing modifiable health behavior risk factors, improving community and clinical linkages, and surveillance and evaluation.

Addressing modifiable health behavior risk factors

The CDI Section's programs and activities assist North Carolinians to achieve healthy lifestyles and healthy choices through:

Community Mobilization*:* Activities to educate and engage all key sectors of a population in a community-wide effort to address health issues through social, policy, or environmental change. These include:

- The statewide obesity prevention movement, Eat Smart, Move More NC;
- Statewide tobacco prevention health communications combined with education and community mobilization of youth groups and college students;
- Vision 2020: North Carolina's Plan to Reduce the Health and Economic Burdens of Tobacco Use and Exposure to Secondhand Smoke; and
- Task Forces and Advisory Councils (Justus-Warren Heart Disease and Stroke Prevention Task Force, Stroke Advisory Council, Advisory Committee on Cancer Coordination and Control, Colorectal Cancer Roundtable, and Diabetes Advisory Council).

Public Awareness/Education: Education campaigns and messages to increase awareness of the impact of chronic diseases and inform communities, organizations, health care providers, and policy makers of prevention programs and initiatives. Initiatives include:

- Mass reach health communication campaigns to prevent and reduce chronic disease risk: QuitlineNC promotion, teen tobacco use prevention campaign, CDC's "Tips from Former Smokers" campaign, Live Healthy to Be There campaign;
- Promotion of colorectal, breast, cervical, prostate, and skin cancer screenings;
- National Diabetes Prevention Program;
- Diabetes Self-Management Education (collaboration with Medicaid);
- Weight management programs (Eat Smart, Move More, Weigh Less);
- Early childhood and school-based health promotion initiatives;
- Community-based healthy eating and physical activity initiatives, such as access to farmer's markets, awareness of greenways, trails and parks, and breastfeeding promotion;
- Asthma home-visiting program (to assess home-based, multi-trigger, multi- component interventions to reduce asthma risk for children);
- Education on the new scientific findings of the Surgeon General's 50th Anniversary 2014 report on tobacco and health.

Policy**:** Support of policies that promote evidence-based efforts to reduce risk to North Carolinians, such as those that:

- Maintain 100% tobacco free school campuses in all North Carolina School districts and 39 of 58 NC community colleges; provide technical assistance to all colleges that want to go smoke-free/tobacco free;
- Educate and inform the public and decision makers about the evidence-based impact of increasing the price of tobacco products through increases in the North Carolina cigarette/tobacco taxes;
- Eliminate tobacco use in North Carolina mental health hospitals and substance abuse treatment facilities in partnership with the Division of State Operated Healthcare Facilities and Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMHDDSAS);
- Promote smoke-free multi-unit housing;
- Increase public-private partnerships to expand access to evidence-based tobacco treatment through QuitlineNC;
- Support healthy food financing efforts;
- Maintain insurance coverage for diabetes medication, testing supplies, and diabetes self-management education;
- Encourage insurance coverage for diabetes prevention program, and
- Ensure that North Carolina students have access to asthma and diabetes medications.

Improving Community and Clinical Linkages

The CDI Section's programs and activities also enable individuals, community partners, and health system partners to address population risk and chronic disease burden through:

Improvements in the ability of individuals to:

- Quit tobacco use (QuitlineNC);
- Maintain a healthy weight by participating in Eat Smart, Move More, Weigh Less;
- Receive recommended cancer screenings;

- Receive appropriate self-management support in local communities to address diabetes, tobacco use, hypertension, and weight management;
- Improve medication adherence for diabetes or hypertension treatment; and
- Avoid unnecessary hospitalizations and emergency room visits.

Health system changes to improve care delivery through:

- Health professional training (e.g., blood pressure measurement);
- Electronic health record adoption and technical support in partnership with North Carolina Area Health Education Centers (AHEC) and CCNC;
- Diabetes and hypertension quality improvement (partnership with local health departments);
- School health use of the School Health Application;
- Evidence-based tobacco treatment training and consultation to help ensure clinical practice guidelines are followed;
- Promotion of the QuitlineNC fax referral system;
- Promotion of Eat Smart, Move More, Weigh Less and Eat Smart, Move More, Prevent Diabetes on-line classes;
- Promotion of State Health Plan coverage of Diabetes Prevention Programs to enrollees;
- Breast and Cervical Cancer Control and Prevention (BCCCP) and WISEWOMAN triannual provider trainings; and
- Asthma and diabetes education training for school nurses and child care providers.

Surveillance and Evaluation

The CDI Section collects, evaluates and shares data regarding chronic disease and risk factors including:

- North Carolina State Center for Health Statistics (SCHS) Incidence and Prevalence Rates including but not limited to cancer, smoking, secondhand smoke exposure, obesity, diabetes, gestational diabetes, and hypertension;
- Costs of overall chronic disease burden as well as specific costs of tobacco-attributable and obesity/overweight-related diagnoses; and
- Clinical Partner/Provider Assessments (Breast and Cervical Cancer Prevention, WISEWOMAN).

III.1.b. North Carolina DPH State, Federal and Other Funds for Wellness, Prevention, and Screening Programs

The CDI Section receives a majority of its funding to address wellness, prevention, and screening from the Centers for Disease Control and Prevention (CDC); however, there are additional resources available from State appropriations and other sources. During State Fiscal Year 2015-16, the federal resources available to the CDI Section from the CDC for addressing and preventing tobacco use, diabetes, cancer, and heart disease, and stroke were $12,037,896. During this same time period, $3,687,757 was provided by State funds for CDI's wellness, prevention, and screening programs.

III.2.a. NC DMA Current Activities for Wellness and Prevention

DMA contracts with N3CN and the CCNC networks to implement a population health approach to wellness and prevention through the CCNC medical home model. A variety of claims-based adult and pediatric data on wellness and prevention measures are reviewed on a quarterly basis. CCNC's Quality Improvement teams work with the medical homes to improve in these areas.

Call Center/ Coordination of Services

Since November 2011, CCNC has run a call center to support its fourteen local networks' goals and initiatives through telephonic patient contact. Health Educators provide patient education on the importance and utilization of the medical home as well as screen more intense care management needs for referral to the appropriate care manager within their respective network. Several other initiatives have been added to the call center since its inception that further support network goals and assist primary care managers.

N3CN worked closely with designated network staff to develop the call center focus. Decreasing Emergency Department (ED) utilization has been a primary goal that the call center is suited to effectively impact. Patients who are linked to a CCNC provider who have a non-emergent visit to the ED are identified using real time hospital data. Call center staff call a subset of these patients to emphasize the importance of using the medical home and identify any needed follow up or linkages back to local resources within the patient's community. Local resource information provided by the networks includes phone numbers for the Department of Social Services, transportation, crisis lines, and local urgent care clinics. The resource information allows the call center to assist patients more thoroughly and only refer patients who have more intense care management needs to the networks. This support allows the network care managers to better use their time on those patients with the most intensive care needs. From January 2016 through September 2016, there was a 58% reduction in ED rates based upon 1 ED reduction for every 2.4 call center contacts made, with an average of 2,494 contacts made each month.

A second call center initiative provides information to newly enrolled CCNC patients on: appropriate ED use, urgent care utilization, available local resources, information specific to their medical home provider, co-pay for visits or prescriptions, and how to access specialists. This patient education is provided primarily to patients who have been enrolled within the past 30 days, especially any patients who had an ED visit within the past 30 days. Health Educators also complete a Wellness Inventory with adult patients who are willing to complete this telephonic survey during the new enrollee call. RN Health Coaches review these surveys and reach out to patients who may benefit from Health Coaching or Care Management. Wellness Inventories and letters describing patient participation with CCNC programs are also sent to patients' primary care providers.

The Call Center makes over 10,000 call attempts each month. Data are collected on a number of items that can be shared with the networks and also with primary care physicians; Examples of questions include: "Did you call your PCP before going to the ED?", "Did you know that your PCP has a 24-hour phone line?", "Were you able to get your prescription filled?" The data will hopefully be useful in improving access and communication to the medical home for patients.

A third call center initiative offers Health Coaching to the CCNC Medicaid population. Registered

nurses who are also certified Health Coaches work with patients on wellness coaching and disease management coaching. Coaches use their experience and skills to motivate patients to accept responsibility as primary care taker of their own health and wellness by setting and reaching health related goals. Topics covered include tobacco cessation, weight management, stress management, nutrition, exercise, and chronic diseases such as congestive heart failure, diabetes, asthma, chronic kidney disease, and hypertension. Coaches are in contact with local CCNC care managers for any issues that need to be handled locally. Health coaches also work with the Hepatitis C Treatment Adherence Initiative. Coaches contact these patients weekly to assist them with medication adherence, any side effect issues, and education on managing their Hepatitis C virus.

The CCNC call center also works with a multi stakeholder group including primary care providers, hematologists from academic centers, the Public Health Sickle Cell Program, CCNC Pediatrics, behavioral and telephonic support Programs, care management, EDs across the state, the North Carolina College of Emergency Physicians, and the North Carolina Emergency Nurse Association in a system of communication and collaboration to aid in the improvement of care for patients with sickle cell disease. Call center staff help provide a more seamless process for EDs to ensure these patients have local resources by providing one phone number to fax referrals for all sickle cell disease patients treated in the ED. Staff connects patients to their local CCNC networks or to the NC Sickle Cell Program for care management and education. As new programs emerge, as Medicaid and the networks continue to evolve, and as new needs develop, the call center will continue to further refine its processes to assure that staff are reaching patients who are most impactful.

Childhood Obesity

Addressing the rate and prevalence of obesity among 0-5 year olds is an ongoing and important collaborative activity between DMA and N3CN. The project seeks to explore ways that primary care clinicians (in CCNC networks) can leverage the principles of the medical home model to address this issue and, as a result, improve health quality in their respective communities. The workgroup assigned to this project is also preparing for a Maintenance of Certification (MOC-IV) project that has been implemented as part of the DHHS Secretary's initiative on preventing obesity in young children. In addition, regional trainings have been held to equip Network staff in working with pediatric practices on national, best practice protocols for primary care, and motivational interviewing skills for working with families

Behavioral Health/Primary Care Initiative

CCNC's Behavioral Health Integration (BHI) team, in collaboration with the DMA and the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS), works to support the local networks with facilitating a nationally recognized, evidence-based model of integrated care, known as the Primary Care Initiative (PCI). PCI focuses on the care a patient experiences as a result of a team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population. This care may address mental health and substance abuse conditions, health behaviors (including their contribution to chronic medical illnesses), life stressors and crises, stress-related physical symptoms, and ineffective patterns of health care utilization.

In addition, and in support of PCI, the BHI teams work to assist CCNC care managers in working with individuals with mild to moderate behavioral health issues that can be addressed in a primary care setting and knowing how and who to refer to when specialty behavioral health care is needed. BHI teams also work with the specialty system (both at the LME-MCO level and the behavioral health provider level) to connect individuals with serious and persistent mental illness (SPMI) with physical healthcare services.

Quality Improvement

The Quality Improvement (QI) Practice Support teams at CCNC work to strengthen and support the CCNC provider network by engaging practices and assisting them in achieving and sustaining high quality, cost effective, and patient-centered care. A critical element to CCNC's success centers on the ability of the networks to locally implement system changes needed to improve quality in practices. The network clinical directors are instrumental in engaging community providers to implement quality initiatives. Providing credible and provider-friendly reports are powerful tools, particularly when accompanied with benchmarks and comparisons to peers, to help motivate providers to improve processes that will enable them to provide high level care.

Disease Management

CCNC has the following disease management initiatives in place in every CCNC network:

- Asthma
- Diabetes
- Hypertension
- Ischemic Vascular Disease
- Congestive Heart Failure
- Chronic Obstructive Pulmonary Disease (COPD)
- Depression
- Chronic Pain
- Sickle Cell

For each of these initiatives, centralized support is provided to each network in order to deliver the following:

- Clinical expertise and leadership to meet with physicians and medical practices on targeted care and disease management initiatives,
- Clinical staff that are available to meet onsite with medical practices and their staff and provide disease management "101" on targeted diseases,
- Provider toolkits that summarize best practice guidelines and provide office-based tools for adoption and/or customization,
- Provider and patient education materials/templates that can be printed and customized for individual practices (e.g., medical home brochure with space to print the practice name and contact information), and
- A web-based case management information system (CMIS) that supports the case manager's efforts and contains useful tools, such as uniform screenings and assessments for targeted disease initiatives (e.g., quality of life assessment for enrollees with COPD and the Hypertension Self-Management Module).

DMA Assessment of Benefits of Wellness and Prevention Programs

Over the past 7 years, control and treatment of many chronic conditions for beneficiaries in the CCNC enrolled Medicaid population have improved. This is reflected through improved performance on related quality measures. In 2016, CCNC exceeded the 2015 Healthcare Effectiveness Data and Information Set (HEDIS) mean for 9 out of the 13 chronic disease quality measures with benchmarks. A complete listing of the 23 quality measures, 2015 HEDIS benchmark, and CCNC result can be found in the ***Appendix A***. Most of these measures with their results can also be found in the CCNC Annual Quality Report.[10]

III.2.b.NC DMA State, Federal and Other Funds for Wellness and Prevention Programs

The Medicaid program is jointly funded by the state and the federal government. In North Carolina, the federal government pays for 66.88% of program expenditures, known as the Federal Medicaid Assistance Percentage (FMAP). DMA does not receive targeted funding for wellness and prevention programs, although the full range of preventive primary care services and screenings is covered.

III.3.a. State Health Plan Current Activities for Wellness and Prevention

As referenced in the 2015 Chronic Disease legislative report, a variety of programs and resources are made available to members through the Plan's healthy living initiative, NC Health*Smart.* These programs include a 24/7 nurse line, lifestyle management, disease management, a personal health portal, evidence-based tobacco cessation resources, weight management programs and digital modules on a variety of health topics. Additional programs implemented by the Plan in 2015-16 are highlighted below:

1. Diabetes Prevention Program (DPP): DPP is a 12-month comprehensive lifestyle change program that is proven to prevent or delay type 2 diabetes for members at risk. Members can participate in a classroom in their geographical area or in an online real time classroom.
2. Health Engagement Program: In April 2016, the State Health Plan launched the Health Engagement Program (HEP), an incentive-based program for Consumer-Directed Health Plan (CDHP) members. The HEP is designed to increase health and disease management behaviors and defray cost barriers to receiving necessary medical care. The Health Engagement Program consists of two components: Healthy Lifestyles and Positive Pursuits. Healthy Lifestyles offers any CDHP member who completes coaching calls, and/or tracking of caloric intake or physical activity the ability to earn health reimbursement account (HRA) funds. Through Positive Pursuits, CDHP members with one or more of seven identified chronic conditions can also earn HRA funds for completing disease management activities specific to each diagnosis. The conditions include: chronic obstructive pulmonary disease, asthma, coronary artery disease, congestive heart failure, hypertension, high cholesterol, and diabetes. Immediately after the HEP program launched, 240 members enrolled. As of September 2016, 2,392 members have enrolled (2,276 in Healthy Lifestyles and 377 in

[10] This report is public record and can be requested from the NC DHHS Office of Communications at public.records@dhhs.nc.gov.

Positive Pursuits). The top three chronic conditions among Positive Pursuits members are high cholesterol, hypertension, and asthma. As of July 1, 2016, participating members earned a total of $38,630, primarily for completion of coaching calls, primary care provider visits, a lipid panel, blood pressure monitoring, and physical activity tracking. Evaluation plans for the clinical and financial impact of the program are in development.

3. RivalHealth: RivalHealth is an online, fitness-based wellness platform that is available to members on the CDHP or who are engaged through a qualifying Wellness Champion worksite. RivalHealth offers daily exercise and nutrition plans, access to fitness videos, and a unique system for measuring fitness.
4. Diabetes Resource Center: Plan members have access to a Diabetes Resource Center on the Plan's website which provides information and resources to help members prevent, manage, or slow the progression of prediabetes and diabetes.
5. Wellness Wins Pilot Initiative: The Plan developed the Wellness Wins pilot initiative to create a replicable model for enhancing member health through engagement of primary care practices, worksite wellness programs, and utilization of community resources. Through analysis, the Plan identified members in Greene, Lenoir, and Jones Counties as having a higher prevalence and burden of key chronic conditions. As a result of this pilot, it is the Plan's intent to empower members to be actively involved with their health and create a culture that supports healthy behaviors through: 1) sustainable wellness programs; 2) increased member awareness of and engagement in their health; and 3) increased member engagement with their primary care provider.
6. Choosing Wisely Campaign: The Choosing Wisely Campaign seeks to support physicians and patients in their efforts to make smart and effective health care choices. The State Health Plan has partnered with the North Carolina Healthcare Quality Alliance (NCHQA) to reduce overuse of four of the tests and treatments identified by the Choosing Wisely Campaign. NCHQA was awarded grant funding by the Robert Wood Johnson Foundation through the American Board of Internal Medicine. The scope of this initiative will be educating clinicians and Plan members statewide about the Choosing Wisely Campaign, with an emphasis on reducing the targeted tests and treatments listed below:
    - Use of antibiotics in the treatment of viral infections in adults;
    - Dual-energy X-ray absorptionmetry (DEXA) scans to measure bone density in women younger than 65 and men younger than 70;
    - Carotid artery stenosis screening in asymptomatic patients; and
    - Annual pap tests for women between the ages of 30 and 65.

Furthermore, health management and wellness programs continue to offer solutions to engage employees across the entire health spectrum to improve the health of individuals, from those with complex health needs to those who are at risk for developing conditions later in life. Specifically, NC Health*Smart* showed a third consecutive year of continual improvement on 19 clinical measures which included specific measures for asthma, diabetes, cancer screening, and heart failure readmissions.

In addition, in an effort to make it easier for members to stay healthy and take their medications as directed by their provider, the Plan provides options to receive preventive and maintenance medications at reduced costs.

Although *not required* in 2016 due to grandfather status, the Plan continues to cover preventive services and medications, as defined under the Affordable Care Act (ACA) at 100% under the Enhanced 80/20 Plan. In 2017, the Enhanced 80/20 plan will be considered a non-grandfathered plan, like the CDHP, which *require* ACA preventive services and medications to be covered at 100%. The Plan also covers certain medications, identified as CDHP preventive medications, without requiring the member to meet the deductible first. These lower member cost shares offer members the ability to afford their medications and promote long term adherence to a medication treatment regimen.

State Health Plan Assessment of Benefits of Wellness and Prevention Programs

The Plan evaluates the impact of its population health management efforts annually. The risk score of members who participated in the population health efforts trended 0.2% lower than the population who did not participate. When considering the three utilization metrics of inpatient admissions, readmissions, and emergency room admissions, the trend was favorable for those who participated in health and wellness resources offered by the Plan. The rate of change for admissions per thousand from 2013 to 2014 was 31.3% better for engaged members, readmissions trended 10% better, and ER visits per thousand trended 9.7% better for the same population.

In 2014, the Plan's health management and wellness programs contributed to managing chronic conditions, reducing health risks, and improving the overall health of the membership, generating savings of approximately $23 million for the Plan. Measurable improvement in the health of large populations not only translates into decreased medical costs for employers but also demonstrates the effectiveness of population health management programs. These results validate the finding that these population health management programs[11] can enable proactive, sustainable, outcomes in the future.

III.3.b. State Health Plan State, Federal and Other Funds for Wellness and Prevention Programs

The General Assembly does not appropriate funds directly to the State Health Plan. Instead, it provides funds to State agencies, universities, community colleges, local school systems, and the retirement system to pay an "employer contribution" or monthly premium on behalf of employees and retirees. As such, the Plan is 100% receipt-supported with premium receipts, including employer contributions and amounts paid by employees and retirees for their own and dependent coverage, representing nearly all Plan revenues.

The Plan does not receive dedicated funds for wellness and prevention programs; however, a portion of its administrative budget each year is devoted to population health management and wellness initiatives. In State Fiscal Year (SFY) 2015-2016, actual expenditures for the Plan included $27.3 million for disease and case management contracts and $960,000 for wellness initiatives such as smoking cessation, obesity prevention, and worksite wellness efforts. The Plan's administrative budget for SFY 2016-2017 is $31.6 million and $6.9 million respectively.

[11] Segal Consulting (2016, July 28). A Utilization Study of the State Health Plan Using CRG Risk Groupers. Segal Consulting (2016, May 23). Using the Dashboard to Monitor the Health Profile of the Population.

IV. Level of Coordination among Agencies

DPH, DMA, and the Plan coordinate on some activities, programs, and public education for the prevention, treatment, and management of chronic health conditions.

Cross Cutting

DPH CDI developed an ad campaign to address areas of focus. The Tobacco Prevention and Control Branch, Cancer Prevention and Control Branch and Community and Clinical Connections for Prevention and Health Branch (CCCPH) work on the related issues of diabetes, cardiovascular disease, and cancer which share common risk factors. The key behavior changes for heart disease, stroke, cancer, and diabetes prevention and management overlap. Research tells us that quitting tobacco, eating healthy, being physically active, getting health screenings, and tracking health numbers can have a major impact on reducing the risk for **all** of these conditions. Since the behaviors to reduce the risk of these conditions are the same, a media campaign was developed that can be used by anyone interested in **any of** or **all of** these conditions.

The media campaign seeks to raise awareness about decreasing risk of chronic disease through:

- Engaging in healthy behaviors
- Monitoring health numbers
- Preventive screenings

Materials have been developed in both Spanish and English in various media formats. The campaign directs the audience to the Live Healthy to Be There website (http://preventchronicdiseasenc.com/) which offers strategies and tips to help the public improve their health.

In another cross cutting effort, nutrition and health professionals from the CDI Section and North Carolina State University partnered to create the www.medinsteadofmeds.com website and accompanying resources. The goal of the website is to promote a Mediterranean-style eating pattern which has been shown to promote health and protect against chronic diseases such as heart disease, high blood pressure, diabetes and high cholesterol. The website provides recipes that incorporate basic principles of a Mediterranean way of eating and includes resources such as videos and a downloadable PDF that shows seven simple steps to help someone eat the Mediterranean way. As part of the website launch, a webinar was conducted in September 2016 and attended by 325 people with another 400 watching the recorded session. Additional webinars are planned for December 2016 – March 2017.

Tobacco

Evidence-based treatment is successful at preventing tobacco use among youth and helping tobacco users who want to quit.[12] Since most North Carolina tobacco users are trying to quit (62.8%[13]), and tobacco use is extremely addictive and contributes to multiple chronic conditions, all NC tobacco users need access to evidence-based tobacco treatment, including coaching and

[12] http://www.thecommunityguide.org/tobacco/index.html
[13] NC Behavioral Risk Factor Surveillance System 2015

FDA approved medications. These interventions combined can double or triple a person's chances of quitting, over quitting on their own. Further, research indicates that access to and use of the full course of nicotine replacement therapy (NRT) and combination medications therapy are effective in boosting quit rates.

Current state and federal funding allows approximately 1% of the North Carolina population who smoke to access QuitlineNC, including both Plan and Medicaid members. To support members with quitting tobacco and electronic nicotine delivery devices, the Plan provides free nicotine replacement therapy (NRT) products including over the counter (OTC) nicotine gum, patches, and lozenges to members ages 18 and over who participate in the QuitlineNC multi-call program. The Plan has provided the option of a combination cessation therapy of nicotine patches and nicotine gum since September 2013 and added the use of nicotine lozenge combination therapy in January 2015. DMA also covers these various smoking cessation therapies.

The State Health Plan 7-Month Evaluation Report for 2013-2014 found that 47% of respondents received combination therapy. Plan members were significantly more likely to report that they had used medications to help them quit (86%) and over half (59%) of Plan respondents who received patches from QuitlineNC reported using "almost all" or "all" of them.[14] This is a positive finding as the combination of counseling and NRT or other pharmacotherapy is more effective than either alone.[15]

In addition to OTC NRT, the Plan offers prescription generic drugs such as Chantix, available for $0 cost share for 6 months to members in the Enhanced 80/20 Plan and Consumer Directed Health Plan (CDHP). The Plan will continue to design benefits to support and incent tobacco cessation among its membership. The vision for reducing costs and improving lives is to promote evidence-based tobacco treatment for all Plan members and Medicaid enrollees.

Obesity/Overweight

Currently all active and early retiree Plan members have access to Eat Smart, Move More, Weigh Less which is a 15-week adult weight management program that uses evidence-based strategies for weight maintenance. Professionals from North Carolina State University and DPH developed and manage the program. Methods for planning and tracking lifestyle behaviors along with mindful eating concepts are included in each lesson. Evaluation of the program indicates that participants learn strategies to eat smart, move more and, as a result, reduce weight, reduce blood pressure, and are more mindful about health behaviors. [16],[17]

The CDI Section produced a set of walking ads – The Eat Smart, Move More NC walking ads are a subset of the Eat Smart, Move More NC (I Will Move More) ads. They feature tested messaging

[14] Alere Wellbeing, Inc. (2015, February 27). North Carolina State Health Plan 7-Month Evaluation Report 2013-2014.
[15]Fiore, M. C., Jaen, C. R., Baker, T. B., et al. (2008). *Treating Tobacco Use and Dependence: 2008 Update*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service.
[16] Dunn C, Kolasa KM, Vodicka S, et al. Eat Smart, Move More, Weigh Less, a weight management program for adults - revision of curriculum based on first-year pilot. Journal of Extension. 2011;49(6). Available at http://www.joe.org/joe/2011december/pdf/JOE_v49_6tt9.pdf

[17] Dunn C, Whetstone LM, Kolasa KM, et al. Delivering a Behavior-Change Weight Management Program to Teachers and State Employees in NC. Am J Health Promotion 2013;27(6):378 – 383.

from "Every Body Walk!" that emphasizes the opportunity to build stronger relationships and human connections by walking with others. They also support the Surgeon General's Call to Action to Promote Walking and Walkable Communities. Partners are encouraged to co-brand ads by adding their logo next to the Eat Smart, Move More NC logo.

Hypertension, Cardiovascular Disease (CVD), and Stroke

DPH supports the legislatively directed Justus-Warren Heart Disease and Stroke Prevention Task Force and its Stroke Advisory Council. The Task Force, as part of its mission, works with diverse stakeholders and partners across the state in the development and facilitation of *The North Carolina Plan for the Prevention and Management of Heart Disease and Stroke*. The State Health Plan has been an active partner in the development and implementation of this comprehensive approach. In addition, DMA is also a significant partner to this statewide cardiovascular work, with a seat on the Justus-Warren Heart Disease and Stroke Prevention Task Force held by the Director or his/her designee.

Hypertension is a leading risk factor for heart disease and stroke. It is also the leading chronic disease diagnosis for Plan enrollees. Collaboration between the Plan and DPH to address hypertension has included a number of initiatives (e.g., hypertension awareness and education campaigns, sharing of educational materials, and participation on an ad hoc hypertension committee in conjunction with other key stakeholders). These efforts have targeted both health care providers and consumers.

With federal funding from CDC, the CDI Section has worked with the Plan to summarize the 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults (Joint National Committee 8) and the American College of Cardiology and American Heart Association 2013 Cholesterol Guidelines into a single document. This document has been shared with the medical and dental directors of the North Carolina Community Health Center Association. This document will also be shared with Plan providers, DMA, CCNC networks, and the North Carolina Academy of Family Physicians to guide quality improvement in all practice settings.

The CDI Section created Self-Measured Blood Pressure (SMBP) monitoring protocols and toolkits to implement interventions that promote and support self-monitoring of blood pressure by patients diagnosed with hypertension. The clinical version of the protocol provides an implementation plan for health care providers who want to support SMBP in their practices and health care systems. Another version of the protocol is available for public health practitioners to implement SMBP interventions across the community such as in worksites and faith organizations.

The CDI Section partnered with CCNC in their Pharmacy Home project to establish Pharmacy Centers of Excellence in areas of diabetes prevention, diabetes management and hypertension management. As a part of this program, pharmacies collaborate with local health departments accredited by the North Carolina Diabetes Education Recognition Program to provide diabetes self-management education, become trained as lifestyle coaches and deliver the Diabetes Prevention Program, and become trained as hypertension coaches and deliver the Check Change Control Program. The CDI Section provides training, tool kits, and technical assistance to pharmacy staff to implement these evidence-based programs and improve their patients' health outcomes. Currently there are 20 pharmacies participating, with plans to expand this program in the future.

Asthma

DMA and the Plan are working with the Asthma Alliance of North Carolina and DPH to increase the utilization of evidence-based asthma management practices and strategies as per CDC recommendations. The Department of Housing and Urban Development hosted a North Carolina Forum on Sustainable In-Home Asthma Management in September 2016 to learn about state and national efforts to build sustainable support for evidence-based in-home asthma interventions.

Diabetes

The agencies have many initiatives in place and under development specifically addressing the prevention and management of diabetes.

The CDI Section in partnership with NC State University completed the development of Eat Smart, Move More, Prevent Diabetes, an online Diabetes Prevention Program (DPP) in October 2015. The program follows CDC requirements for a national DPP and has received CDC recognition. Eat Smart, Move More, Prevent Diabetes is a lifestyle change program based upon strategies proven to prevent or delay the onset of type 2 diabetes. It is a 12-month program and is delivered using synchronous, distance education technology. This allows participants to benefit from real-time, interactive sessions with a live instructor. This program is currently being offered as a covered benefit by the Plan for its members.

The following coordinated initiatives were also implemented to improve diabetes prevention and management:

- The Plan approved the Diabetes Prevention Program (DPP) as a benefit for active employees, non-Medicare retirees, Medicare-primary 70/30 members, and their dependents over the age of 18;
- DPH developed and continues to expand the network of onsite providers of the Diabetes Prevention Program (diabetesfreenc.com);
- The Plan implemented a campaign to increase awareness of prediabetes and diabetes, and promote evidence-based diabetes prevention self-management education among North Carolinians;
- The Plan launched a Diabetes Resource Center on shpnc.org to provide education and resources to help individuals prevent, manage, or slow the progression of prediabetes and diabetes;
- The Plan distributed an educational postcard on prediabetes that included the CDC Prediabetes Paper Screening to 331,626 Plan members;
- The Plan distributed 7,433 introductory letters to North Carolina providers announcing the coverage of the Diabetes Prevention Program for Plan members; an additional 1,687 providers also received promotional posters for the Diabetes Prevention Program based on the number of Plan members who were attributed to their practice; and
- The Plan established a provider feedback loop to notify providers of patients participating in the Diabetes Prevention Program who identified them as their primary source of care; and
- DMA began the process of revising Clinical Coverage Policy 1A-24, Diabetes Outpatient Self-Management Education (DSME), to allow for reimbursement for DSME that is recognized by the American Association of Diabetes Educators.

The agencies have many additional initiatives in place and under development specifically addressing the prevention and management of diabetes. These initiatives include:

- Collaboration between CCNC and DPH through staffing at local health departments to provide recognized diabetes self-management education; and
- Plans to increase marketing of diabetes self-management education to the Medicaid population.

Cancer

The Breast and Cervical Cancer Prevention and Treatment Act of 2000 (Public Law 106-354) allows states to extend Medicaid eligibility and full Medicaid benefits to otherwise uninsured women under age 65 who are identified through the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) and in need of treatment for breast or cervical cancer (including precancerous conditions). Medicaid-funded services to eligible women are coordinated through the DPH NC Breast and Cervical Cancer Control Program (BCCCP), which is the NBCCEDP grantee. NC BCCCP coordinates this program with DMA's Medicaid program. DMA provides formal notice to applicants of the result of the eligibility determinations and offers the opportunity to have unfavorable determinations reconsidered, according to Medicaid's hearings and appeals process.

Worksite Wellness

The CDI Section works with partners across the state to help businesses assess their health promotion programs, identify gaps and prioritize high impact strategies to prevent heart disease, stroke and related conditions. As of September 2016, 50 worksites (large and small) had completed a worksite assessment (scorecard). Through the CDC Scorecard, 94 health priority questions have been identified and 40 associated changes completed. Information about the Scorecard and associated resources to facilitate workplace wellness activities can be found at www.workwellNC.com

The Plan has also been leveraging the partnership with DPH to provide QuitlineNC, DPP, and worksite wellness support through the Wellness Wins pilot. In October 2016, DPH created the "Live Healthy to Be There" campaign to promote healthy behaviors among North Carolinians and improve outcomes across the major chronic conditions of diabetes, heart disease, stroke, and cancer. These products are available for use and co-branding by partners and the Plan intends to co-brand and utilize these resources among Plan members through multiple media modes beginning in 2017.

V. Action Plan

V.1. Proposed Action Steps

To reduce the financial impact of the chronic health conditions that are most likely to cause death and disability, the collaborative efforts of the DPH, DMA, and Plan will address factors of care coordination of multiple chronic health conditions in the same patient.

V.1.a.Reduction of Hospital Readmission Rates

Division of Medical Assistance

Through its contract with N3CN, DMA seeks to reduce avoidable hospital readmission for beneficiaries. In a study conducted on hospital readmissions among Medicaid beneficiaries, it was determined that thirty-day hospital readmission rates for Medicaid beneficiaries also correlate directly with the number of chronic conditions these beneficiaries have, ranging from 13% for patients with a single chronic condition to 36% for those with ten or more. [18]

CCNC's award winning Transitional Care Program has proven to be effective for reducing future admissions for the most complex patients and for reducing hospital admission and readmission rates. In addition, many tools and algorithms for identifying the highest-yield transitional care opportunities have been developed. Patients are prioritized for transitional care based on the severity of their chronic conditions and accumulated evidence that care management has a proven impact on reducing readmissions for similar patients. Priority patients are those who are high risk for readmission after hospitalization and would be highly impacted by care management. Their readmission risk is based on their Clinical Risk Group (CRG), developed by 3M Health Information Systems, which is calculated using available diagnosis claims information. CCNC has an evidence based analytics model that then calculates a *Transitional Care Impactability Score*, which represents the incremental dollar savings PMPM in the follow-up period, when the patient receives the highest-intensity transitional care intervention (including a home visit) relative to no transitional care intervention. Transitional Care Priority patients are intended to be approached for care management during the hospital stay and/or immediately following hospital discharge.

State Health Plan

In 2015, the hospital admission rate per 1,000 active Plan members was 52 with an all cause 30-day readmission rate of 106 per 1,000. The average cost of an admission was $21,688. In addition, emergency department costs represented $137 million in annual medical costs (4.3% of spend) for the Plan. Reducing avoidable hospital admissions and readmissions is a strategic initiative for the Plan.

In 2014, the Plan entered into a partnership with the North Carolina Hospital Association to receive daily feeds of Admission Discharge and Transfer (ADT) data to the Plan's population health management vendor, AHM, to facilitate identification of members who are considered to be high priority to receive transitional care and case management. In January 2015, AHM began receiving ADT feeds and initiated the Plan's Transition of Care (TOC) program. In addition to the TOC program, the Plan has monthly meetings with its primary vendors, Blue Cross and Blue Shield of North Carolina (BCBSNC), AHM, and BCBSNC's subcontractor, Beacon Health, to coordinate care and case management for high priority members with multiple chronic conditions, including behavioral health diagnosis, to reduce adverse events such as hospital admissions and readmissions. This coordination effort between the Plan

[18] Gilmer T, Hamblin A. Hospital readmissions among Medicaid beneficiaries with disabilities: identifying targets of opportunity. Hamilton (NJ): Center for Health Care

vendors will continue.

Division of Public Health

The Division of Public Health's role in reduction of hospital admissions and readmissions is to prevent and reduce North Carolina's chronic disease burden. DPH does this through monitoring and tracking; environmental approaches that promote health and support and reinforce healthful behaviors (statewide in schools and childcare, worksites, and communities); health system interventions to improve the effective delivery and use of clinical and other preventive services; and strategies to improve community-clinical linkages ensuring that communities support and clinics refer to programs that improve management of chronic conditions.

V.1.b. Development of Transitional Care Plans

Division of Medical Assistance

CCNC networks partner with hospitals in all 100 counties in an effort to decrease readmission rates. Of North Carolina's approximately 150 hospitals, over two-thirds, including all the large volume facilities, provide CCNC networks with twice-a-day ADT (admission/discharge/transfer) feeds detailing clinical encounters with program participants, while many others provide access to hospital information systems. Many participating hospitals also host embedded CCNC care managers. These elements of real-time access enable care management teams to interact with patients and provide transitional care interventions in a timely manner, which is critical in facilitating successful transition between care setting and preventing re-admissions.

Key components of the CCNC Transitional Care Model are:

- Face-to-face patient encounters, including visits to patient homes;
- Medication management;
- Patient self-management notebook and patient education;
- Follow-up calls and contact; and
- Post-discharge follow-up with the primary care provider or specialist in a timely manner.

Hospitalized patients are identified as "Transitional Care Priority" if they fall into disease and severity clusters that have been found to benefit from transitional care. Transitional care priority clients receive additional support following an inpatient stay through the CCNC Transitional Care program. CCNC Care Managers are embedded in large hospitals and routinely round at smaller ones to visit patients at the bedside, interact with the hospital team, and coordinate discharge planning. Local care managers perform post-discharge home visits to perform medication reconciliation (with a full review of the client's medications by a network pharmacist when necessary), educate patient and family on "red flags" that could signal complications and the appropriate actions to take, and explain needed follow-up activities to ensure that the client complies with discharge instructions and sees their primary care provider soon after hospital discharge.

As discussed above, through partnership with the North Carolina Hospital Association, access to the hospital admission, discharge, and transfer (ADT) file feeds has allowed the Plan and its population health management vendor (AHM) to develop criteria for identification of members who can benefit from transitional care. These efforts have also led to the development of a robust Enhanced Transition of Care program for its membership. The goal of this Enhanced Transition of Care program (TOC) is to pair targeted members post-discharge with care managers to coordinate care to avoid hospitalizations and emergency department visits as well as improve members' quality of care and their health care experience. Since receipt of real-time ADT feeds in January 2015 from 48 participating acute care facilities, AHM has identified 962 members for disease and case management in 2015 and 833 members to date in 2016. Of the members who were successfully contacted, 430 received TOC services in 2015 and 292 received services thus far in 2016, with a 97% engagement rate. AHM has added embedded care managers to their telephonic outreach nurses to meet with identified members face-to-face while they are hospitalized. To date, AHM care managers are embedded in 37 hospital facilities statewide, visiting 16 members in 2015 and 52 to date in 2016. Additionally, AHM care managers have referred 430 identified members in 2015, and 682 members to date in 2016 to the newly implemented Medication Therapy Management (MTM) program. Through MTM, a dedicated pharmacist counsels members to maximize the adherence to and effectiveness of their medications. Reports describing clinical and financial outcomes are in development.

The Plan, through its third-party administrator, BCBSNC, offers transitional care to members who are admitted to the hospital for surgery. A comprehensive member assessment is provided prior to surgery as well as a post-operative assessment to re-assess member needs and to avoid possible complications and readmissions. BCBSNC works with the Plan's Population Health Management vendor, AHM, to ensure the member's needs are met before leaving the hospital, including medication reconciliation and verifying follow-up appointments have been scheduled with the member's provider. The Medicare population enrolled in either the Humana or the United Healthcare Medicare Advantage Plans is contacted within 72 hours of discharge to identify needs and for engagement with a case manager if needed.

Division of Public Health

The Division of Public Health's role in transitional care plans is to support the work of DMA and the Plan to prevent and reduce North Carolina's chronic disease burden through environmental approaches that promote health and support and reinforce healthful behaviors (statewide in schools and childcare, worksites, and communities), collaborations to support health system interventions, and strategies to improve community-clinical linkages.

V.1.c. Implementation of Comprehensive Medication Management

Division of Medical Assistance

As part of DMA's contract with N3CN for an enhanced primary care management system, pharmacists are part of the care team to provide medication management services. Pharmacists review medication reconciliations completed by care managers and perform comprehensive reviews to communicate medication issues to a patient's primary care provider with the goal of

improving the quality of care, reducing preventable hospital readmissions, and emergency department (ED) visits. Medication management is the main focus of the clinical pharmacist's activities and is performed for both transitional care and identified chronic care patients.

Pharmacists working with CCNC also collaborate closely with care managers to jointly provide medication management services to patients at risk of poor outcomes associated with medication use. This includes patients with:

- Polypharmacy;
- Low adherence to chronic medications;
- Medication-related gaps in care; and
- Presence of medications that are high risk or require intense monitoring.

Medication management is the process of gathering, organizing, and sharing medication use information in order to identify and resolve duplications, interactions, possible adverse events, poor adherence, or other suboptimal medication-taking behavior(s). Medication management is a key function of care management. Pharmacists serve as a resource for medication management as part of the care management team. Medication use information can be obtained from multiple sources including the patient/caregiver, medical chart, prescription fill history, and discharge instructions. Pertinent findings regarding medication use must be communicated to the primary care provider and/or all applicable community-based providers. Follow-up on clinically relevant, identified medication use issues is essential as the failure to do so can result in poor patient outcomes, including re-hospitalization.

Medication reconciliation consists of the following steps:

- Identification of adherence issues;
- Identification of discrepancies between medication lists;
- Clarification and follow-up of discrepancies with the patient/caregiver;
- Clarification and follow-up of discrepancies with primary care provider and other healthcare team members;
- Follow-up communication of information and education to the patient/caregiver; and
- Follow-up communication of findings/recommendations to the Network Pharmacist.

At a minimum, this process identifies duplications and/or discrepancies between the gathered medications lists arising from uncoordinated care or patient non-adherence. The patient/caregiver interview takes place in the home, clinic, or via telephone utilizing the medication list(s) to enhance the gathering of patient drug use information.

If any medication discrepancies that could negatively impact patient outcomes are identified, it is the responsibility of the Primary Care Manager (PCM) to follow up with the appropriate care team member, including physicians, and to document their efforts in CMIS/Pharmacy Home. The PCM or Pharmacist is also responsible for providing any pertinent information, including education, to the patient/caregiver.

State Health Plan

Comprehensive medication management is defined in the Patient-Centered Primary Care Collaborative[19] as the standard of care which ensures each patient's medications are individually assessed to determine that each medication is appropriate for the patient, effective for the medical condition, safe to be given with the comorbidities and other medications being taken, and able to be taken by the patient as intended. It also includes an individualized care plan that achieves the intended goals of therapy with appropriate follow-up to determine actual patient outcomes. Currently, the Plan's medication management initiatives include the promotion of medication adherence through benefit design and medication therapy management (MTM) offered through the Plan's case management vendor for high risk population. Annual MTM reviews are also available to Medicare eligible members through the Plan's Medicare Advantage vendor.

Medication Therapy Management (MTM) is offered to Plan members using the ActiveHealth Management vendor. Members, identified based on high risk or high utilization, are offered medication management as a voluntary component in the Plan's transition of care and chronic disease case management programs.

The Medicare Advantage Plans offer MTM for the Plan covered members. United Healthcare offers an annual comprehensive medication review of a member's therapy by a clinician, typically a pharmacist. United Healthcare uses a vendor to administer these reviews telephonically.

The Plan recognizes the benefits of targeted medication therapy management to help patients achieve improved clinical and therapeutic outcomes. The Plan's goal is to specifically address members managing complex chronic diseases or at high risk due to recent hospitalization. Historically, the Plan has been challenged in offering these services due to varying reimbursement methodology for pharmacists or vendors and procurement issues. In order to effectively expand medication management services to more members and additional care settings in the future, the Plan will collaborate with the new pharmacy benefits manager CVS/Caremark to look for future opportunities.

In March 2015, AHM implemented a Medication Therapy Management program through their population health management services. The goal of this program is to improve medication management and adherence among high risk members identified through the Enhanced Transition of Care program. Since its inception, AHM care managers have referred 430 members to MTM in 2015 and 682 members to date in 2016. The primary MTM service provided was comprehensive medication review. Reports describing clinical and financial outcomes are in development.

[19] Nace D, Grundy P, Nielsen M, et al. The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes. Patient Centered Medical Home Collaborative June 2012 http://www.pcpcc.org/sites/default/files/media/medmanagement.pdf

Division of Public Health

The Division of Public Health's role in the implementation of comprehensive medication management is to support the work of DMA and the Plan to prevent and reduce North Carolina's chronic disease burden through implementing and supporting best practices for prevention interventions to reduce the risk factors for chronic disease and the need for chronic disease medications.

V.1.d. Quality Standards

Division of Medical Assistance

DMA approves CCNC network use of performance measurement and feedback to help meet its goals of improving the quality of care for Medicaid beneficiaries while controlling costs. Quality measurement is intended to stimulate or facilitate quality improvement efforts in CCNC practices and local networks and to evaluate the performance of the program as a whole. Goals are to identify a broad set of quality measures with:

1) clinical importance (based on disease prevalence and impact, and potential for improvement),
2) scientific integrity (strength of evidence underlying the clinical practice recommendation; evidence that the measure itself improves care; and the reliability, validity, and comprehensibility of the measure),
3) implementation feasibility, and
4) synergy with other state and national quality measures or quality improvement programs.

Quality measures are reviewed on an annual basis, and final measures are approved by vote of the CCNC Clinical Directors. Patients with any of four qualifying conditions (diabetes, asthma, heart failure, or ischemic vascular disease) are eligible for the sample. Sampled patients with multiple co-morbidities (including hypertension) are audited for all confirmed conditions.

In 2016, CCNC reported on a total of 62 measures at the practice, county, network, and program level. The measures are distributed across chronic conditions as follows:

- Asthma – 4 measures
- Ischemic Vascular Disease – 2 measures
- Hypertension – 3 measures
- Diabetes –7 measures
- Heart Failure – 6 measures
- Adult Cancer Screenings – 3 measures
- Pediatric Preventive Services – 16 measures
- Behavioral Health – 5 measures
- Maternal Health – 12 measures
- Cost and Utilization – 4 measures

A list of the 62 measures can be found in ***Appendix B***. Quarterly and/or annual results of our measures are found in the reports sent to DMA (Quarterly DMA Dashboards and Annual Quality

Report).

State Health Plan

The Plan aims to continue overall improvement of health for its members while reducing costs. Quality metrics related to asthma, diabetes, heart disease, and preventive care are monitored on an ongoing basis. Moreover, the Plan holds the PHM vendor to performance guarantees associated with diabetes, asthma, heart failure, breast cancer screening, colorectal cancer screening, LDL (cholesterol level) monitoring, and nephropathy monitoring.

Division of Public Health

The DPH's role in the implementation of quality standards is to support the work of DMA and the Plan to prevent and reduce North Carolina's chronic disease burden. Examples of these joint efforts include the attention to clinical community systems to support those individuals who use tobacco, are overweight, or who have hypertension or diabetes. This work focuses on strategies to improve community-clinical linkages ensuring that communities support and clinics refer patients to programs that improve management of chronic conditions.

V.2. Coordination

DPH, DMA and the Plan have a long history of coordination and collaboration in order to prevent and reduce risk factors that lead to North Carolina's leading chronic disease burdens, as well as manage and treat those individuals with chronic diseases. Current and future coordination among the three agencies includes:

All Chronic Conditions

- Continue to manage QuitlineNC such that Plan and Medicaid-eligible tobacco users who want to quit have access to evidence-based tobacco cessation services. This includes continued provision of technical assistance to improve the quality of those services.
- Continue to promote QuitlineNC (1-800-QuitNow) to ensure all Plan and Medicaid-eligible tobacco users who want to quit are aware of this service, through clinic referrals, earned media, social media, and other communication channels.
- Continue to promote and deliver evidence-based weight management programs such as Eat Smart, Move More, Weigh Less among Medicaid beneficiaries, Plan members, and other North Carolinians who are at-risk for chronic conditions due to weight maintenance issues.
- Expand and refine the current transition of care programs offered to members to address inpatient admission, readmission, and emergency department admission rates among Plan members and Medicaid beneficiaries.
- Co-brand and utilize "Live Healthy to Be There" advertisement campaign materials and products developed through DPH that are aimed to decrease risk for cancer, diabetes, heart disease, and stroke.
- Promote chronic condition self-management programs among Plan members.
- Explore continued opportunities for pharmacists to work in conjunction with physician practices to support the management of chronic conditions.

Hypertension

- DMA and the Plan to collaborate with DPH to promote self-monitoring of blood pressure and hypertension management coaching to members.
- The Plan to promote self-monitoring of blood pressure through video tutorials and at worksites.

Diabetes

- Develop and disseminate a toolkit for workplaces to use for Diabetes Days/Diabetes Week at Work, March 2017.
- In partnership with the American Academy of Family Physicians (AAFP), promote DPP (diabetesfreenc.com) to family practice providers through new communication avenues.
- Promote action items identified in the Diabetes Prevention and Management Guide 2015-2020.

Behavioral health and substance misuse

- Adopt a chronic disease management approach to address behavioral health and substance misuse conditions.
- DMA and the Plan to collaborate with DPH and community organizations to implement a multi-pronged strategy to decrease opioid misuse/overuse.
- The Plan to promote Mental Health First Aid training programs among workplace wellness leaders

V.3. Expected Outcomes

During the succeeding fiscal biennium, DPH, DMA, and the Plan seek to achieve the following expected outcomes from the aforementioned action plan.

Division of Public Health

- Increased referrals to, reimbursement for, and participation in, disease management and prevention programs (Diabetes Self-Management and Diabetes Prevention Programs);
- Cost savings in health care utilization as risk factors (e.g., exposure to secondhand smoke, asthma triggers, obesity, hypertension) decrease;
- Increased early detection and screening (tobacco addiction, breast, cervical cancer, CVD risk factors, renal disease);
- Decreased need for medications as chronic conditions improve;
- Increased awareness of QuitlineNC and utilization of evidence-based tobacco treatment by Medicaid beneficiaries and Plan members;
- Increased reimbursement for diabetes self-management, diabetes medications, and weight loss/maintenance programs (Eat Smart, Move More, Weigh Less); and
- Reduced smoking and tobacco use prevalence for adults, youth, and pregnant women.

Division of Medical Assistance

- Decreased hospital readmissions;
- For patients receiving transitional care interventions, there is a 20% reduction in readmissions, and 12-month readmission rates are consistently lower, regardless of clinical severity. For every six patients receiving the intervention, one hospital readmission is avoided. CCNC's readmission rate during state fiscal year 2016 was 58.7% below the expected rate given the clinical complexity of the population. That was an improvement from the 2014 readmission rates, which were 46.0% below the expected rate.
- Increased cost savings from reduced hospital and ED utilization;
    - Total cost of care for CCNC enrollees is currently 5.8% below expected, given the current clinical complexity and based on performance in 2012. This corresponds to inpatient admissions and ED visit rates that are 26.7% and 6.5% below expected, respectively, during state fiscal year 2016.
- Improved compliance with medication regimens;
- Decreased medication discrepancies and drug therapy problems; and
- Continued improvement in CCNC Quality Measures.

State Health Plan

- Increased referrals to and participation of members in smoking cessation and Life Coaching programs provided by the Plan's partners and Population Health Management Vendor;
- Decreased numbers of Plan members who use tobacco products;
- Increased enrollment in Eat Smart, Move More, Weight Less by Plan members who are at risk for or are diagnosed with chronic conditions;
- Reduced health care costs through reduced hospital admissions, readmissions, and ED admissions;
- Improved adherence to medication regimens;
- Increased number of Plan members who are able to monitor and control high blood pressure;
- Increased availability of evidence-based strategies for diabetes prevention and self-management education, such as the diabetes prevention programs, and access to Certified Diabetes Educators for Plan members with diabetes; and
- Increased awareness among Plan members of behavioral health and substance misuse and increased access to services for behavioral health and substance misuse.

V.4. Goals and Benchmarks for reduction

Goals and benchmarks for reduction of chronic disease align with *Healthy NC 2020: A Better State of Health*, which serves as the State of North Carolina's health improvement plan to address and improve the State's most pressing health priorities. Since 1990, the State of North Carolina has identified decennial health objectives with the goal of making North Carolina a healthier State. The proposed action plan described in this report includes benchmarks for coordinating care and reducing the incidence of multiple chronic health conditions.

The Healthy NC 2020 objectives were developed through a collaborative process with North Carolina Institute of Medicine (NC IOM), DPH, DMA, State Center for Health Statistics (SCHS),

and other partner organizations. The Healthy NC 2020 objectives have measurable targets and the data are routinely captured and progress documented annually. These public health, population-based measures include:

Healthy NC 2020 Objective	Baseline	Current	Target
Decrease the percentage of adults who are current smokers*	20.3 % (2009)	19.1% (2014)*	13.0%
Decrease the percentage of high school students reporting current use of any tobacco product	25.8% (2009)	29.7% (2013)	15.0%
Increase the percentage of high school students who are neither overweight nor obese	72.0% (2009)	72.3% (2013)	79.2 %
Increase the percentage of adults getting the recommended amount of physical activity**	46.4% (2009)	48.1% 2013	60.6%
Increase the percentage of adults meeting CDC Aerobic Recommendations**		48.1% (2013)	
Increase the percentage of adults who consume five or more servings of fruits and vegetables per day**	78.1 % (2009)	76.3% 2013	84.7%
Increase the percentage of adults who consume fruit one or more times per day. **		57.1% (2013)	
Increase the percentage of adults who consume vegetables one or more times per day. **		76.3% (2013)	
Reduce the cardiovascular disease mortality rate (per 100,000 population)	256.6 (2008)	216.5 (2014)	161.5
Decrease the percentage of adults with diabetes*	9.6% (2009)	10.8% (2014)*	8.6%
Reduce the colorectal cancer mortality rate (per 100,000 population)	15.7 (2008)	14.2 (2014)	10.1

*In 2011, the BRFSS methodology changed, so results are not directly comparable to the baseline or target values.

**In 2011, the definition for recommended amount of physical activity and fruit and vegetable consumption changed. We have added similar, but not comparable measures.

Division of Medical Assistance

While the agencies share the Healthy NC 2020 goals, North Carolina DMA also uses specific measures to track goals and benchmarks for reduction. CCNC utilizes both claims and chart review data to track quality measures, which are based on nationally recognized Healthcare Effectiveness Data and Information Set (HEDIS) or Physician Quality Reporting System (PQRS) measures. Where possible, CCNC utilizes benchmarks set by HEDIS, as well as National Committee for Quality Assurance (NCQA) Diabetes and Heart/Stroke Recognition Programs to set goals and evaluate progress.

Much like DMA, the Plan also utilizes measures that are based on national standards such as HEDIS and NCQA to help monitor the health of the Plan's population. This not only includes measures specific to chronic disease but also other measures such as preventive and timely care. These measures are produced using claims data and are reported on a regular basis to identify trends and most importantly to identify when intervention may be needed.

V.4.a. Care Coordination and V.4.b. Incidence Reduction of Chronic Health Conditions

All agencies will continue collaborative efforts to address chronic disease prevention and reduction of risk factors while supporting programs that enhance care coordination between agencies, health care providers, and community based resources.

VI. Budget Fiscal Note

There is no fiscal note associated with this report.

Appendix A: List of 24 Measures with HEDIS Benchmark and CCNC Score

Condition	Measure	Age	CCNC FY 2016 Rate	HEDIS 2015 Medicaid HMO Benchmark (Mean)
Asthma	Medication Management for People with Asthma (75% Compliance)	5-64	24.7%	32.8%
	Asthma Medication Ratio	5-64	62.9%	59.7%
Diabetes	HbA1c < 8.0%	18-75	59.6%	45.5%
	HbA1c > 9.0% (Poor Control)*	18-75	28.3%	45.4%
	Blood Pressure Control < 140/90	18-75	64.6%	59.0%
Diabetes/IVD	Smoking Status and Cessation Advice	18-75	92.5%	---
Hypertension	Controlling High Blood Pressure	18-85	67.3%	54.7%
Pediatric Preventive Services	Well-Child Visits in the First 15 Months of Life (6+ Visits)	15 months	67.2%	59.8%
	Well-Child Visits in the 3rd, 4th, 5th and 6th Years of Life	3-6	66.0%	71.3%
	Well-Child Visits 7-11 Years of Life	7-11	46.3%	---
	Adolescent Well-Care Visits	12-21	38.6%	48.9%
	ABCD/Developmental and Behavioral Screening	0-66 months	91.6%	---
	MCHAT/Autism Screening	18-30 months	70.5%	---
	School Age Developmental and Behavioral Screening	6-10	25.5%	---
	Adolescent Developmental and Behavioral Screening	11-20	34.3%	---
	Annual Dental Visits (All)	2-20	64.2%	---

	Annual Dental Visits (Children)	2-3	65.3%	35.5%
	Dental Topical Fluoride Varnishing	42 months	42.5%	---
	Hearing Screening	4-10	89.9%	---
	Vision Screening	3-10	79.0%	---
	Childhood Immunization Status: Combination 3 (4 DTap, 3 IPV, 1 MMR, 3 HiB, 3 Hep B, 1 VZV, 4 PCV)	2	70.7%	69.0%
	Immunizations for Adolescents: Combination 1 (Meningococcal and Tdap/TD)	13	74.7%	72.7%
	HPV Vaccine for Female Adolescents	13	20.3%	22.7%

*Lower results indicate better performance

Appendix B: List of 62 CCNC Measures

Measure Name	Category	Source
Breast Cancer Screening	Adult Prevention/Cancer Screening	Claims
Colorectal Cancer Screening	Adult Prevention/Cancer Screening	Claims
Cervical Cancer Screening	Adult Prevention/Cancer Screening	Claims
Pediatric Asthma Admission Rate	Asthma	Claims
Asthma in Younger Adults Admission Rate	Asthma	Claims
Medication Management for People with Asthma	Asthma	Claims
Asthma Medication Ratio	Asthma	Claims
Behavioral Health Screening	Behavioral Health	Claims
Annual Glucose Screening in Children Receiving Antipsychotic Therapy	Behavioral Health	Claims
Annual Glucose Screening in Patients Receiving Antipsychotic Therapy	Behavioral Health	Claims
Annual Lipid Screening in Children Receiving Antipsychotic Therapy	Behavioral Health	Claims
Antidepressant Medication Management	Behavioral Health	Claims
Use of Aspirin or Other Antiplatelet in Ischemic Vascular Disease	Cardiovascular Disease/Ischemic Vascular Disease	Chart Review
Controlling High Blood Pressure	Cardiovascular Disease/Hypertension	Chart Review
BP Control < 140/90	Cardiovascular Disease/Hypertension	Chart Review
BP Control < 150/90	Cardiovascular Disease/Hypertension	Chart Review
Smoking Status and Cessation Advice	Cardiovascular Disease/Ischemic Vascular Disease	Chart Review
Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	Diabetes	Chart Review
Foot Exam	Diabetes	Chart Review
Hemoglobin A1c (HbA1c) Control (< 8.0%)	Diabetes	Chart Review
Blood Pressure Control	Diabetes	Chart Review
Smoking Status and Cessation Advice	Diabetes	Chart Review
Medical Attention for Nephropathy	Diabetes	Claims
Hemoglobin A1c (HbA1c) Testing	Diabetes	Claims
Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)	Cardiovascular Disease/Heart Failure	Chart Review
Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	Cardiovascular Disease/Heart Failure	Chart Review
Left Ventricular Ejection Fraction Assessment Results	Cardiovascular Disease/Heart Failure	Chart Review
Heart Failure Admission Rate	Cardiovascular Disease/Heart Failure	Claims
Heart Failure 30 Day All-Cause Readmissions	Cardiovascular Disease/Heart Failure	Claims
Left Ventricular Ejection Fraction Assessment	Cardiovascular Disease/Heart Failure	Claims

Annual Dental Visits	Peds Prevention	Claims
Dental Topical Fluoride Varnishing	Peds Prevention	Claims
BMI 3-20 Years	Peds Prevention	Claims
Well-Child Visits in First 15 Months of Life	Peds Prevention	Claims
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	Peds Prevention	Claims
Well-Child Visits 7-11 Years	Peds Prevention	Claims
Adolescent Well Care Visits	Peds Prevention	Claims
ABCD/Developmental Screening	Peds Prevention	Claims
MCHAT/Autism Screening	Peds Prevention	Claims
School Age Developmental Screening	Peds Prevention	Claims
Adolescent Deveopmental and Behavioral Screening	Peds Prevention	Claims
Hearing Screening	Peds Prevention	Claims
Vision Screening	Peds Prevention	Claims
Childhood Immunization Status	Peds Prevention	NCIR
Immunizations for Adolescents	Peds Prevention	NCIR
HPV Vaccine for Female Adolescents	Peds Prevention	NCIR
Timeliness of Prenatal Care	Maternal Health	Claims
Risk Screening during Pregnancy	Maternal Health	Claims
Tobacco Cessation Counseling Received during Pregnancy	Maternal Health	Claims
Progesterone Injections for Preterm Birth Prevention	Maternal Health	Claims
Unintended Pregnancy Rate	Maternal Health	Claims
Cesarean Delivery Rate	Maternal Health	Claims
Ellective Deliveries before 39 Weeks of Gestation	Maternal Health	Claims
Postpartum Visit Rate	Maternal Health	Claims
Postpartum Contraception	Maternal Health	Claims
Postpartum Utilization of Long-Acting Reversible Contraception	Maternal Health	Claims
Low Birth Rate	Maternal Health	Claims
Very Low Birth Rate	Maternal Health	Claims
Total Medicaid Spend Per Member Per Month	Cost and Utilization	Claims
ED Visits Per 1,000 Member Months	Cost and Utilization	Claims
Inpatients Admissions Per 1,000 Member Months	Cost and Utilization	Claims
Potentially Preventable Readmissions Per 1,000 Member Months	Cost and Utilization	Claims

Appendix C: List of Chronic Conditions Impacting CCNC-Enrolled Beneficiaries, SFY 2016

NCCCN POPULATION DEMOGRAPHICS

CHRONIC CONDITION TYPES – NCCCN ENROLLEES

Condition	Patient Count	% of Patients
No Conditions	1,269,245	64.07%
Mental Health Condition	293,382	14.81%
Hypertension	247,700	12.50%
Asthma	176,579	8.91%
Chronic GI Disease	143,588	7.25%
Diabetes	128,798	6.50%
ADHD	79,176	4.00%
Chronic Neurological Disease	77,760	3.93%
Developmental Disability	76,276	3.85%
Depression	69,563	3.51%
COPD	68,386	3.45%
Ischemic Vascular Disease	65,169	3.29%
Cerebrovascular Disease	41,320	2.09%
Chronic Kidney Disease	39,970	2.02%
Dementia	33,581	1.70%
Bipolar Disease	32,070	1.62%
Cancer	29,990	1.51%
Schizophrenia or Schizoaffective Disorder	27,035	1.36%
Chronic Liver Disease	21,151	1.07%
Posttraumatic Stress Disorder	17,087	0.86%
Pressure Ulcer Or Stasis Ulcer	16,541	0.84%
Musculoskeletal/Connective Tissue Disease	15,602	0.79%
Heart Failure	14,492	0.73%
History of Myocardial Infarction	6,184	0.31%
HIV	6,039	0.30%
Sickle Cell	2,777	0.14%

HEALTH COMPLEXITY – NCCCN CARE MANAGED POPULATION