STATE OF NORTH CAROLINA
DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER
GOVERNOR

MANDY COHEN, MD, MPH
SECRETARY

February 14, 2019

SENT VIA ELECTRONIC MAIL

The Honorable Dan Bishop, Chair
Senate Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 2108, Legislative Building
Raleigh, NC 27601

The Honorable Joyce Krawiec, Chair
Senate Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 308, Legislative Office Building
Raleigh, NC 27603

Dear Chairmen:

North Carolina General Statute 130A-221.1 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.

In addition, North Carolina General Statute 130A-222.5, requires the above entities to report on the collaboration to reduce the incidence of chronic disease and improve chronic care coordination within the state.

These combined reports are due to the Senate Appropriations Committee on Health and Human Services, the House Appropriations Committee on Health and Human Services, the Joint Legislative Oversight Committee on Health and Human Services, and the Fiscal Research Division. Pursuant to the provisions of law, the Department is pleased to submit the attached report.

Should you have questions about this report, please contact Beth Lovette, Interim Director for the Division of Public Health, at (919) 707-5000.

Sincerely,

Mark T. Benton

for Mandy Cohen, MD, MPH
Secretary

cc: Kody Kinsley, Theresa Matula, Lisa Wilks, Deborah Landry, Denise Thomas, Joyce Jones, Erin Matteson, Mark Collins, Marjorie Donaldson, Susan Perry-Manning, Katherine Restrepo, Jessica Meed, Rob Kindsvatter, Rod Davis, Matt Gross, Mark Benton, Zack Wortman, Steve Owen, reports@ncleg.net

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER
GOVERNOR

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SECRETARY

February 14, 2019

SENT VIA ELECTRONIC MAIL

The Honorable Gregory Murphy, Senior Chair
House Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 307B1, Legislative Office Building
Raleigh, NC 27603

The Honorable Larry Potts, Chair
House Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 306B1, Legislative Office Building
Raleigh, NC 27603

The Honorable Donna White, Chair
House Appropriations Committee on
Health and Human Services
North Carolina General Assembly
Room 306A2, Legislative Office Building
Raleigh, NC 27603

Dear Chairmen:

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SECRETARY

February 14, 2019

SENT VIA ELECTRONIC MAIL

The Honorable Joyce Krawiec, Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
Room 308, Legislative Office Building
Raleigh, NC 27603

The Honorable Josh Dobson, Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
Room 307B, Legislative Office Building
Raleigh, NC 27603

The Honorable Donny Lambeth, Chair
Joint Legislative Oversight Committee on
Health and Human Services
North Carolina General Assembly
Room 303, Legislative Office Building
Raleigh, NC 27603

Dear Chairmen:

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER
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MANDY COHEN, MD, MPH
SECRETARY

February 14, 2019

SENT VIA ELECTRONIC MAIL

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

Dear Director Trogdon:

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Chronic Disease and Diabetes Reduction and Statewide Coordination

G.S. 130A-221.1
G.S. 130A-222.5

Report to the

Joint Legislative Oversight Committee on Health and Human Services

Senate Appropriations Committee on Health and Human Services

House Appropriations Committee on Health and Human Services

Fiscal Research Division

By

Department of Health and Human Services

Department of State Treasurer
State Health Plan for Teachers and State Employees

February 14, 2019

Reporting Requirements

North Carolina General Statutes 130A-221.1 and 130A-222.5 require the Department of Health and Human Services' Division of Public Health (DPH) and Division of Health Benefits (NC Medicaid), as well as the Department of State Treasurer's State Health Plan for Teachers and State Employees (Plan) to report by January 1 of every odd-numbered year how North Carolina is (a) working to reduce the incidence of diabetes, improve diabetes care, and control the complications associated with diabetes and (b) working to reduce the incidence of chronic disease and improve chronic care coordination within the State.

I. 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 and stroke), cancer, chronic respiratory diseases (chronic obstructive pulmonary disease, asthma), and diabetes. For purposes of this report, chronic disease includes the following: chronic cardiovascular disease (heart disease and hypertension), stroke, cancer, chronic respiratory disease (asthma and chronic obstructive pulmonary disease), chronic metabolic disease (diabetes and obesity), and behavioral health (mental health and substance use disorders).

Of the approximately 248 North Carolinians who die every day, 160 residents die as a result of a chronic disease. Altogether, chronic diseases, injury, and violence were responsible for almost 73% of North Carolina resident deaths and resulted in over 66,000 resident deaths in 2016. Cancer, heart disease, chronic lower respiratory disease, and stroke were among the five leading causes of death in the State.[1]

North Carolina's 2016 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 2016. However, age-adjusted mortality rates for some cancers, heart disease, stroke, and diabetes have all declined substantially over the last decade.[2]

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 2012-2016, 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.[3]

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.

I.1. Chronic Disease Incidence and Prevalence

[1] NC Division of Public Health, State Center for Health Statistics, Special data query based on NC electronic mortality data files.
[2] Centers for Disease Control and Prevention. National Center for Health Statistics, CDC WONDER Online Database.
[3] NC Division of Public Health, State Center for Health Statistics, North Carolina Resident Population Health Data by Race and Ethnicity 2012-2016.

Heart Disease, Hypertension, and Stroke

Almost one in ten North Carolina adults report a history of cardiovascular disease (CVD) (heart attack, coronary heart disease, or stroke) according to Behavioral Risk Factor Surveillance System (BRFSS) data collected in 2016. Approximately 3.8% of adults in the State reported a history of stroke, 4.6% reported a history of heart attack, and almost 4.7% reported a history of angina or coronary heart disease and 35.2% reported a diagnosis of high blood pressure.[4, 5]

Cancer

The North Carolina Central Cancer Registry projects that more than 60,000 North Carolinians will receive a cancer diagnosis yearly.[6] North Carolina's 2011-2015 age-adjusted cancer incidence rate was 481.4 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 mortality, with non-Hispanic African Americans having the highest age-adjusted rate, and Hispanics experiencing the lowest rates during 2011-2015.[7] In 2016, approximately 7.8% of North Carolina adults reported that they had been diagnosed with skin cancer, and 6.2% indicated that they had been diagnosed with any other type of cancer.[8]

Chronic Obstructive Pulmonary Disease (COPD) and Asthma

In 2016, nearly 7.3% 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 (13.7%) and adults having less than a high school education (16.5%).[9] Approximately 85-90% of COPD deaths are smoking related. In 2016, over 12% of North Carolina adults reported that they had been diagnosed with asthma and almost 8% reported that they currently had asthma.[10] The 2016 National Survey of Children's Health revealed that 8.1% of North Carolina children were reported by their parents as currently having asthma. In 2014-15 asthma was the most common chronic health condition reported among K-12 public school students, affecting approximately 93,000 of all students enrolled in public schools in the state, and was a leading cause for hospitalizations among children.

Relatedly, 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 (17.9%) North Carolina adults currently smokes cigarettes (1,405,000 adults) according to BRFSS[11] and NC census data. Additionally, 1,600 adults, children, and infants in North Carolina die each year from exposure to secondhand smoke.

[4] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results.

[5] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System, 2015 Results
[6] NC Division of Public Health, Central Cancer Registry, NC Cancer Projections for 2018.
[7] NC Division of Public Health, Central Cancer Registry, NC Cancer Incidence Rates 2011-2015.
[8] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results.
[9] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results.
[10] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results.
[11] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results.

CDC data indicates that health care costs in North Carolina related to smoking are $3.81 billion (CDC, 2014)[12] 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.[13] 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).[14] While smoking has declined among North Carolina high school students, all tobacco use has increased among North Carolina high school students, with an 894% increase in e-cigarette use from 2011-2017. 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.

Diabetes and Obesity

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 11.3% in 2016, an increase of 77%.[15] North Carolina's 2016 diabetes rate of 11.3% was higher than the U.S. average rate (10.5%). Among people with diabetes, 18% have been diagnosed with retinopathy, a diabetes complication that affects the eyes. Moreover, 17% reported that diabetes has affected their kidneys.

Despite recent improvements in overall ranking, North Carolina still has the 17th highest prevalence of diabetes among the 50 states and the District of Columbia.[16] 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. In 2015, 10% of North Carolina's adults reported having been diagnosed with prediabetes, a precursor of type 2 diabetes.

The issue of excess weight and obesity also continues to be one of the most pressing public health problems of our time. North Carolina has the 17th highest adult obesity rate for 2016 in the country.[17] 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 2016, 31.8% of the North Carolina population was obese and more than two-thirds of North Carolina

[12] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016 Results
[13] Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/tobacco/stateandcommunity/index.htm.
[14] 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.
[15] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 1998 and 2016 Results.
[16] Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health, BRFSS Prevalence & Trends Data (online).
[17] Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health, BRFSS Prevalence & Trends Data (online)

adults (67%) were overweight or obese.[18] Like adults, a high percentage of North Carolina children are overweight or obese. According to 2016 child health survey data, 13% of children ages 10 through 17 were obese and another 18% were overweight based on their body mass index.[19]

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. Among North Carolina high school students in 2017, 17% ate fruit or drank 100% fruit juice three or more times per day and 12% ate vegetables three or more times per day.

Moreover, over half of North Carolina adults (52%) did not meet aerobic physical activity recommendations in 2015.[20] The 2017 America's Health Rankings report ranks North Carolina 6th in physical inactivity, with a rank of 1 being the worst. Among North Carolina high school students in 2017, nearly 78% did not meet physical activity recommendations.

Mental Health and Substance Use Disorders

Behavioral health conditions are the most common chronic disease among Medicaid beneficiaries, with over 360,000 having at least one chronic behavioral health diagnosis. A person with a behavioral 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 behavioral health diagnosis.

Since April 2013, NC Medicaid's mental health and substance use disorder 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 use disorder 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 NC Medicaid 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 use disorders, intellectual/ developmental disabilities, and traumatic brain injury.

II. Financial Impact of Chronic Disease

[18] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 1990 and 2016 Results.
[19] 2016 National Survey of Children's Health.
[20] NC Division of Public Health, State Center for Health Statistics, Behavioral Risk Factor Surveillance System 2016

II.1. Financial Impact of Chronic Conditions to NC Medicaid

The average cost of a North Carolina Medicaid beneficiary enrolled with Community Care of North Carolina (CCNC) is $391.50 per month, of which $97.55 is pharmacy costs. Approximately 26.12% of the Medicaid population has at least one chronic condition and the average cost of a beneficiary with multiple chronic conditions is $1,554.78 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 behavioral health diagnoses. The most common chronic condition is behavioral health, with more Medicaid beneficiaries having behavioral health conditions than diabetes, ischemic vascular disease, and asthma combined.

CCNC Chronic Condition - JULY 1, 2017 - JUNE 30, 2018			
Chronic Disease	Members	Total Paid Claims	PMPM Cost
Diabetes	40,921	$846,887,348.84	$1,845.24
Ischemic Vascular Disease	16,544	$446,908,370.90	$2,419.25
Asthma	130,231	$1,016,639,160.94	$665.90
COPD	20,027	$497,928,804.58	$2,211.00
Hypertension	82,848	$1,451,938,465.87	$1,560.67
Mental health + SUD	202,941	$2,137,676,401.18	$901.64
Cancer	9,200	$291,813,732.77	$2835.26

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

II.2. Financial Impact of Chronic Conditions to the State Health Plan

The Plan is made up of a diverse membership, over 720,000 strong, from state employees (active and retired), to teachers, legislators, as well as some local government entities. 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).[21]

Over $931 million was incurred in 2017 for medical and pharmacy services provided for Active and non-Medicare members with at least one of the following conditions: diabetes, asthma, congestive heart failure (CHF), coronary artery disease (CAD), and chronic obstructive pulmonary disease (COPD). High prevalence chronic conditions impacting Active and non-Medicare Plan members include: hypertension (10.7% or 59,175), diabetes (7.1% or 39,569), and asthma (2.1% or 11,525). Although low in prevalence, congestive heart failure (0.2%), coronary artery disease

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

(0.5%), and COPD (0.5%) have higher per member per year cost at $51,592, $27,367, and $21,396 respectively.[22] From April 2017 to March 2018, 111,581 Plan members incurred a mental health or substance use disorder claim, during which $82,730,169 was paid for mental health and substance use disorder-related services for Plan members.

III. Assessment of Benefits of Wellness and Prevention Programs

The Division of Public Health (DPH), NC Medicaid, 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 NC Medicaid 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 DPH Chronic Disease and Injury Section's (CDI) 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;
- 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.,

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

QuitlineNC; Diabetes Self-Management Program; Eat Smart, Move More, Weigh Less; CDC recognized Diabetes Prevention Programs; and Know It, Control It; and

- Death and disability from chronic disease are reduced.

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, North Carolina 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.
- Promotion of colorectal, breast, cervical, prostate, and skin cancer screenings;
- National Diabetes Prevention Program;
- Diabetes Self-Management Education;
- 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);

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 42 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 behavioral health hospitals and substance use disorder 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 compliance with smoke-free multi-unit housing and support the implementation of the Housing and Urban Development rule in NC that requires all public housing to be smoke-free;
- 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 third-party insurance coverage for diabetes prevention program;
- Ensure that North Carolina students have access to asthma and diabetes medications; and
- Ongoing support for North Carolina's Health Information Exchange.

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);
- Participation in North Carolina's Health Information Exchange and use of their Diabetes Registry for practice and population health metrics;
- Electronic health record adoption and technical support in partnership with North Carolina Area Health Education Centers (AHEC) and CCNC;
- Diabetes and hypertension quality improvement;
- School health use of the School Health Application;
- Evidence-based tobacco treatment training such as the Duke-UNC Certified Tobacco Treatment Specialist (CTTS) training and consultation to help integrate tobacco treatment into clinical and behavioral health practices;
- 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 coverage of Diabetes Prevention Programs as a quality improvement measure for Medicaid Managed Care organizations:
- 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.

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;
- The Youth Tobacco Survey is conducted every other year (odd numbered years) in coordination with the Department of Public Instruction;
- QuitlineNC utilization and quit rates;
- 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);
- Population health data retrieved and analyzed using the Health Information Exchange.

The Department's Office of Minority Health and Health Disparities, although no longer directly housed within DPH, also runs the state-wide, and CDC recognized, North Carolina Minority Diabetes Prevention Program (NC MDPP), in consultation with the CDI Section. The NC MDPP is an evidenced-based diabetes prevention program that is critical to ensuring that African-Americans, Hispanic/Latinos, American Indians, and other underserved North Carolinians have access to effective diabetes prevention programs. Specifically, the NC MDPP provides access to wellness, prevention, and screening programs, as well as organizes community conversations to build awareness and support around health issues within the targeted communities.

III.1.b. 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 the 2017/2018 funding year, 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 $9,891,667. During this same time period, $8,176,320 was provided by State funds for CDI's wellness, prevention, and screening programs.

During that same funding year, the NC MDPP received $2,365,105 in State funds.

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

NC Medicaid contracts with the North Carolina Community Care Network (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 patient-centered medical homes to improve in these areas.

Call Center/ Coordination of Services

In November 2011, CCNC developed a Call Center to support its fourteen local networks' goals and initiatives through telephonic patient outreach. 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. In 2018, the Call Center is identified as Population Health Outreach and Care Coordination Services to better capture its growth and current activities.

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. Referrals to local care managers are also completed if the new enrollee expresses a need for help managing any chronic conditions.

The Call Center makes over 8,600 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 is hopefully used to improve access and communication to the medical home for patients.

A third Call Center initiative offers Health Coaching to the CCNC Medicaid population. The team of Registered Nurses and a physician who are also certified Health Coaches work with patients on wellness coaching, disease management coaching, and behavior change for better health outcomes. 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. Additionally, the Health Coaches assist with CCNC's Palliative Care initiative by facilitating goals of care conversations with patients and their families and loved ones. Coaches help patients complete Advance Care Directives that identify their goals of care.

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. Similarly, the Call Center receives referrals from UNC's Specialty Asthma Clinic for Medicaid patients who need to be connected with a local care manager for local resources and self-management assistance as well as from the Money Follows the Person Demonstration to help patients transition back into their communities.

As new programs emerge, as Medicaid and the networks continue to evolve, and as new needs develop, NC Medicaid will ensure that CCNC's Population Health Outreach and Care Coordination Services 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 NC Medicaid 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. In addition, 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, and patient engagement tools. Practices continue to be supported with data on obesity screening rates and the rates (via use of z-codes) of underweight, healthy weight, overweight, and obese North Carolinians in their patient populations.

Behavioral Health/Primary Care Initiative

CCNC's Behavioral Health Integration (BHI) team, in collaboration with NC Medicaid 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 use disorders, 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 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). In Fall 2018, CCNC will launch a new care

management software system, VirtualHealth, which will provide additional portals to engage with beneficiaries, caregivers, and providers.

NC Medicaid Assessment of Benefits of Wellness and Prevention Programs

Over the past 9 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 2018, CCNC exceeded the 2016 Healthcare Effectiveness Data and Information Set (HEDIS) mean for 11 out of the 16 chronic disease quality measures with benchmarks. A complete listing of the 25 quality measures, 2016 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.[23]

III.2.b. NC Medicaid 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). NC Medicaid 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 2016 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 2016-18 are highlighted below:

- 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. Members are also given the opportunity to participate in diabetes week, including a webinar, which focuses on steps that can be taken to prevent, delay or better manage diabetes. DPP ended in 2017 due to the Plan's reprioritized focus towards population health management with the Plan's Third Party Administrator (TPA), effective January 1, 2019.
- 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 was designed to increase health and disease management behaviors and defray cost barriers to receiving necessary medical care. The Health Engagement Program consisted of two components: Healthy Lifestyles and Positive Pursuits. Healthy Lifestyles offered any CDHP member who completed coaching calls, and/or tracking of caloric intake or physical activity the ability to earn health reimbursement

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

account (HRA) funds. Through Positive Pursuits, CDHP members with one or more of seven identified chronic conditions could also earn HRA funds for completing disease management activities specific to each diagnosis. The conditions included: chronic obstructive pulmonary disease, asthma, coronary artery disease, congestive heart failure, hypertension, high cholesterol, and diabetes. The Health Engagement Program ended in 2017 due to the Plan's CDHP was no longer a plan design option for members in 2018.

- RivalHealth: RivalHealth is an online, fitness-based wellness platform that was available to members on the CDHP or who were 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. RivalHealth ended in 2017 due to the Plan's reprioritized focus towards implementation of a population health management program with the Plan's TPA, effective January 1, 2019.
- Diabetes Resource Center: Plan members have access to an online Diabetes Resource Center located on the Plan's website which provides information and resources to help members prevent, manage, or slow the progression of prediabetes and diabetes.
- Opioid Resource Center: Opioid overdose is now the No. 1 cause of accidental death in America. The Opioid Resource Center, which is located on the Plan's website was developed to provide members access to information regarding: questions to ask your provider, alternative pain management, safe storage and disposal, misuse, addiction and how to get help.
- Preventive Care: In addition to making healthy lifestyle choices, preventive care is an essential part of living a longer, healthier life. It includes screenings, check-ups, vaccinations, patient counseling, and some medications. Preventive care is recommended depending on one's age, sex, health history, and current health status. This link on the Plan's website provides members with a list of recommended preventive care services as well as general preventive medication information.
- Worksite Wellness: Employees in the United States spend an average of 50 hours a week at work. Worksites have a great opportunity to impact their employees' health by creating an environment that supports healthy habits. The Plan's website has information that helps employers and members adopt healthier lifestyle habits – including healthy eating, physical activity, stress management, and tobacco cessation. Tips and resources on how to begin or improve worksite wellness programs are also provided.
- Wellness Champions: In line with the Plan's goal to help members lead healthier lives, we provide worksite wellness supports for state agencies, universities, community colleges, and public schools. Worksite wellness efforts have been shown to improve employees' health, safety, and job satisfaction. The Plan works to help members adopt healthier lifestyle habits – including healthy eating, physical activity, stress management, and tobacco cessation. We also strive to help members with health conditions better manage their health. The Wellness Champions Program is a network of wellness advocates throughout the state with the mission to create healthier worksites and employees. Approximately 250 worksites participate in this program throughout the state.
- Wellness Wins: This pilot was designed to test the effect of incentives on member engagement, primary care access, and patient education to enhance members' health and wellbeing. In order for members to be eligible for a reduction in their PCP copay, they participated in an onsite health screening and completed an online health assessment. The goal was to develop a replicable model for enhancing member health through engagement of primary care practices, worksites, and community resources. Objectives included:

establishing sustainable worksite wellness programs; increasing member awareness of and engagement in their own health; and increasing member engagement with patient-centered medical homes/Primary Care Providers. Wellness Wins ended in 2017 due to the Plan's reprioritized focus towards population health management with the Plan's TPA, effective January 1, 2019.

- Check.Change.Control: The Plan partnered with the American Heart Association to offer Check.Change.Control, a blood pressure self-monitoring program offered to Wellness Champions work sites. The Plan sent blood pressure monitors to all registered worksites and training, education materials and technical assistance was provided to wellness coordinators to implement program at their site. The program uses self-monitoring and tracking of blood pressure readings at the worksite to help employees achieve and maintain a healthy heart.
- The Plan and Wake Med Key Community Care (WKCC) began a pilot partnership collaboration in July 2015, seeking to: improve quality and coordination of care for Plan employees and dependents (excluding retirees); reduce unnecessary cost to the Plan and its members; support Plan's efforts to improve utilization of its designated provider network and partner effectively across multiple enterprises (Blue Cross and Blue Shield of North Carolina [Blue Cross NC], Active Health Management, WKCC) to deliver a positive member experience.

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.

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. For example, the 80/20 PPO Plan follows the Affordable Care Act (ACA) preventive guidelines and offers ACA preventative services and medications at 100%. The 70/30 PPO Plan, which is a grandfathered plan under the ACA, offers preventive services, but applicable copays and deductibles apply.

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[24] 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) 2016-2017, actual expenditures for the Plan included $31.6 million for disease and case management contracts and $9 million for wellness initiatives such as smoking cessation, obesity prevention, and worksite wellness efforts. The Plan's administrative budget for SFY-2017-2018 is 26.2 million and $3.5 million respectively.

IV. Coordination among Agencies

DPH, NC Medicaid, 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 initiatives in the following areas.

Tobacco

Evidence-based treatment is successful at preventing tobacco use among youth and helping tobacco users who want to quit.[25] Since most North Carolina tobacco users are trying to quit (61.6%[26]), 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 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 allow approximately 1.5% of the North Carolina population who smoke to access QuitlineNC. 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

[24] 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.
[25] http://www.thecommunityguide.org/tobacco/index.html
[26] NC Behavioral Risk Factor Surveillance System 2016

combination cessation therapy of nicotine patches and nicotine gum since September 2013 and added the use of nicotine lozenge combination therapy in January 2015. NC Medicaid also covers these various smoking cessation therapies.

DPH will continue to promote QuitlineNC (1-800-QuitNow) to ensure all Medicaid-eligible tobacco users who want to quit are aware of this service, through clinic referrals, earned media, social media, and other communication channels. In addition, DPH will continue to work with Duke and UNC to strategically offer CTTS training to health systems that want to integrate evidence-based tobacco treatment into their service offerings.

The State Health Plan conducted 7-Month Evaluation Report for 2016-2017, and found that 78% of respondents received nicotine replacement therapy and approximately half (46%) of Plan respondents who received patches from QuitlineNC reported using "almost all" or "all" of them.[27] This is a positive finding as the combination of counseling and NRT or other pharmacotherapy is more effective than either alone.[28] 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, because it is cost effective. The Plan's Evaluation Report determined that the 30-day responder quit rate was 45.5%, estimating that 2,807 Plan members successfully quit in 2017. Based on research that shows the per capita excess medical care and lost productivity costs per smoking adult are almost $6,000 per year (Tob Control, 2014), the Plan avoided almost $17,000,000 of medical care and lost productivity costs to the state. During the year, the Plan spent approximately $1,285,457. Therefore, the Plan saved almost $13 in medical expenditures, lost productivity, and other costs for every $1 spent on QuitlineNC services.[29]

Moreover, the Centers for Disease Control and Prevention (CDC) has identified 6 high burden health conditions which include tobacco use. In addressing the burden of tobacco, DPH has partnered with NC Medicaid to increase access to evidence-based tobacco cessation treatments, remove barriers that impede access to FDA approved cessation medications and promote use of covered benefits for tobacco treatment. DPH has been working with NC Medicaid to open reimbursement for counseling services by dentists, pharmacists, and pediatricians who counsel parents to stop tobacco use; provide comprehensive tobacco treatment services by all future Prepaid Health Plans including the services of one statewide Quitline; reduce the barrier of needing to see a physician to receive billable NRT through Standing Order; and promote the use of covered benefits to providers and beneficiaries.

Heart Disease, Hypertension, and Stroke

DPH supports the legislatively mandated Justus-Warren Heart Disease and Stroke Prevention Task Force and its Stroke Advisory Council. The Task Force is charged with making recommendations

[27] Alere Wellbeing, Inc. (2015, February 27). North Carolina State Health Plan 7-Month Evaluation Report 2013-2014.
[28]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.
[29]University of North Carolina, Tobacco Prevention and Evaluation Program, QuitlineNC State Health Plan Evaluation, Final Report November 2017 - August 2018

to the Governor and General Assembly on heart disease and stroke prevention. Task Force members work with stakeholders and partners across the state to implement its Action Agenda including work with NC Medicaid on preventive services for cardiovascular disease. NC Medicaid, with a seat on the Task Force, is a significant partner in this statewide cardiovascular work. The Stroke Advisory Council makes recommendations on the statewide system of stroke care.

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. We will continue to promote management of self-measured blood pressure through participation in Know It, Control It, and make proper blood pressure measurement training available to healthcare and dental providers

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 Know It, Control It 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.

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 NC Medicaid. NC Medicaid 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.

Chronic Obstructive Pulmonary Disease (COPD) and Asthma

NC Medicaid 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. The Division of Public Health submitted a Health Services Intervention State Plan Amendment for the

Child Health Insurance Program (CHIP) to NC Medicaid in June 2018.

Diabetes and Obesity

NC Medicaid and the Plan allow reimbursement for Diabetes Self-Management Education and Support including programs that are operated via collaboration between the Division of Public Health and local health departments, pharmacies and small clinics. This program is known as DiabetesSmart and is recognized by the American Diabetes Association. The NC MDPP also consults with the CDI Section on its programing.

Since 2017, NC Medicaid has collaborated with the Division of Public Health on diabetes prevention through the CDC's 6|18 initiative. This initiative is a national movement to bring together State Public Health and Medicaid programs to address six leading causes of death with 18 evidence-based initiatives. In 2019, NC Medicaid plans to transition NC Medicaid from a fee for service entity to Managed Care Organizations that reimburse through a value-based system. As part of this new initiative, diabetes prevention programs will be offered as a quality improvement project.

In addition, the following coordinated initiatives were also implemented to improve diabetes prevention and management:

- 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
- NC Medicaid 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.
- Promote action items identified in the Diabetes Prevention and Management Guide 2015 – 2020.
- Promote participation in Diabetes Self-Management Education and Support for people with diabetes.
- Promote Diabetes Prevention Programs for people at high risk of developing diabetes.
- Promote participation in the Diabetes Registry which is a part of the NC Health Information Exchange.

Mental Health and Substance Use Disorders

The following coordinated initiatives were implemented to address behavioral health issues:

- Adopt a chronic disease management approach to address mental health and substance use disorders.
- NC Medicaid 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.
- BreatheEasyNC is the updated coordinated plan between the DHHS Divisions of Public Health, Mental Health/Developmental Disabilities/Substance Abuse, and Health Benefits to integrate effective tobacco control and treatment into behavioral health facilities for clients and staff.

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, NC Medicaid, and Plan will address factors of care coordination of multiple chronic health conditions in the same patient. The action plans listed include a range of recommended legislative actions.

V.1.a. Reduction of Hospital Readmission Rates

NC Medicaid

Through its contract with N3CN, NC Medicaid 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. [30]

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

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

the incremental dollar savings PMPM in the follow-up period, when the patient receives the highest-intensity transitional care intervention (including a home visit and post-discharge medication reconciliation) 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, ActiveHealth Management (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. These feeds, along with the contract with AHM, ended on September 30, 2018. Those programs will be replaced by a new targeted disease and case management program delivered through the new TPA contract effective January 1, 2019.

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 healthy 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

NC Medicaid

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 three-times-a-day ADT (admission/discharge/transfer) feeds detailing clinical encounters with program participants, while many others provide access to hospital information systems. The list of hospitals with these feeds is growing. Many participating hospitals also host embedded CCNC staff. These elements of real-time access enable care management teams to interact with patients and provide transitional care interventions at the bedside 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 materials specific to needs, language and reading levels;
- 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 team members 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.

State Health Plan

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 NC Medicaid 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

NC Medicaid

As part of NC Medicaid'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[31] 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

[31] 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/meDHBnagement.pdf

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.

Division of Public Health

The Division of Public Health's role in the implementation of comprehensive medication management is to support the work of NC Medicaid 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

NC Medicaid

NC Medicaid 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 2018, 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 – 5 measures
- Adult Cancer Screenings – 3 measures
- Pediatric Preventive Services – 17 measures
- Behavioral Health – 4 measures
- Maternal Health – 13 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 NC Medicaid (Quarterly 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. Programs and services were modified beginning January 1, 2018 to include Disease Management for seven conditions: COPD, CAD, Heart Failure, PVD, CVD, Diabetes and Asthma.

Division of Public Health

The DPH's role in the implementation of quality standards is to support the work of NC Medicaid 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.

VI. Expected Outcomes

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

NC Medicaid

- 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 2018 was 48.4% below expected given the clinical complexity of the population.

- Increased cost savings from reduced hospital and ED utilization;
    - Total cost of care for CCNC enrollees is currently 4.5% below expected, given the current clinical complexity and based on performance in 2012. This corresponds to inpatient admissions and ED visit rates that are 28.4% and 11.3% below expected, respectively, during state fiscal year 2018.
- 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;
- 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 awareness among Plan members of mental health and substance use disorders and increased access to services for mental health and substance use disorders.
- Benefit redesign addressing chronic conditions

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;
- 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.

VII. Goals and Benchmarks for reduction

DPH's 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, NC Medicaid, 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)	17.9% (2017)*	13.0%
Decrease the percentage of high school students reporting current use of any tobacco product	25.8% (2009)	27.5% (2017)	15.0%
Increase the percentage of high school students who are neither overweight nor obese	72.0% (2009)	67.7% (2017)	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**		48.5% (2015)	
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. **		56.7% (2015)	
Increase the percentage of adults who consume vegetables one or more times per day. **		78.4% (2015)	
Reduce the cardiovascular disease mortality rate (per 100,000 population)	256.6 (2008)	214.1 (2016)	161.5
Decrease the percentage of adults with diabetes*	9.6% (2009)	11.3% (2017)*	8.6%
Reduce the colorectal cancer mortality rate (per 100,000 population)	15.7 (2008)	13.5 (2016)	10.1

Source: Healthy North Carolina 2017 Annual Data Repot (https://publichealthnc.gov/hnc2020/docs2017-HNC2020-AnnualDataUpdate.pdf.

*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.

NC Medicaid

While the agencies share the Healthy NC 2020 goals, North Carolina NC Medicaid 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.

State Health Plan

Much like NC Medicaid, 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.

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.

VIII. Budget Fiscal Note

There are no additional resources required for the action plans outlined in this report.

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

Condition	Measure	Age	CCNC FY 2018 Rate	HEDIS 2016 Medicaid HMO Benchmark (Mean)
Asthma	Medication Management for People with Asthma (75% Compliance)	5-64	24.0 %	34.9%
	Asthma Medication Ratio	12-18	66.8%	62.7%
Diabetes	HbA1c Screening	18-75	82.4%	86.7%
	HbA1c <8.0%	18-75	61.3%	47.1%
	HbA1c > 9.0% (Poor Control)*	18-75	26.5%	43.3%
	BP Control < 140/90	18-75	69.8%	59.7%
	Nephropathy Screening	18-75	81.2%	89.9%
Diabetes/IVD	Smoking Status and Cessation Advice	18-75	92.5%	---
Hypertension	Controlling High Blood Pressure	18-85	71.1%	56.5%
Pediatric Preventive Services	Well-Child Visits in the First 15 Months of Life (6+ Visits)	15 months	74.8%	61.7%
	Well-Child Visits in the 3rd, 4th, 5th and 6th Years of Life	3-6	68.4%	74.2%
	Well-Child Visits 7-11 Years of Life	7-11	51.4%	---
	Adolescent Well-Care Visits	12-21	46.3%	50.6%
	ABCD/Developmental and Behavioral Screening	0-66 months	92.3%	---
	MCHAT/Autism Screening	18-30 months	54.5%	---
	School Age Developmental and Behavioral Screening	6-10	30.8%	---
	Annual Dental Visits (All)	2-20	60.5%	---

	Annual Dental Visits (Children)	2-3	44.3%	39.0%
	Dental Topical Fluoride Varnishing	42 months	46.4%	---
	Hearing Screening	4-10	89.2%	---
	Vision Screening	3-10	45.7%	---
	Childhood Immunization Status: Combination 3 (4 DTap, 3 IPV, 1 MMR, 3 HiB, 3 Hep B, 1 VZV, 4 PCV)	2	70.0%	69.7%
	Childhood Immunization Status: Combination 10 (4 DTap, 3 IPV, 1 MMR, 3 HiB, 3 Hep B, 1 VZV, 4 PCV, 2-3 Rotavirus, 2 Influenza)	2	34.4%	33.3%
	Immunizations for Adolescents: Combination 1 (Meningococcal and Tdap/TD)	13	80.5%	70.3%
	Immunizations for Adolescents: Combination 2 (Meningococcal and Tdap/TD, HPV)	13	27.5%	20.8%

*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
Metabolic Monitoring for Children and Adolescents on Antipsychotics	Behavioral Health	Claims
Use of Opioids at High Dosage	Behavioral Health	Claims
Diabetes Screening for People with Schizophrenia or Bipolar Disorder Who Are Using Antipsychotic Medications	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
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 Depression Screening	Peds Prevention	Claims
Hearing Screening	Peds Prevention	Claims
Vision Screening	Peds Prevention	Claims
Adolescent Risks and Strengths Screening	Peds Prevention	Claims
Maternal Depression Screening (ABCD)	Peds Prevention	Claims
Childhood Immunization Status Combination 3 & 10	Peds Prevention	NCIR
Immunizations for Adolescents Combination 1 & 2	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
Elective 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
Nulliparous, Term, Singleton Vertex Cesarean Deliveries	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