

Challenges and Opportunities in Reversing Concerning Trends in Cardiovascular Disease and Life Expectancy

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Cardiovascular disease (CVD) and related mortality and morbidity are on the rise, and significant racial and ethnic disparities persist. To reverse these trends, an expanded focus on addressing the root causes of CVD and improving health equity is needed. While barriers and challenges are inevitable, numerous successes and opportunities inspire hope for reversing these trends.

Overview

Cardiovascular disease (CVD) has long held the unfortunate distinction of being the leading cause of mortality across the United States and globally [1], and more recently surpassed cancer as the leading cause of death in North Carolina [2]. For many years, CVD was on the decline, however the past few years have witnessed a reversal of those trends with increases in CVD mortality, morbidity, and related costs [1]. This is despite significant advancements in science, medicine, and technology in the prevention and treatment of CVD [3, 4].

In the United States, in addition to deaths due to drug overdose and suicide, an increase in deaths due to CVD is also a major contributing factor to the decline in life expectancy [5, 6]. These national trends are reflected at the state level in North Carolina [7].

COVID-19 also has had a deleterious effect on life expectancy, and individuals with CVD and other risk factors such as hypertension, diabetes, and obesity; have experienced worse outcomes, including death [8]. Moreover, patients who suffered from COVID-19 are at an increased risk for long-term CVD [9]. As COVID-19 transitions from pandemic to endemic, even more worrisome trends in mortality and morbidity from common chronic diseases are forecast, with cardiovascular and other cardiometabolic diseases being major contributors to further significant reductions in US life expectancy [4, 5].

Effect of Race, Ethnicity, Geography, and Socioeconomic Status on CVD and Life Expectancy

Significant discrepancies based on race, ethnicity, gender, geography, and socioeconomic status exist in life expectancy due to CVD and other diseases or events [10–12].

Figure 1 shows overall disparities in life expectancy in North Carolina by race/ethnicity and sex, and Figure 2 depicts discrepancies in life expectancy by county.

In 2020, Latino and Black populations experienced a decrease in life expectancy from COVID-19 that was two to three times worse than that experienced by Whites [13]. Forecasts for 2021 based on provisional data, however, suggest that those trends are likely to moderate, due in large part to increased mortality rates among Whites and improved vaccination rates for racial and ethnic minorities [14].

Improving Cardiovascular Health and Life Expectancy

Improvements in life expectancy will be concomitant with addressing barriers, building on successes, navigating challenges, and exploiting opportunities.

Barriers

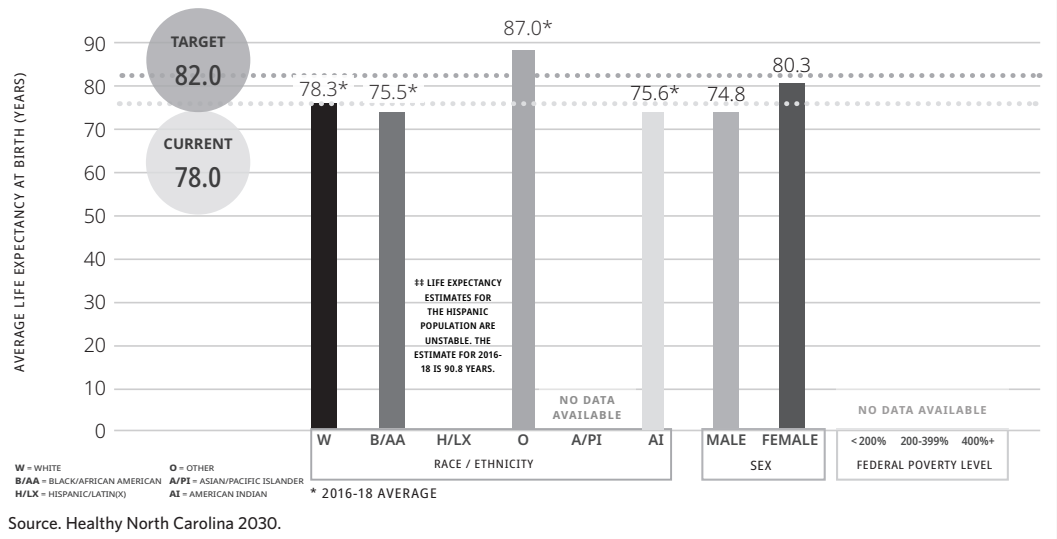
Current barriers to improving CVD prevention and management, and thus life expectancy, include but are not limited to: a lack of standardized data on race/ethnicity and other minoritized populations, as well as structural and institutional racism and implicit biases that have led to incongruent treatment of certain populations [15, 16]; lack of access to affordable and adequate health insurance and health care [17]; a failure to translate new evidence and innovations into practice in a timely manner [3, 5]; insufficient funding for clinical trials that focus on common chronic diseases including CVD [1, 4, 10]; anemic data-sharing practices across the health care ecosystem [18]; insufficient digital health equity and literacy; and a disjointed public health infrastructure. Improvements are also stymied by a flawed medical care payment and delivery system that rewards volume over value, focuses more on sickness than health, leads to significant fragmentation and higher costs without the

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FIGURE 1.
Life Expectancy Across Populations in North Carolina and Distance to 2030 Target



corresponding outcomes to show for it, and is not person-centered, equitable, or efficient [10, 19, 20].

Successes

Not all is bleak, however, as there have been many successes that could contribute to improvements in CVD and other conditions as well as life expectancy. Awareness of and intention to address structural and social determinants of health among professional associations has increased in recent years [7, 18, 21–23]. In North Carolina, efforts by the North Carolina Department of Health and Human Services (NCDHHS) and others to promote screening; the launch of NCCARE360 and similar platforms to connect individuals with community resources; and efforts to track Healthy North Carolina 2030 indicators at the local level through the Healthy Communities NC Dashboard have all improved the ability to address social determinants. New care delivery and payment models have recently emerged and continue to be refined, while efforts to improve data collection, standardization, and sharing are ongoing. The development and funding of the CDC Data Modernization Initiative to facilitate efforts to modernize our public health infrastructure and ensure a more “connected, resilient, adaptable, and sustainable ‘response-ready’ system” will also support decreased CVD and improved life expectancy [24].

Additional successes include: the creation of the Office of Digital Health Equity and Literacy within the North Carolina Department of Information Technology; heightened recognition of the importance of patient and family engagement, health literacy, and shared decision-making to improve outcomes [25]; the extension of postpartum coverage to 12 months for NC Medicaid beneficiaries to improve maternal outcomes; and advancements in technology and science, such as genomics and precision health [26].

While far from over the finish line, the passage of House Bill 149: Expanding Access to Healthcare by the North

Carolina Senate in June 2022 signaled a thawing of opposition to Medicaid expansion. [27].

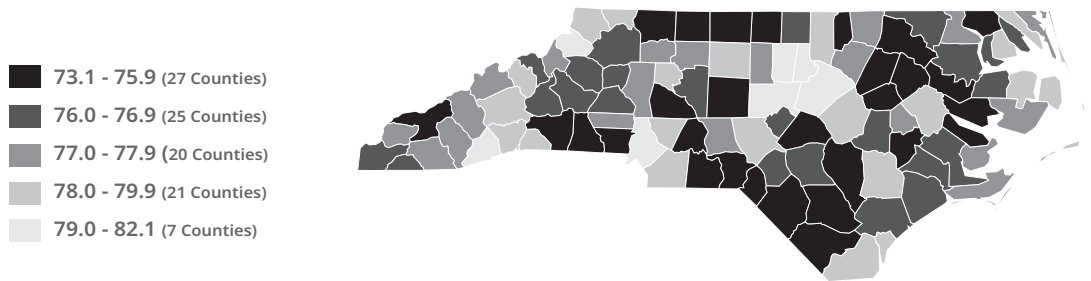
Further Opportunities and Challenges

Most of what influences individual and population health occurs outside of the traditional health care system; therefore, achieving improvements in life expectancy will require a focus beyond just clinical care [7, 21]. It is essential to build on efforts to improve structural and social determinants of health and to encourage policies and behaviors conducive to a healthy lifestyle [7, 10–14, 21, 28–30].

More concerted attention must be paid to promotion of policies that encourage healthy behaviors—including reducing stress (including job-related stress); tobacco and substance use cessation; and improving healthier diets and weight, physical activity, blood pressure management, cholesterol control, glucose levels, and quality sleep [30–33]. This also means understanding the systems and environments that influence behavior choices and the barriers to, and facilitators of, making those choices. One potential facilitator would be increasing general awareness of, and attention and access to, lifestyle medicine, which focuses on addressing health behaviors that put individuals at increased risk of chronic diseases and seeks to improve the prevention and management of those conditions [28, 34, 35]. Primary areas of intervention in lifestyle medicine include, but are not limited to, diet, physical activity, sleep, weight control, stress management, tobacco cessation, substance use disorder, behavior change, and treatment plan adherence.

Further efforts to improve clinical care and outcomes include encouraging enhanced investment in research to address common chronic diseases like CVD [1, 4, 10] and leveraging implementation science research, frameworks, and support practitioners to expedite adoption of evidence-based practices, guidelines, and innovations [10, 18, 36]. Not to be overlooked are the myriad efforts across public and pri-

FIGURE 2.
Average Life Expectancy for People in North Carolina Counties, 2016-2018



Source. North Carolina State Center for Health Statistics; <https://schs.dph.ncdhhs.gov/data/lifexpectancy/2016-2018/2018%20State%20and%202016-2018%20County%20Life%20Expectancies%20at%20birth.html>

Note. Life expectancy is the average number of additional years that someone at a given age would be expected to live if current mortality conditions remained constant throughout their lifetime.

vate payers to improve care delivery and payment models. Recently, the Center for Medicare and Medicaid Services Innovation Center (CMMI) issued a strategy refresh to guide the development and improvement of the next generation of new care delivery and payment models [37]. The strategy refresh seeks to achieve equitable outcomes through high-quality, affordable, person-centered care, with five strategic objectives: 1) Drive accountable care; 2) Advance health equity; 3) Support care innovations; 4) Improve access by addressing affordability; 5) Partner to achieve system transformation [37].

In response to this strategy refresh, the American Heart Association, together with the Duke Margolis Center for Health Policy, convened a multistakeholder national advisory committee representing different areas of expertise and perspectives to identify best practices for improving cardiovascular health. The end product was a white paper with recommendations to CMMI and CMS (and other payers) for incorporating cardiovascular disease prevention and management best practices into the design and implementation of new care delivery and payment models [38]. Much work, however, remains to be done to ensure that these new models are sustainable with respect to improving outcomes and controlling costs. Continuing to refine promising new models is crucial, as we simply cannot afford to maintain the status quo with respect to our health care delivery and payment system.

The Future

Health care is complicated, and change is hard. But if we are to improve the health and life expectancy of North Carolinians, we must diligently pursue policy and practice changes that will get us to that destination. These recommendations include an emphasis on access, including Medicaid expansion; addressable chronic disease prevention; and importantly, greater focus on structural solutions for improving health equity.

Continued promotion of policies and interventions that address the root causes of largely preventable chronic diseases such as CVD is essential if the concerning trends in CVD prevalence and life expectancy are to be reversed. This

includes embracing a greater focus on improving health equity.

Increased investment in clinical trials focused on common chronic diseases including CVD is also needed [1, 4, 10]. Innovation in the prevention and management of chronic conditions through leveraging implementation science, frameworks, and practice support also should help improve the timely uptake of evidence-based practices.

The complexity and fragmented nature of the US health care system, and the disconnect between the health care system and public health and community-based resources and services, complicates progress toward improvement because there is not one “system” to navigate or influence. These subsystems are disparate and do not work together, contributing to poorer health outcomes for patients as well as increased stress and burnout for health care professionals. For example, there are multiple different health care payers with different payment rules, rates, benefit designs, etc. This ultimately creates chaos in care delivery as front-line clinicians and staff attempt to navigate the plethora of coverage rules, making it challenging to coordinate implementation of policy changes across all these subsystems. But we can and must work to improve and align our “systems” and strive toward increased standardization.

Solutions are not simple to enact, and the path forward will be fraught with challenges. Nevertheless, numerous opportunities exist to build on successes, to overcome the barriers, and to make progress toward a better system of health—one that improves health and well-being for everyone in North Carolina. NCMJ

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