

# A Path Toward Health Care Equity: System-Based Interventions for Change

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Despite documentation spanning decades, health care disparities across North Carolina have remained persistent for populations of color, especially for Black patients. This commentary reviews recent studies that used system-based interventions to reduce disparities and improve outcomes for everyone, and outlines how clinicians, partnering with NC AHEC, can apply results to practice.

## Introduction

A recent report from the Agency for Healthcare Research and Quality demonstrated how persistent the health care disparities for populations of color have remained [1]. While these data are national, in North Carolina, worse outcomes for communities of color relative to white people—and especially for Black patients—continue for cancer, chronic disease, maternal health, and infant mortality [2, 3]. Although some of these differences are influenced in part by social determinants of health (SDOH), such as health insurance status and income, analyses that control for these factors show that gaps endure. Other reasons contributing to worse treatment and outcomes for Black patients include poor patient-clinician communication, mistrust [4, 5], and clinicians' implicit bias, all of which lead on the patient side to lower treatment adherence and on the provider side to clinical inertia defined by a lower rate of appropriate diagnostic testing or medication intensification [4, 6, 7]. Fortunately, recent studies show how system-based approaches can improve outcomes for everyone while reducing racial disparities [8–12]. In this paper, we will describe these approaches and discuss how the North Carolina Area Health Education Centers (AHEC) Practice Support Program can partner with clinicians to move closer to Healthy North Carolina 2030 goals geared toward health care equity and excellence [13].

Recent reports demonstrate a 6.4% gap in hypertension control [14] and a 7% excess in poorly controlled diabetes ( $\text{HbA1c} \geq 9$ ) for Black patients compared to white patients in North Carolina [15]. These findings contribute to a 22% greater cardiovascular mortality for Black individuals (490.7 versus 401.8 per 100,000) [16]. Unfortunately, disparities affect all ages, as shown by our tragic infant mortality statistics that reveal more than a doubling of the death rate for Black infants compared to white infants (12.7 ver-

sus 4.9 per 1000 live births) [2]. When addressing health care disparities, our project teams have found it critical to work in tandem with affected communities to identify barriers to care and potential systemic solutions [17, 18]. For example, in cancer treatment and subsequent cardiovascular projects, we worked in partnership with the Greensboro Health Disparities Collaborative (GHDC). For rural-specific strategies during the Carolina Heart Alliance Networking for Greater Equity (CHANGE) study, sponsored by the Centers for Disease Control and Prevention, we worked closely with community advisory boards in Hertford and Edgecombe counties [12]. Community insights into barriers and solutions are imperative both in building systemic solutions and in providing voices that crave accountability regarding local outcomes.

## Community Precepts for Systematically Improving Care

In our original meetings with GHDC, discussions about published literature and community experience identified three major principles certain to spotlight and reduce cancer disparities. The first was *real-time* transparency. The medical literature is saturated with analyses of retrospective data examined too late to impact care. Therefore, in this age of universal electronic health record (EHR) data, it is possible to systematically follow cancer (and other chronic) care in real time. A second principle was accountability. Lurie and colleagues showed that although many physicians acknowledge that patient care could be affected by race on a national level, less than 10% recognized an effect in their local care environment [19]. These results make it apparent that clinicians need to see local, race-specific data to gain a sense of accountability for treatment and outcome differences according to race. Given that general quality improvement strategies often result in stable or exacerbated care gaps [10, 20, 21], it's also important that interventions incorporate race-related factors and that outcome differences be mea-

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sured according to race/disadvantaged group over time to ensure that gaps are closing. The third principle that GHDC championed for our health equity strategy was enhanced communication. Johnson, Cooper, and others demonstrated that poor shared communication led to deficits in primary care [4, 5] while our group previously showed related decrements in cancer care [6]. Because of this community partnership, we were able to translate these three principles into pragmatic, multifaceted system-based interventions.

The Accountability for Cancer Care through Undoing Racism and Equity (ACCURE) study, sponsored by the National Cancer Institute, and the American Cancer Society's Lung Cancer Surgery: Decisions Against Life Saving Care – The Intervention, were prospective intervention trials based on the narrative provided by GHDC.

The transparency component was a real-time registry system derived from daily EHR uploads that quickly signaled not only missed patient appointments but missed milestones of care that occurred when patients were indeed keeping appointments. The latter warnings essentially indicated unexplained clinical inertia.

The accountability component consisted of a quarterly race-specific audit and feedback describing the proportion of patients completing cancer care. For example, in the case of breast cancer, if a patient had breast-conserving surgery but never received adjuvant radiation, treatment would be recorded as incomplete. In the case of lung cancer, patients who received curative surgery or stereotactic radiation were recorded to have completed care.

For enhanced communication, navigators were provided to engage patients between visits and call patients and/or clinical teams when the registry signaled missed appointments or milestones.

The lung cancer study was performed at five cancer centers and enrolled 360 patients in the intervention, 115 of whom were Black. Results showed that in the control group, 78% of white patients compared to 69% of Black patients completed treatment ( $P < .001$ ) while in the intervention group these numbers were 95% and 96.5%, respectively ( $P = .56$ ). Controlling for age, socioeconomic status, cancer stage, and comorbid illness in multivariate analyses confirmed the results. This system of transparency, race-specific accountability, and enhanced communication led to treatment equity and improved care for everyone. The two-center ACCURE trial added breast cancer patients to the mix. Three-hundred-two patients participated in the intervention, 112 of whom were Black. The treatment completion results in the control groups and the resolution of the treatment gap in the intervention group were nearly identical to the lung cancer results [8, 9].

## Applying Community Precepts to the Care of Chronic Illness

For chronic illness care, our system-based interventions are moving in the same direction as the cancer successes. In

Heart Health Now, sponsored by the Agency for Healthcare Research and Quality, we partnered with 219 small primary care practices; one-half were located in the North Carolina "stroke belt." We risk-stratified all patients aged 40–79 years using the 10-year atherosclerotic cardiovascular disease (ASCVD) riskscore, then designated patients with a risk  $\geq 10\%$  as high risk. Nearly 147,000 patients met the definition of high risk and, of these, over 35,000 were Black. By providing practices with serial risk stratification, monthly population reports on blood pressure management and statin use, and a list of individuals who had yet to reach quality targets for these measures, after 15 months, ASCVD 10-year risk fell from a baseline of 23.4% to 17.3% in white patients compared to 23.5% to 16.7% for Black patients [11]. In addition, in two rural practices located in economically defined Tier 1 rural counties, we identified a cohort of patients who persistently remained at high risk despite regular clinic visits. In the CHANGE study, we trained local community health workers (CHWs) in conjunction with our community advisory boards to serve as navigator-equivalents, working with patients on lifestyle improvements, medication adherence, and local resource utilization that aided SDOH issues. Among 255 patients who completed the four-month intervention, we observed a 6.7 (systolic) and 9.0 (diastolic) percentage-point increase in the proportion of participants with blood pressure at goal (130/80 mmHg or lower) [12].

Given this successful series of interventions, how can we apply them to primary care? We know that, in general, practice coaching in partnership with clinicians to fully use clinical personnel and resources in building effective workflows and computer tools leads to significant improvements in chronic care [22]. Specifically in North Carolina, we know that AHEC has been extremely productive in this area [11, 23]. Implementing workflows based on transparency, accountability, and enhanced communication remains the foundation of this work.

Using diabetes control as the model, building transparent systems utilizing real-time EHR data could proceed as follows: Practices would build and automate monthly reports on HbA1c stratified by race (Black/white) and ethnicity (Hispanic/Non-Hispanic). The initial high-risk population would be identified as poorly controlled diabetics with a HbA1c value  $\geq 9$  who were not seen in the last three months. A population care approach is essential—one can't simply wait for the next arbitrary office visit to affect this group. Therefore, the practice would designate some daily scheduling slots or a specific afternoon or evening clinic session to diabetic patients called in specifically to intensify care. Note, some patients won't respond and will not come in until their next appointment; however, they still need to be treated with a sense of urgency and more frequent visits when they do return. At the time of the office visit, patients who need care intensified can be identified through an EHR flagging mechanism such as a "best practice alert" or, absent this, through a pre-visit list derived from the original HbA1c report.

Medication intensification is often delayed in the care of patients of color because of an implicit bias toward “non-compliance” [4, 7, 24, 25]. This perception should be tackled head-on with a formal medication adherence assessment performed by a CNA, nurse, or peer supporter (patients tend toward a social acceptability bias with their clinician and often omit adherence problems during the visit). If the patient is non-adherent, systematic exploration of the barrier (e.g., cost, side effects, perception of harm, false information from a friend or the internet) is imperative and the barrier must be addressed or the medication changed. If the patient is adherent, treatment should be intensified through dose up-titration or adding medication using a treatment algorithm, e.g., the American College of Physicians or the American Diabetes Association. Standard orders based on these algorithms can be used for between-visit titration by staff. Clinicians must always be aware of cost issues, especially for newer diabetes medications.

Accountability can be achieved by presenting quarterly race/ethnicity-specific reports (proportion of patients with HbA1c  $\geq 9$ ) per clinic or per clinician at staff meetings followed by brainstorming about successes and failures. Incentives such as periodic pay for performance for reducing the proportion of diabetics with HbA1c  $\geq 9$  and reducing gaps between demographic groups could be considered. As the program matures, reporting results to patients, an advisory board, or the community should also be considered.

Enhanced communication should begin by putting all clinic-based communication in clear language (rather than complex medical terms). If staff is not racially/ethnically concordant with patients, training in best communication practices and specific barriers to care should be provided. For patients with persistently uncontrolled chronic illness, a stepped communication program should be considered, starting with intermittent phone check-ins (with or without actual glucose monitoring) and/or a text reminder protocol [26]. For patients unresponsive to phone/text intervention, a CHW/peer-support approach, akin to the ACCURE navigator, could be used to help patients with lifestyle, referral to resources, medication adherence, and bridging communication with the clinical team [12, 27]. Although these options are labor intensive and seemingly out of reach for the typical primary care practice, the clinically integrated networks and managed care entities that are part of NC Medicaid transformation are in the process of developing shared services in these areas with early emphasis on community health workers.

The example described here focuses on diabetes care for which chronic management interventions have a long time horizon requiring systematic care. NC AHEC Practice Support can also partner with practices to address optimization and disparities in pediatric immunizations. This task can be approached using similar population techniques but can more easily be resolved with short-term vaccine appointments that would be particularly effective when combined

with recommended childhood screening for developmental delay, behavioral health, and other important issues. Maternal and infant mortality disparities remain statewide concerns. The first step here is to address the Healthy NC 2030 goal for beginning prenatal care early [13]. In the future, population techniques that systematically tackle maternal harms such as stresses derived from low socioeconomic status or experiencing racism, comorbid illness, and nutritional limitations are needed.

In conclusion, transparency through real-time digital data; accountability through quality improvement that is mindful of disadvantaged groups; and serial enhanced communication incorporating community voices have all been shown to markedly reduce disparities and improve health care for everyone. To truly achieve health equity, additional efforts surrounding SDOH—such as access to health insurance, healthy foods, and a living wage—coupled with interventions to attenuate the physiologic effects of experienced racism, will be needed. However, equity in actual health care is an impactful first step. **NCMJ**

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