a population of subjects being screened for cancer. The Nederlands-Leuvens Longkanker Screenings Onderzoek (NELSON) trial may teach us how to incorporate nodule volume measurement in a screening setting to reduce use of unnecessary imaging and biopsy procedures.[7]

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A New Paradigm

Approaching Racism as a Method of Disease Prevention

Over the past decade, literature has emerged that shows plausible but loosely defined associations between blacks' perceptions of racism and the risk of developing significant health problems, including hypertension, coronary artery calcification, sleep disturbances, preterm labor, and obesity.[1-5] The report by Coogan et al[6] in this issue of *CHEST* (see page 480) takes the association of the racism experience and health to a new level as the authors present a thorough analysis drawn from a large and enduring cohort, the Black Women's Health Study. Their results strongly connect perceived racism and the development of adult-onset asthma during subsequent years. Although their findings were derived from a survey, the definition of asthma was rigorous, requiring a clear report of physician diagnosis coupled with the use of asthma medication at least three times per week for a patient to be considered as an asthma case. In addition, asthma cases identified during the 1997 base survey were excluded from the cohort.

Besides the firm case definition, the authors were able to control for other asthma risk factors by using specific items on the questionnaire. Even when these potential confounding factors were incorporated into statistically robust regression models, the results still showed a 45% increased asthma risk in women whose responses scored them in the highest quartile of perceived racism in 1997 when compared with women who scored in the lowest quartile. Furthermore, the women in this highest baseline quartile of racism experiences who maintained the same intense perceptions 12 years later had an adult asthma incidence 100% higher than the lowest quartile. These data not only suggest that experiencing acute racism in the present can adversely affect health outcomes, but that a dose-dependent risk likely exists over time.

One weakness of this study, acknowledged by the authors, was the inability to prove that the women who had greater perceptions of racism did not systematically live in areas of poor air quality or toxic environmental exposure. However, given the cohort size of 38,142, and $>1,000$ asthma cases ascertained, it would be hard to imagine such a profound, unidirectional, statistical bias. When factoring in the sample size and the plausible biologic effect of racism-related stress on airway and immune function,[7-9] this putative relationship of perceived racism and disease is one of the most strongly demonstrated yet.

During a time when literally hundreds of studies have documented racial disparities in the medical care of blacks, from care for tooth loss to lung cancer treatment, how do we operationalize the findings of Coogan et al[6] in a reasoned, actionable manner? First, we now have evidence that beyond the hurt and social stigma, racism is a public health issue. As such, given the high cost of asthma care, we should consider public health/disease prevention interventions. An example would be the incorporation of evidence-based elements of antiracism training programs into early education curricula with an eye toward the long-term attenuation of racism at all ages. Facing the problem

of racism head on not only makes social sense, but, at a relatively modest cost, the prevention of asthma and other racism-associated adverse health effects would likely provide a strong return on investment in an era of diminishing health-care resources.

A second approach could be to screen minority populations with experiential racism assessment tools, followed by an offer of counseling for those with scores indicative of a high burden of racism. Currently, there are sparse data to suggest screening plus intervention, essentially as secondary prevention, would be effective, so incorporating a research evaluation process would be necessary. In addition to the lack of scientific support, another countervening argument would be the possible unintended consequence of emotional restigmatization for the screening participants, making it imperative that any screening or counseling intervention be assessed for psychologic harm as well as benefit.

Finally, as we sift through the landscape of poorer black health outcomes compared with health outcomes of white Americans, we must create an environment of awareness and transparency at the provider and health-system level. Beyond "cultural competency," providers should be aware that implicit or unintended bias exists.[10,11] This bias represents our tendency to internalize negative stereotypes about groups with whom we are less familiar, leading to more difficult communication and less willingness to consider risky or complicated therapeutic options. An awareness of these nonconscious processes allows physicians to work toward dismissing them and eliminating variables in their decision-making that are medically superfluous.[12] On the system side of the equation, we now have a decade of evidence that individual cultural competence training is not enough to resolve health-care disparities, and system fail-safe mechanisms must be used. One such mechanism could be organizational feedback of important care measures reported in a race-specific manner.[13,14] Race-specific reports would not only serve to demonstrate overall quality and equity, but would allow an institution to use Institute of Healthcare Improvement-style quality-improvement techniques that could zero in on the local factors associated with outcome disparities and craft system-based interventions to optimize care for everyone.

In conclusion, although a survey-based epidemiologic study cannot definitively prove causality, Coogan et al[6] have documented one of the strongest links yet between perceived racism and health. We should use these data to approach racism as an important deleterious factor in population health and recognize its prevention as a means of health promotion while also redoubling efforts to reduce disparities on the treatment end of the disease spectrum.

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