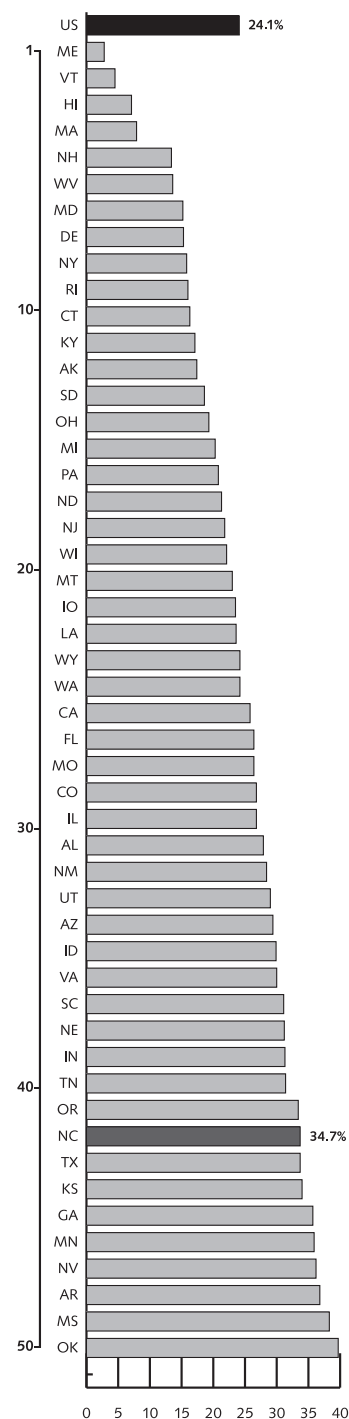


Differences in health by race and ethnicity have been consistently observed across a range of health indicators. As a general rule, racial and ethnic minorities^a have poorer health status and experience poorer health outcomes than non-minorities.^{1,2} Health disparities^b by race and ethnicity are also noted in health care access and quality, with minorities generally having less access to health care and health insurance and experiencing lower quality of health care than non-minorities.^{2,3} These health disparities are not new, and while some disparities are slowly shrinking (e.g. life expectancy (US)), a few are actually increasing (e.g. health status as fair/poor for African Americans (US)).⁴ To achieve a healthier North Carolina, the health of our entire population must improve; thus, addressing health disparities is an important strategy to improve the overall health of the state.

The United States is becoming increasingly diverse. In 2008 racial and ethnic minorities comprised approximately 34% of the United States' population; by 2050, it is projected that these once "minorities" will account for more than half of the United States population.⁹ In 2006 14 of North Carolina's 100 counties were "majority-minority" counties, in which whites made up less than half of the population.¹⁰ In 2007 North Carolina had a higher proportion of African Americans than the nation as a whole (21.7% and 12.8%, respectively). North Carolina had the seventh highest proportion of African Americans compared to other states.^{11,12} While the percentage of Latinos is lower in North Carolina than the nation as a whole (7% and 15% in 2008, respectively), between 1990 and 2000 this population grew faster in North Carolina than in any other state and has since more than doubled.¹³ In addition, the population of American Indians in the state is one of the largest in the nation (1.2%, or approximately 106,000 people).^{14,11} Because of the large and growing numbers of racial and ethnic minorities in North Carolina, our state will not be able to make significant improvements in overall population health without addressing racial and ethnic health disparities.

In North Carolina, minorities are more likely to report that their health status is fair or poor compared to whites. In 2008 American Indians had the worst self-reported health, with 30% reporting fair/poor health, followed by Latinos (28%),

Race and Ethnicity Equity Ranking, 2007^c



Source: JC Cantor, C Schoen, D Belloff, SKH How, D McCarthy, Aiming Higher: Results from a State Scorecard on Health System Performance, The Commonwealth Fund Commission on a High Performance Health System, June 2007

a Throughout this section, "minorities" and "people of color" are used interchangeably with "racial and ethnic minorities" to refer to all people other than whites.

b There is no consensus definition for health disparities in the literature. In this chapter, health disparities are racial/ethnic gaps in health (health status, health outcomes, health care access, and health care quality).

c The race and ethnicity equity rank is the average of each state's rank across the following indicators: uninsured, not visited a doctor in past two years, did not go to doctor when needed to because of cost, did not receive recommended screening and preventive care, children without both a medical and dental preventive care visit in the past year, adults without a usual source of care, children without a medical home, mortality amenable to health care. States were ranked by the size of the gap between the US average for each indicator and their most vulnerable non-white group. The race/ethnicity equity ranking was calculated by comparing gaps in performance among subgroups of patients by income level, insurance coverage, and race/ethnicity. The analysis compares performance levels among each state's most vulnerable populations to the national average for selected scorecard indicators for which data are available.

Measuring Race and Ethnicity

Many alternative terms are used to refer to diverse racial and ethnic communities. The terms *race* and *ethnicity* are social constructs used to categorize people by various characteristics including physical appearance, culture, nationality group, and country of birth of a person or their parents or ancestors before their arrival in the United States. The American Anthropological Association (AAA) does not distinguish between race and ethnicity; in a policy statement, the AAA says “race and ethnicity both represent social or cultural constructs for categorizing people based on perceived differences in biology (physical appearance) and behavior. Although popular connotations of race tend to be associated with [appearance] and those of ethnicity with culture, the two concepts are not clearly distinct from one another...populations with similar physical appearance may have different ethnic identities, and populations with different physical appearances may have a common ethnic identity.”⁵

Although the two terms are often used interchangeably in discussion, for data collection purposes, the federal government, pursuant to an Office of Management and Budget directive, uses the terms “race” and “ethnicity” in distinct ways. The federal government distinguishes “races” from “ethnicities” according to the following: when race-specific data are presented, data should be categorized into at least five categories consisting of 1) American Indian or Alaska Native, 2) Asian, 3) Black or African American, 4) Native Hawaiian or Other Pacific Islander, and 5) White. The two categories for data on ethnicity are 1) Hispanic or Latino and 2) Not Hispanic or Not Latino. When self-reporting is used, respondents can select more than one race category. These categories were developed to help standardize federal data collection. These categories “represent a social-political construct designed for collecting data on the race and ethnicity of broad population groups in this country and are not anthropologically or scientifically based.”⁶

In practice, when these categories are used to collect data, data often treat Hispanic or Latino origin as a separate race; anyone reporting they are of Hispanic or Latino origin, regardless of their race, is categorized as Latino (or Hispanic) and those not reporting Latino origin are reported by their race. Often “non-Latino/Hispanic” is implied but not expressly indicated. Furthermore because data are typically collected according to these guidelines, most research on racial/ethnic disparities uses the same terms to classify racial/ethnic differences. The terms *Hispanic* and *Latino* refer to slightly different subgroups but are often used interchangeably. In North Carolina, most groups prefer the term Latino.⁷ Throughout this report, we use the term Latino regardless of the original term used when collecting data.

In 2008, approximately 67.2% of North Carolinians were white, 21.2% African American, 7.4% Latino, 1.9% Asian, 1.1% American Indian, 1.1% two or more races, and 0.1% Native Hawaiian or Pacific Islander.⁸ Due to the relative size of Asian, Native Hawaiian, and Pacific Islander populations in North Carolina, these groups were combined in the data presented in this report. Furthermore, at times the size of the Asian, Native Hawaiian, Pacific Islander, and American Indian populations are so small that separate subgroup analyses may not have sufficient numbers to be statistically meaningful. Although these groups have varying cultures and characteristics, data availability often leads to collapsing these groups into one group, often called “Other.” To simplify the discussion related to race and ethnicity, the North Carolina Institute of Medicine uses the following terms: American Indian, Asian (which includes Asian, Native Hawaiian, and other Pacific Islander), African American, white, and Latino. Unless otherwise noted, all categories except Latino are non-Latino.

other races (25%), African Americans (20%), and whites (15%).¹⁵ (See Table 10.1.) In addition, the difference in life expectancy between minorities and the state's white population is 4.7 years (72.1 years and 76.8 years, respectively), with minority men having the lowest life expectancy, 68 years.¹⁴

Minorities experience health disparities from birth. African Americans, American Indians, and Latinos in North Carolina have higher infant mortality rates per 1,000 live births than whites (15.2 %, 12.0%, and 6.5% vs. 6.1% respectively), with African Americans having the highest rate.¹⁴ Minorities, particularly African Americans and Native Americans, also have higher mortality rates than whites for the majority of conditions listed in Table 10.1. Moreover, African Americans generally have a higher risk of mortality compared to whites and other racial/ethnic groups. (See Figure 10.1.) Of note is that the mortality rates and health status indicators for Latinos are generally better than for whites. This is often referred to as the “healthy immigrant effect” and may be due to the fact that people who immigrate to the United States are generally healthier than their peers born in the United States (e.g. beneficial selection effects). For example, birth outcomes for some Latino immigrant populations are better than those for Latinos born in the United States. However, as Latinos or other immigrant populations acculturate, their health status deteriorates on many health indicators.^{16,2}

People of color in North Carolina are also more likely to have risk factors for some of the underlying causes of poor health. (See Table 10.2.) African Americans are significantly more likely to have high blood pressure, be obese, have lower levels of physical activity, and be diagnosed with diabetes than whites. American Indians are more likely than whites to be current smokers, be obese, and have lower levels of physical activity. Latinos are significantly more likely than whites to have lower levels of physical activity and participate in binge drinking.^{14,15,17} However, African Americans are less likely to binge drink or drink heavily than whites and are less likely to be depressed.¹⁷ Furthermore, racial and ethnic minorities have less access to health care than non-minorities. People of color are significantly less likely than whites to have health insurance and are more likely to delay necessary medical care due to costs. In addition, Latinos and American Indians are less likely than whites to have a personal health care provider.¹⁵ Minorities in North Carolina are also less likely to have ever had a colonoscopy, prostate-specific antigen test, or mammogram to screen for cancer.¹⁸

Factors Influencing Health Disparities

The cause of these racial and ethnic disparities is not completely understood. The role of unavoidable biological aspects and differences is limited, with only a few diseases (e.g. sickle cell anemia) having any distinct genetic basis.¹⁹ Differing levels of access to health care may also affect disparities in health status and health outcomes. People of color are less likely than whites to have health insurance or to have a primary care physician.² In addition, they have more difficulty accessing care and as a result, are more likely to receive care in emergency departments. In North Carolina, many racial and ethnic minorities live in rural areas; lack of

North Carolina will not be able to make significant improvements in overall population health without addressing racial and ethnic disparities.

People of color in North Carolina are more likely to have risk factors for some of the underlying causes of poor health.

Racial and ethnic disparities often persist even after controlling for factors such as insurance status, income, age, co-morbid conditions, and symptom expression.

Table 10.1
Minorities in North Carolina Generally Have Higher Mortality Rates than Whites, North Carolina^d

	White	African American	American Indian	Other Races	Latino	Total
Mortality rates^[1] 2003-2007						
Infant deaths per 1,000 live births	6.1	15.2	12.0	6.0	6.5	8.4
Heart disease	200.3	247.8	230.6	85.7	70.3	206.5
Stroke	52.2	78.1	61.2	36.1	20.8	56.4
Diabetes	20.5	53.1	50.2	13.6	11.4	25.9
Nephritis, nephrosis	14.6	36.0	23.0	9.4	9.7	18.1
Chronic lower respiratory disease	50.7	29.8	32.0	8.5	9.7	46.5
HIV	1.3	17.6	NA*	NA*	2.8	4.7
Cancer	187.0	226.5	161.5	95.2	78.5	191.4
Lung cancer	59.9	57.1	54.8	21.8	14.6	58.5
Colorectal cancer	16.5	23.6	12.3	9.8	8.2	17.5
Breast cancer	22.9	33.8	21.1	9.8	9.5	24.7
Prostate cancer	22.2	61.0	31.5	NA*	NA*	27.5
Unintentional motor vehicle injury	18.6	18.4	39.4	10.5	26.9	19.3
Other unintentional injury	29.9	22.0	28.1	8.3	13.4	27.5
Homicide	3.6	16.3	19.0	4.7	10.2	7.2
Suicide	14.1	5.0	8.3	6.0	4.8	11.6

[1] Except for infant mortality, mortality rates are age-adjusted per 100,000 population. Data from the 2007 National Center for Health Statistics Bridged Population Estimate file.

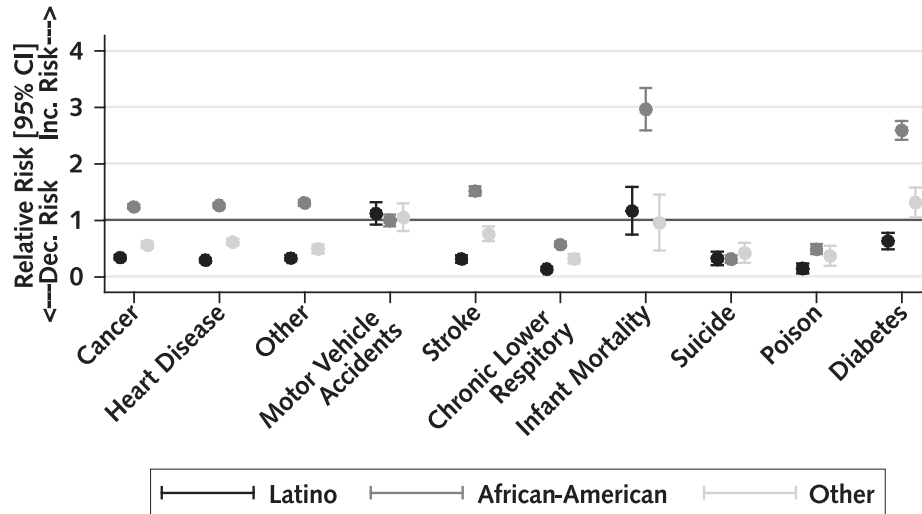
*Rates based on less than 20 deaths are statistically unstable.

Source: State Center for Health Statistics. Health profile of North Carolinians: 2009 update. <http://www.schs.state.nc.us/SCHS/pdf/HealthProfile2009.pdf>. Published May 2009. Accessed May 20, 2009.

transportation and a lack of health care providers in rural areas can add to access barriers.¹⁴ A 2007 study by the Commonwealth Fund found that having a medical home eliminated disparities in terms of access to medical care.²⁰ However, other racial and ethnic disparities often persist even after controlling for factors such as insurance status, income, age, co-morbid conditions, and symptom expression.² Socioeconomic factors (discussed in more detail in Chapter 11), such as income, education, and housing, also affect health disparities, as a larger proportion of minorities than non-minorities are represented in lower socioeconomic tiers. Research has shown that income and education can account for approximately 3%

^d Mortality rates have not been adjusted for socioeconomic factors such as income and education.

Figure 10.1
African Americans Have Higher Relative Risk^e of Mortality than Whites,
North Carolina 2006-2007



Source: North Carolina Institute of Medicine. Analysis of the North Carolina Vital Records, 2006-2007 North Carolina Vital Statistics.

to more than 50% of the minority/non-minority gaps in mortality rates for certain conditions.²¹ However, even after controlling for socioeconomic factors, health disparities by race and ethnicity remain. For example, Figure 10.2 illustrates that for each increasing income level the percentage of people who report fair/poor health decreases.¹ It also shows that for each income level, African Americans are more likely to report fair/poor health than whites. Figure 10.2 also illustrates the healthy immigrant effect for Latinos, with Latinos reporting better health than both white and blacks below 200% Federal Poverty Guidelines (FPG). Therefore, while differences in income can explain some of the disparity in health status, gaps by race and ethnicity remain.

Remaining gaps in health between people of color and white populations can be partly explained by their unique social experiences. The United States has a long history of racial/ethnic segregation and inequality, and while the country has made an effort to diminish and erase these racial and ethnic inequalities, some subtle (and sometimes blatant) interpersonal and institutional bias remains. This bias shapes and restricts economic and social opportunities. Research has indicated that perceived racial/ethnic bias contributes to health disparities even after controlling for income and education.¹ Perceived bias and social status also affect stress levels. High stress levels, which have been shown to have negative effects on health, are more prevalent in minority populations compared to non-minority

Remaining gaps in health between people of color and white populations can be partly explained by their unique social experiences.

^e Relative risk is a measure of the risk of an event occurring in one group compared to another. A relative risk of one means that there is no difference in risk. A relative risk greater than one means that the group has a higher risk compared to the other group. Relative risk less than one means less risk of an event occurring.

Trust in the health system is important to health and is closely related to utilization of medical services, medication/treatment compliance, and establishment of long-term relationships with health care providers.

Table 10.2

Minorities in North Carolina are Generally More Likely than Whites to Have Risk Factors for Disease/Illness

	White	African American	American Indian	Asian	Other Races	Latino	Total
Current Smoker	21%	22%	14%*	35%*	16%	19%	21%
Obese	27%	41%*	28%	35%*	5%*	22%	30%
No Leisure Time Physical Activity	23%	29%*	33%*	36%*	26%	17%	25%
Fair/poor health	15%	20%*	28%*	30%*	13%	25%	17%
Diabetes	8%	16%*	5%*	12%	2%*	5%*	9%
High blood pressure ^[2]	29%	42%*	12%*	34%	13%	29%	29%
Uninsured	11%	21%*	67%*	27%*	13%*	31%*	18%
Did not see doctor due to cost	13%	23%*	30%*	26%*	10%	28%*	17%
No personal provider	17%	20%	64%*	26%*	19%	35%*	22%

Note: Shaded cell denotes after adjustment for age and income, significantly different from average for white at 5%.

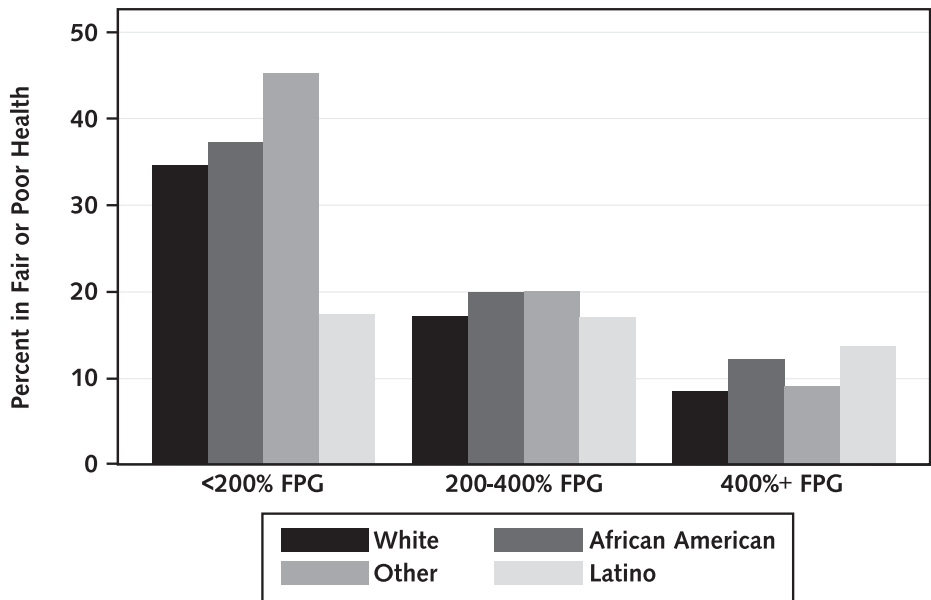
* Denotes unadjusted (sample average) significantly different from average for white at 5%.

Source: North Carolina Institute of Medicine. Analysis of North Carolina Behavioral Risk Factor Surveillance System, 2008 data except for High Blood Pressure (2005 data).

populations.^{1,22} In addition, patient segregation across hospitals is still observed due to the lingering patient referral patterns used during segregation.²³

Due to past discrimination, there is also documented mistrust in medical care and the health care system among racial/ethnic minorities.^{1,24,25} The most notable example of discrimination in medicine is the Tuskegee Study of Untreated Syphilis in the Negro Male. In 1932, the United States Public Health Service began a 40-year study of the natural course of syphilis in African American men. Investigators intentionally deceived participants and withheld treatment, even after penicillin became available in the 1940s.²⁶ Furthermore, until 1974 it was common practice to conduct medical research in prisons and hospitals for the mentally disabled with predominately minority populations.^{f,27} Between 1933 and 1974, North Carolina conducted forced sterilizations of "mentally diseased, feeble minded or epileptic" individuals as part of the eugenics movement in the state. Many of these sterilizations were performed on racial and ethnic minorities, especially African American women.^{28,29} These incidents, along with decades of segregation and discrimination, have made some racial and ethnic populations, particularly African Americans, distrustful of the American health care system. Trust in the health system is important to health and is closely related to utilization of medical services, medication/treatment compliance, and establishment of long-term relationships with health care providers.²⁴ As a result of distrust, people of color are less likely than whites to utilize health services.^{24,25,30} Distrust of the health

Figure 10.2
Racial and Ethnic Health Disparities Remain after Controlling for Income



Note: 100% of the Federal Poverty Guidelines is \$22,050/year for a family of four in 2009. Rates are age-adjusted.

Source: North Carolina Institute of Medicine. Analysis of US Census Bureau's Community Population Survey, 2000-2007.

care system is also strongly associated with worse self-reported health status, even after adjusting for age, sex, race, education, income, and insurance coverage.³¹ Minority patients are more likely to go to a provider with a similar racial and ethnic background as themselves.^{32,33} Previous reports by the North Carolina Institute of Medicine have recommended training more minority health care providers to meet the needs of an increasingly diverse state.³³

Addressing Racial and Ethnic Disparities

With the disproportionate burden of disease and mortality experienced by minorities and the diversity of the state and nation growing, more and more people will be at risk for poor health. Increasing numbers of people with poor health will lead to a less healthy state and higher health care costs. To reduce health disparities while improving population health, large scale public policy and public health interventions should be structured so that the effects of the interventions are independent of motivation, resources, or actions of individuals.^{34,35} In other words, programs need to be appropriate for everyone, independent of race, ethnicity, culture, income, education, or geography (e.g. water fluoridation and mandatory seat belt use).

f In 1974 the National Research Act was passed, creating a Commission to identify and develop guidelines for ethical research involving human subjects. The Commission created the Belmont Report, the basis for ethical research practices in the United States.

To reduce racial and ethnic health disparities and create effective health activities for at-risk populations, researchers and public health professionals need to understand the ways in which the unique experiences of racial and ethnic populations affect the health of that population.

In addition, an understanding of disparities and their sources is important for targeting prevention activities for at risk populations, such as those experiencing racial/ethnic disparities. Race and ethnicity are socially constructed categories based on individual and collective histories as well as disproportionate levels of access to social and economic opportunities.²² In other words, belonging to a particular racial/ethnic group represents a unique set of social experiences that have an effect on health. These social experiences influence predictors of health such as income, education, housing, and trust in the medical system (discussed above). To reduce racial and ethnic health disparities and create effective health activities for at-risk populations, researchers and public health professionals need to understand the ways in which the unique experiences of racial and ethnic populations affect the health of that population. The practice of considering these experiences and incorporating them into health care activities is known as cultural competence.³⁶ Increasing the cultural and linguistic competency of health care providers can increase quality of care.^{g,33} The national Office of Minority Health has created standards for cultural competence, focusing on health care organizations and providers. The North Carolina Academy of Family Physicians is conducting a three-year initiative aimed at improving cultural competence among physicians delivering family medicine and primary care services.³⁷ Partnerships within the community and the involvement of community members can provide researchers and public health professionals with valuable insights into the experiences of a community; community-based partnerships combine the knowledge of providers, researchers, and community members to structure effective programs for a particular community.

Strategies that promote community involvement and empowerment have been shown to improve health seeking behaviors.³⁸ One model for community participation is the use of lay health advisors (also known as community health workers). Lay health advisors are community members who are trained to advise and assist other members of their community with health issues.^h They also act as liaisons between the community and health professionals. Lay health advisors are a part of the community and therefore are a trusted source of health information. Studies have shown that the use of lay health advisors has increased utilization of services, fostered consumer activation (i.e. a person's ability to manage his or her own health and health care), and produced changes in health behavior in racial and ethnic communities.³⁸⁻⁴⁰ One example of an effective lay health advisor program is the North Carolina Breast Cancer Screening Program (NC-BCSP), which utilized a lay health advisor intervention to increase breast cancer screening among rural African American women ages 50 and older.⁴¹ Over two years (1993-1994 and 1995-1996) 170 trained lay health advisors provided one-on-one sessions with local African American women to reinforce the promotion of breast cancer

g The National Standards on Culturally and Linguistically Appropriate Services (CLAS) can be found at <http://www.omhrc.gov/templates/browse.aspx?lvl=2&lvlid=15>.

h In order for lay health advisors to be effective, they must be adequately trained and supervised. (Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. *Unequal treatment: confronting racial and ethnic disparities in health care*. National Academies Press: Washington, DC. 2003.)

screening using culturally sensitive materials. Evaluation of the intervention showed a statistically significant six percentage point increase in community-wide, self-reported mammography use; low-income women experienced an even larger increase, 11 percentage points.⁴¹

Some lay health advisor programs are setting-specific, such as faith-based or salon-based interventions. These programs recognize the importance of particular settings in the lives of different populations. For example, the majority of Americans are members of some form of religious institution, with more than 90% of North Carolinians reporting a religious affiliation.⁴² The resources and followings of faith institutions make them advantageous settings for health interventions. While faith-based lay health advisor programs have been described in the literature, only a few used study designs that allow for outcome evaluation. Nonetheless, evidence points to the potential for these programs to effectively change health behaviors.^{42,43} Beauty salons are another innovative setting for interventions, as they provide a safe and trusted place to socialize and discuss beauty and health. Like faith-based programs, few studies of using cosmetologists as lay health advisors to effect health behavior change have evaluated outcomes, yet some have shown positive results (e.g. North Carolina BEAUTY and Health Project described below).⁴⁴

Community-based participatory research (CBPR), utilizing community partnerships between researchers, providers, and the community, is another method used to increase cultural competence and reduce racial/ethnic disparities. This method focuses on the local relevance of public health problems and aims to identify and implement effective health promotion strategies built on the strengths and resources of a community.³⁴ These programs also tend to use lay health advisors.^{34,45} The North Carolina BEAUTY and Health Project used CBPR to develop a lay health advisor intervention to increase awareness of cancer and promote health behavior change. Members of the community were involved in creating research questions, intervention priorities and strategies, and evaluating the results of the program.⁴⁴ The study showed that cosmetologists were able to successfully deliver locally informed, culturally competent messages and that over half of customers reported health behavior changes due to conversations with their cosmetologist. While there are only a few studies evaluating the effectiveness of CBPR, initial results are promising.^{45,46} CBPR has the potential to reduce disparities by producing research that more effectively addresses the needs and strengths identified by at-risk communities.

An important resource for community partnerships and involvement is the North Carolina Office of Minority Health and Health Disparities (OMHHD), which advocates for policies and programs to increase access to public health services for racial and ethnic minorities in the state. The OMHHD conducts a lay health advisor program as well as provides grants to community-based organizations supporting lay health advisors. The Community Health Ambassador Program trains African American, American Indian, and Latino Community Health Ambassadors (i.e. lay health advisors) from all over the state to educate

Lay health advisors are a part of the community and therefore are a trusted source of health information.

community members about the prevention of illness and access to health care services.⁴⁷ In addition, the OMHHD provides grants through the Community Focused Eliminated Health Disparities Initiatives to build the capacity of community-based organizations to address and improve the health of racial and ethnic minorities.⁴⁷

To improve the effectiveness of interventions designed to reduce health disparities and improve the health of racial and ethnic minorities, the Task Force recommends:

Recommendation 10.1: Fund Evidence-Based Programs to Meet the Needs of Diverse Populations

- a) Public and private funders supporting prevention initiatives in North Carolina should place priority on funding evidence-based programs and practices. Intervention selection should take into account the racial, ethnic, cultural, geographic, and economic diversity of the population being served. When evidence-based programs are not available for a specific population, public and private funders should give funding priority to best and promising practices/programs and to those that are theory-based and incorporate elements identified in the research literature as critical elements of effective programs.
- b) The North Carolina Division of Public Health (DPH) should examine racial and ethnic disparities in all of its health promotion and disease prevention activities. To increase the effectiveness of prevention initiatives targeting racial and ethnic disparities, DPH should involve community members, including faith-based health ministries, beauty salons/barber shops, civic and senior citizen groups, and other community leaders or lay health advisors.
- c) North Carolina foundations should provide funding to support and expand evidence-based initiatives targeting racial and ethnic disparities, and expand funding for community-based participatory research.

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