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INVISIBLE, UNEQUAL, AND FORGOTTEN: HEALTH DISPARITIES IN THE ELDERLY

MONIQUE M. WILLIAMS, M.D.*

INTRODUCTION

General health in the United States has improved significantly. However, health disparities persist. Subsets of the population experience an unequal burden of disease, morbidity, mortality, and disability. The root causes of health care disparities are myriad and often multifactorial. The process to effect change must be likewise comprehensive and multidirectional.

The presence of substantial age-related, racial, ethnic, and gender disparities in access and utilization of health care services is well-delineated. Health disparities are classically defined as racial and ethnic differences in the quality of health care that are not due to factors relevant to health care access, clinical needs, patient preferences, or appropriateness of therapeutic interventions. However, age and gender are also significant factors in unequal care. The persistence of health disparities is disturbing and intolerable because disparities are frequently associated with worse medical outcomes and increased mortality. ¹ As Senator William Frist, M.D., stated, "[d]isparities in care actually are subsets or symptoms of our overall health care quality chasms and challenges."² Overall, adults in the United States receive approximately half of recommended health care services.³ Assessment of health care outcomes related to age, socioeconomic status, gender, geography, race, and ethnicity demonstrate greater sys-

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1. See generally COMM. ON UNDERSTANDING AND ELIMINATING RACIAL AND ETHNIC DISPARITIES IN HEALTH CARE, INST. OF MEDICINE OF THE NAT'L ACADEMIES, UNEQUAL TREATMENT: CONFRONTING RACIAL AND ETHNIC DISPARITIES IN HEALTHCARE (Brian D. Smedley et al. eds., 2003) [hereinafter Unequal Treatment: Confronting Disparities in Health Care] (providing an extensive assessment of the differences in the kinds and quality of healthcare received by U.S. racial and ethnic minorities and non-minorities).


3. Steven M. Asch et al., Who is at Greatest Risk for Receiving Poor-Quality Health Care?, 354 NEW ENG. J. MED. 1147, 1148 (2006); Elizabeth A. McGlynn et al., The Quality of Health Care Delivered to Adults in the United States, 348 NEW ENG. J. MED. 2635, 2635 (2003).
temic inadequacies in health services. Older adults in general, racial and ethnic minorities, and women are less likely to receive health care services. The percentage of recommended care received declines with advancing age—i.e., greater than 50% reduction for those sixty-five and older.

The medical model of disease is a useful allegory for health disparities in the United States. The initial stage of understanding a disease is to assess the history and characterize the signs and symptoms of the illness. Subsequently, the causes of the disease and mechanisms of pathogenicity are identified. Defining the mechanisms of disease facilitates development of targeted therapeutic interventions to treat, cure, and hopefully eradicate and prevent the illness. Tantamount to the medical model of disease, this paper defines health disparities, outlines the history of unequal health and health care service utilization in the elderly, enumerates the scope of the problem, analyzes causes, and recommends potential interventions for elimination of disparities in older adults.

The changing population demographics in the United States emphasize the urgency of awareness and elimination of health disparities in older adults. Advances in medical therapy, including eradication of some infectious diseases, have done little to increase longevity, but rather, have increased the proportion of people who attain advanced age. During the last century, industrialized nations have increased average life expectancy by thirty years, an achievement that far exceeds the accomplishments of the previous five thousand years of civilization.

Older adults compose the most rapidly growing subset of the United States population, with the “oldest old” (persons aged eighty-five years and older) accounting for the largest increase. During the twentieth century, the proportion of the nation's population aged less than sixty-five years tripled. The subset of the population aged sixty-five years and older increased by a factor of eleven. The number of elderly increased from 3.1 million in 1900 to 33.2 million in 1994. By 2030, one in five persons in the United States will be elderly, and by the middle of this century, there will be more than eighty million older adults.

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4. See Frist, supra note 2, at 445.
5. Asch et al., supra note 3, at 1152.
The population is not only getting older but also is becoming more diverse; that is to say, ethnic and racial minorities represent an increasing proportion of the United States population. Soon, nearly one in four older adults will be a minority.\(^8\) The aggregation of lifelong patterns of disadvantage becomes apparent in late-life.\(^9\) Thus, the health care issues that afflict an increasingly elderly and increasingly diverse population represent a looming crisis.

I. HISTORY OF HEALTH DISPARITIES IN THE ELDERLY

A. Ageism

Historically in our nation, the agrarian culture provided insurance for respect and care of elders. Farms were often owned by older men, and the family structure revolved around the household. Industrialization signified a change in social structure.\(^10\) Younger adults started working outside the home, often in more urban environments, and the elderly experienced a role of greater dependence. With increasing numbers of older adults, including those with dementia and physical frailty, the perception of the elderly as a burden to family and society evolved. Unfavorable attitudes towards the elderly can also be attributed to fear of dying or functional and cognitive decline that may occur.\(^11\) Thus, some of the bias against older adults is a manifestation of misperceptions, fear, and anxiety. “Ageism” means prejudice towards, stereotyping, or discrimination against persons based solely on chronological age deemed to be “old.”\(^12\) Negative depictions of the elderly are pervasive in the media and popular culture. Pejorative terms for older adults persist in the lexicon. A more worrisome trend is the existence of epithets for the elderly that are unique to the medical profession.\(^13\)

Ageism is highly prevalent. In a sample of eighty-four persons with mean age seventy-five years, Erdman Palmore demonstrated that the majority of respondents endorsed experiences of ageism.\(^14\) More than 77% of participants reported experiencing

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10. See Butler, supra note 6, at 1.
11. Id.
13. Id. at 23.
one or more incidents of ageism, and over half reported that the episodes occurred more than once.\textsuperscript{15} Frequent types of ageism reported were being ignored or addressed with an insulting name, being treated with less dignity and respect, or being patronized.\textsuperscript{16} Other complaints included the assumption by a physician or nurse that ailments were attributable to old age.\textsuperscript{17} Older women may be more vulnerable to ageism. Women have a longer life expectancy, compose the majority of nursing home residents (80%), and, consequently, have greater susceptibility to ageism, mistreatment, and unequal care.\textsuperscript{18}

Age prejudice remains socially acceptable and influences interactions with the elderly. Younger adults often employ a different tone of voice, slower rate of speech, and exaggerated pitch to communicate with older adults. Such behavior is demeaning, and older adults may assimilate the implicit message of the interactions and develop consequent decreased self-efficacy and self-esteem. Research indicates that negative attitudes towards the elderly have an adverse impact on health, blood chemistries, and cognitive performance.\textsuperscript{19}

Negative perceptions of the elderly, whether conscious or unconscious, adversely impact the healthcare they receive. Inaccurate stereotypes about aging and care of the elderly endure in the public arena and health professions. For example, caregivers and physicians may subscribe to the myth of “senility” as a normal consequence of aging. The misperception that cognitive decline is a natural occurrence with aging can delay dementia assessment, diagnosis, and treatment.\textsuperscript{20} Older patients are often in complicity with their physicians, believing that cognitive decline, functional impairment, poor health, pain, and depression are anticipated aspects of aging.

II. THE SCOPE OF THE PROBLEM AND ROOT CAUSES

A. Ageism and Health

Institutional ageism is often unintentional, but it is pervasive in the health care infrastructure. The impact of age discrimination is evident across all aspects of health care. Health care policies and practices, the health delivery system, and health professionals manifest ageism.

\textsuperscript{15} Id.  
\textsuperscript{16} Id.  
\textsuperscript{17} Id.  
\textsuperscript{18} Butler, \textit{supra} note 6, at 2.  
\textsuperscript{19} \textit{Ageism in America}, \textit{supra} note 12, at 23–36.  
\textsuperscript{20} See \textit{infra} notes 180–81.
Health promotion and disease prevention efforts have emphasized children and younger adults. The nation aggressively advocates for education of parents to ensure proper care of children. Comparable support systems for care of frail and vulnerable older individuals are less well-developed. Medical education and resident training provide inadequate instruction in geriatrics and care of the older patient. Similarly, caregivers may receive no information concerning optimal care of a newly diagnosed elder with any chronic, progressive illness or acute change in clinical status. Clinical trials often exclude the elderly, and clinical care mirrors research. Older adults without contraindications receive less aggressive care for numerous diseases including heart disease, cancer, stroke, and diabetes. Understanding of medical issues pertaining to the elderly, as well as respect for and acceptance of senior citizens, is lacking in the general population.

B. Elder Mistreatment

Elder mistreatment is common and projected to increase in prevalence with changing population demographics, but it remains underreported and under-recognized by health professionals. A recent report in The Lancet indicated that one to three million persons in the United States are victims of elder abuse. The first account of “granny-battering” occurred in the literature in 1975. Elder abuse in the United States is underreported and consequently regrettablly underrepresented. Only one in six cases of elder mistreatment is reported to authorities.

Elder mistreatment includes physical abuse, psychological abuse, neglect, financial exploitation, and violation of rights. Many estimates of elder mistreatment do not include cases of

23. AGEISM IN AMERICA, supra note 12, at 59 (citing Mark S. Lachs & Karl Pillemer, Elder Abuse, 364 LANCET 1263, 1263-1264 (2004)).
25. AGEISM IN AMERICA, supra note 12, at 7.
financial abuse. Every year, five million older adults in the United States are victims of financial exploitation. These abuses are usually related to unauthorized use of an older person’s assets or transferring financial power of attorney in the absence of written consent. However, only 4% of such cases are reported.

Physicians are often reluctant to diagnose and manage elder mistreatment although they are in a unique position to do so. Some older adults’ only interactions with individuals outside of the household are visits to the doctor’s office. In addition, abuse and neglect often have significant effects on health. There are several barriers to diagnosis of elder abuse by health professionals. Common factors include limited training or knowledge of mistreatment, ageism, paucity of data in the medical literature concerning elder mistreatment, and reluctance to attribute symptoms and signs to abuse. Victims of abuse may not seek evaluation by health care providers, or abuse may be indicated only in subtle clinical findings. The abused person may ask that mistreatment not be reported or be unwilling to confront the alleged abuser. The health care provider may be reluctant to report suspected mistreatment or else be uncertain about the correct reporting procedure. Hesitancy to report mistreatment may also result from the elderly victim or health professional’s concerns that the relationship with a hospital or nursing home will be compromised.

Victims of elder mistreatment have limited recourse and support. Approximately two-thirds of shelters serving victims of domestic violence provide at most minimal assistance to elderly victims. There are federal, state, and local efforts targeted at identifying and addressing elder mistreatment. However, the current state of services for older adults lags behind assistance and advocacy for child abuse and domestic violence. In addition, federal funding for elder mistreatment research has been limited. Further research is needed to accurately define the prevalence of elder abuse, validate putative risk factors, and find effective interventions to diagnose and prevent abuse.

27. Ageism in America, supra note 12, at 7.
28. Id.
29. Swagerty et al., supra note 26, at 2805.
30. Ageism in America, supra note 12, at 63.
31. Id. at 63.
32. See id. at 7 (“Of the total $1 billion National Institute on Aging budget, only $1.7 million goes to NIA Elder Abuse and Neglect Research Funding.”).
C. Clinical Research

Historically, participants in clinical research were young white males. The limited number of studies that did include the elderly often selected only elderly men. At the present time, older adults remain underrepresented in clinical research. Recent mandates for adequate representation of women and minorities in research did not address the issue of limited representation of the elderly.

Despite the advent of evidence-based medicine, data to support management of many diseases and pharmacotherapy in the elderly is limited. Older adults are the largest consumers of medication. In the United States, the elderly represent 13% of the population but consume 30% of medications. However, they are often excluded from drug trials. Older adults with multiple medical conditions and the "oldest old" (eighty-five years and older) are excluded from virtually all studies.

Depression serves as an effective example of how personal and institutional ageism can impact clinical research, health care access, and health outcomes. Depression is prevalent in the elderly and is best understood as a chronic illness with acute exacerbations analogous to asthma. Late-life depression is a major public health issue with depressed older adults frequently undiagnosed and untreated. Depression burdens patients, families, caregivers, and institutions that care for the elderly as a result of increased disability caused by the disease. Depression was the fourth-leading cause of disability in 1990 and is predicted to become the second-leading cause of disability by 2020.

In older adults, even minor depression can impair quality of life. Late-life depression often increases morbidity and mortality

34. Id.
36. See generally Dilip V. Jeste et al., Consensus Statement on the Upcoming Crisis in Geriatric Mental Health: Research Agenda for the Next 2 Decades, 56 ARCHIVES GEN. PSYCHIATRY 848 (1999) (assessing the current state of psychiatric disorders and treatment in the United States today and recommending research to help develop solutions to the growing population of persons with psychiatric disorders).
for concurrent medical illnesses. Depression itself confers significant mortality in the elderly. Older white men have the highest rate of suicide completion of any subset of the population in the United States.

In a recent meta-analysis of antidepressant clinical trials, however, only nine of fifty studies included participants older than fifty-five, and only five of fifty included those over the age of seventy. Despite the fact that older adults tend to be slower to respond to antidepressive agents, antidepressant trials involving the elderly are often of shorter duration—three to four weeks, as compared with four to eight weeks for studies involving younger participants. Under-representation of older adults in general, and the “oldest old,” medically ill, and cognitively impaired elderly in particular, is a pervasive issue in clinical trials of antidepressants, whether they are prescribed for depression or other medical illnesses. Therefore, much of the information concerning use of antidepressants in the elderly must be extrapolated from mixed population studies of antidepressants with consideration of comorbid medical illness in older patients. For older persons, a similar situation exists for innumerous classes of medications and diseases.

D. Clinical Care

There is a growing crisis in mental health care for the elderly. The number of adults sixty-five and older with psychiatric disorders in the United States is projected to increase 275% from four million in 1970 to fifteen million in 2030, and depression accounts for a large proportion of psychiatric illness in the elderly. With a limited number of health professionals appropriately trained in geriatric care, the nation’s healthcare

38. See generally Nancy Frasure-Smith et al., Depression and 18-Month Prognosis After Myocardial Infarction, 91 Circulation 999 (1995) (concluding that depression following a heart attack is a “significant predictor” of mortality); Ray E. Clouse et al., Depression and Coronary Heart Disease in Women With Diabetes, 65 Psychosomatic Med. 376 (2003) (concluding that depression “accelerated the development of [coronary heart disease]” in diabetic women and noting similar outcomes in nondiabetic populations).


40. Maria Stella T. Giron et al., Clinical Trials of Potential Antidepressants: To What Extent are the Elderly Represented: A Review, 20 Int’l J. Geriatric Psychiatry 201, 205 (2005).

41. Id. at 201.

42. Jeste et al., supra note 36, at 848.
infrastructure is ill-equipped to confront the geriatric mental health crisis. 43

Older adults, albeit underrepresented in drug trials, are uniquely vulnerable to the adverse effects of medications. Adverse drug reactions increase in incidence and severity with increasing age. All types of adverse drug reactions are seven times more frequent in individuals aged seventy to seventy-nine than in persons aged twenty to twenty-nine. One in six hospitalizations for patients aged greater than seventy are due to adverse drug reactions, 44 as compared with one in thirty-five hospital admissions for the remainder of the population. 45

The majority of elderly consult a primary care physician rather than a mental health specialist for treatment of depression. 46 Thus, it is imperative that primary care physicians be able to diagnose and treat depression. Unfortunately, research indicates that the ability of primary care physicians to treat and recognize depression is hindered by several barriers. Older patients may regard depression as a normal consequence of physical illness and social and financial problems and may not initiate discussion of depressive symptoms with their primary health provider. 47 Some physicians subscribe to the erroneous belief that depression is more common in the elderly, and they often embrace the equally erroneous concept that depression in the elderly is transient or reasonable. 48 Three-fourths of primary care physicians indicated that they feel that depression in the elderly is "understandable." 49 These beliefs are based on the idea that depression is a natural and anticipated consequence of aging and thus does not warrant clinical attention. 50 This ageist therapeutic nihilism is compounded by both a population of primary care physicians who express limited comfort in prescribing

43.  Id.
46.  Jeste et al., supra note 36, at 850.
47.  See, e.g. Thomas L. Schwenk, Diagnosis of Late Life Depression: The View from Primary Care, 52 BIOLOGICAL PSYCHIATRY 157, 159 (2002).
48.  Id. at 158 ("Some physicians believe, erroneously, that depression is actually more common in elderly than in younger patients, but they also believe (also erroneously) that depression in the elderly is more fleeting or more 'understandable,' and therefore possibly not deserving of treatment.").
49.  Jeste et al., supra note 36, at 850.
50.  Schwenk, supra note 47, at 158.
antidepressants in elderly patients who suffer from concurrent medical conditions and the selection of sub-therapeutic doses of antidepressant.\(^5\)

Psychotherapy has substantial documented efficacy for depression treatment in older adults.\(^5\) However, only a small proportion of elderly patients with depression receive psychotherapy. Of patients who have received psychotherapy, only one-third obtain sufficient psychotherapeutic treatment consistent with guideline recommendations.\(^5\) Higher levels of education correlated with a greater likelihood of having psychotherapy. Wenhui Wei et al. note that barriers to psychotherapy for the elderly include environmental factors, such as limited access to qualified providers.\(^5\)

There is a significant chasm between emerging needs of our aging society and the adequacy of geriatric training for health professionals. Only 5% of social workers identify their primary area of practice as geriatrics. Older adults use a significant proportion of prescription medications, but of 200,000 pharmacists, a mere 720 have geriatric certification. Currently, there are 9,000 geriatricians, and the number is projected to decrease to 6,000. By 2030, the nation will require 36,000 geriatricians to meet growing needs.\(^5\)

With a dearth of geriatricians and geriatric mental health care professionals, as well as a limited number of generalists sufficiently trained in the care of older adults, the nation confronts the crisis of geriatric care with inadequate infrastructure. Many clinicians and researchers lack relevant knowledge of the distinct health care needs and optimal means of health services dissemination necessary for the elderly. Medical school curriculum provides limited exposure to geriatric education and thus serves as an impediment to training of the next generation of physicians in the appropriate care of elderly patients. Nearly all medical schools have mandatory geriatric education curriculum, but slightly more than half of medical students feel that they have

\(^{51}\) Jeste et al., supra note 36, at 850.

\(^{52}\) See, e.g., Wenhui Wei et al., Use of Psychotherapy for Depression in Older Adults, 162 Am. J. Psychiatry 711 (2005) (reporting analysis of national patterns in psychotherapy for older adults diagnosed with depression and examining psychotherapy use consistent with the Agency for Health Care Policy and Research guidelines for duration of treatment).

\(^{53}\) Id. at 713.

\(^{54}\) Id. at 711.

had sufficient education to feel proficient in geriatric medicine. Despite limited education and training, the majority of medical students will enter specialties that involve care of older adults.

More than thirty years of research revealed that negative and indifferent attitudes towards the elderly exist among educators, medical students, and residents. First-year medical students at the beginning of the academic year were surveyed regarding care of the elderly. Students were less likely to admit an eighty-five-year-old woman to the intensive care unit, intubate her, and provide aggressive care for her than they were to treat an acutely ill ten-year-old girl with chronic leukemia. Male and younger students were more likely to have negative attitudes towards a hypothetical seventy-year-old patient.

In several recent studies, medical students and internal medicine and surgery residents received instruction on the comparable efficacy of breast conservation and modified radical mastectomy in treatment of breast cancer. Subsequently, students and residents were asked to complete a questionnaire about recommendations for breast conservation and breast reconstruction in similar patients. The patients in the scenario differed by age and occupation. There were no differences in treatment recommendations based on high- and low-income occupations. A pattern of ageism was observed in responses. Modified radical mastectomy was recommended for 34–38% of older patients and 11–15% of younger patients. Breast reconstruction surgery was recommended to 89–96% of younger patients, compared with only 66–72% of older patients.

Attitudes towards older adults do influence provision of care to the elderly. For example, examination of the rates and types of procedures used in the elderly reveals ageism exists in cardiology.

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56. See Ass'n of Am. Med. Colls., Improving Geriatrics in Medical Schools, 3 CONTEMP. ISSUES IN MED. EDUC., Sept./Oct. 2000, at 1, 1.
revascularization, occur in younger patients rather than older patients. Despite a higher prevalence of coronary artery disease in the elderly, older adults, especially older women, are less likely to receive appropriate cardiac care, including echocardiography and cholesterol testing. Elderly with severe heart disease are more likely to receive medical management rather than surgical intervention and less likely to receive optimal therapy after a heart attack. Ann Bowling asserts that ageism in the medical profession is a manifestation of ageist attitudes in society at large, a society that gives preference to youth over age; in addition, a proportion of ageism may be due to lack of awareness of evidence-based medicine concerning treatment of older adults. Similar patterns of age discrimination exist for numerous health conditions.

A survey of medical students, physicians, and the general public demonstrates an evolution of perceptions of age-related, racial, and ethnic health care disparities across the spectrum of medical education and post-graduate training. First-year medical students (62%) were more likely than fourth-year students (51%), who in turn more likely than practicing physicians (30%) to identify unfair treatment based on age, ability to speak English, financial status, race, and ethnicity. The majority of medical students expressed a desire to have greater exposure to disparities issues and endorsed the importance of a medical workforce that reflects the diversity of the United States population. Elisabeth Wilson et al. concluded that diminution in the perception of disparities reflects acculturation into the medical profession, which makes students and physicians less accepting to the facts that physicians have biases and that the medical profession has discriminatory practices.

Third-year medical students embark on a year of clinical training and patient care in teaching hospitals that have a diverse patient population. In a recent study, investigators administered a questionnaire to assess knowledge of cultural competency to third-year medical students. Areas examined included health disparities, perspectives on health and illness, stereotypes, communication, language, and culture. Students scored poorly, with

61. Id.
62. Id.
63. Id.
64. Id.
an average score of 55% and a maximum score of 80%. The students’ race and previous cultural training did not influence results of the questionnaire.  

Americans subscribe to several misperceptions about sexual health in older adults. They believe that the elderly are not interested in sex, that older adults do not engage in sexual activity, and that the elderly are too frail to have sex. Early research on human sexuality excluded older adults, and primary care physicians have limited knowledge regarding the concerns and needs of older men and women.  

Primary care physicians report and perceive discomfort when eliciting sexual histories from patients sixty-five years and older. Nearly one-third of men and approximately 40% of women aged forty to eighty years express at least one complaint about sexual function. It is important for physicians to identify the presence of sexual dysfunction in older adults and assess for treatable causes. Physician and community education will help with discomfort and lack of knowledge about the subject. Increasing research on sexuality and aging, including therapeutic interventions to treat sexual dysfunction, will help to eliminate misperceptions and barriers.

E. Emergency Disaster Preparedness

Recent experiences in disaster preparedness demonstrate that our current infrastructure is ill-equipped to accommodate the specific needs of older adults. From 1851 to 2004, the mainland United States sustained ninety-two major (Category 3, 4, or 5) hurricanes. Research demonstrates that a proportion of the population does not evacuate and consequently needs rescue. Factors associated with greater likelihood of evacuation include having higher income—and thus the means to finance evacuation to a hotel—trusting information sources, and having family in nearby cities. Individuals who are elderly or disabled and

67. Id. at 1273, 1275.
70. Camacho & Reyes-Ortiz, supra note 68, at S52.
persons with lower income are more likely to remain in place despite evacuation orders.\textsuperscript{73}

The 2005 hurricane season had a devastating impact on large areas of the United States. Hurricane Katrina was one of several major hurricanes that season, and it is arguably the largest disaster in the nation’s history. Approximately 90,000 square miles of the Gulf Coast, an area similar to the size of Great Britain, were declared federal disaster areas. Greater than 1,800 deaths were reported.\textsuperscript{74} Sixty percent of people who died in Hurricane Katrina were sixty-one or older, and at least 140 nursing home residents died during attempted evacuations. Some nursing home patients died while waiting for transportation, and others were abandoned. Many older adults died at the Superdome and Convention Center awaiting evacuation. It has not been possible to fully quantify the number of home-bound elderly who perished.\textsuperscript{75} Robert Butler explains that “in twenty-first century America, older people are still being rendered invisible. Instances of this invisibility occurred in the horrific aftermath of Hurricane Katrina when a person’s class (impoverished) and race (black) were dominating factors in survival.”\textsuperscript{76}

The long-term sequelae of the natural disaster cannot yet be estimated. Medical consequences of exposure to contaminated floodwaters and soil require longitudinal follow-up of hurricane survivors to assess outcomes. This task is complicated by the fact that some who were exposed to contamination have left the area permanently. The mental health impact of the hurricane has a broad scope, affecting survivors, evacuees, rescue workers, and the general populace that witnessed continuous live media depictions. A literature search of peer-reviewed articles concerning the medical impact of Hurricane Katrina demonstrates under-representation of the elderly in analysis of mental health and medical outcomes, a notable fact considering that chronic medical and psychiatric illnesses are highly prevalent in older adults.

Lasting implications for the poor and underserved of the Gulf Coast region are insurmountable. More than 100 federally funded community health centers and 166 service sites have been destroyed, damaged, or overwhelmed by large influxes of

\textsuperscript{73} Id.

\textsuperscript{74} Richard H. Weisler et al., Mental Health and Recovery in the Gulf Coast After Hurricanes Katrina and Rita, 296 JAMA 585, 585 (2006).

\textsuperscript{75} Betsy Foxman et al., Letter, Looking Back at Hurricane Katrina: Lessons for 2006 and Beyond, 16 Annals Epidemiology 652, 652 (2006).

\textsuperscript{76} Butler, supra note 6, at 2.
patients. In New Orleans, fifteen of twenty-two hospitals have reopened, with only 2,000 of the previous 4,400 beds. Charity Hospital, which was the main source of primary care for many residents and the sole level 1 trauma center in the city, sustained irreparable damage and was forced to close. Remaining hospitals are overwhelmed. Prior to the hurricane, New Orleans lagged behind the national average of 3.26 beds per 1,000 population, with 3.03 beds per 1,000 population. The current statistic is 1.99 beds per 1,000. With the closing of Charity, other hospitals are providing larger proportions of uncompensated care, which puts additional strain on the system. A rough estimate of increased mortality is the rise in obituaries in the local newspaper. The New Orleans Times-Picayune reports a 25% increase in the number of death announcements in January 2006 as compared with January 2005.

Concerns for emergency preparedness are not limited to large-magnitude natural disasters. Extremes of heat and cold emphasize the vulnerability of the elderly to severe weather. Due to impaired thermal regulation, high burden of chronic medical illnesses, diminished perception of warmth, chronic dehydration, limited mobility and consequent restricted access to fluids, and medication effects, the elderly are more susceptible to heat-related illness. Clinical manifestations of heat-related illness include heat cramps, heat syncope (fainting due to heat), heat exhaustion, and heat stroke. Heat stroke is characterized by a temperature of at least 105°F and a subsequent alteration in mental status.

The trend towards hotter and more humid summers is ominous for the elderly. Most who die during heat waves are older than fifty years. Persons sixty-five and older are more susceptible to heat-related mortality regardless of race or gender. In a typical year, approximately 240 people die from heat-related ill-

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79. Id.
80. Id.
at 1550.
82. McGeehin & Mirabelli, supra note 81, at 185.
83. Worfolk, supra note 81, at 71.
84. McGeehin & Mirabelli, supra note 81, at 187.
Mortality due to heat is not limited to heat stroke. Rates of death for chronic medical illnesses also increase during heat waves. Heart attacks, diabetes, respiratory illnesses, stroke, accidents, violence, homicide, and suicide increase during heat waves; these deaths are not consistently documented as heat-related.

In the summer of 1995, Chicago experienced a heat wave that caused 3,300 people to seek the emergency department and led to over six hundred deaths. Analysis of the heat wave reveals that fifty-eight individuals (average age sixty-eight) were admitted to intensive care units for management of heat stroke. All patients had dysfunction of multiple internal organs and neurological impairment. Half had moderate to severe kidney dysfunction; nearly half had disseminated intravascular coagulation (systemic coagulation in blood vessels that depletes platelets and clotting factors, often leading to hemorrhage); and 10% had acute respiratory distress syndrome. More than one in five patients died in the hospital, and one-third were either moderately or severely functionally impaired at the time of discharge. At one-year follow up, no patients enjoyed improvement in functional status, and nearly a third of them had died. Only one of fifty-eight patients had been adequately cooled within an acceptable time frame.

Socioeconomic factors can influence risk of heat-related illness. Poverty, social isolation, insufficient English language skills, residence in high crime neighborhoods, and limited access to the media cause decreased awareness regarding the risks of heat exposure and the means to decrease the dangers. Older adults may be unable to afford air conditioning, set the thermostat higher to decrease costs, or lack access to cooler environments. Individuals with diminished insight due to dementia, other barriers to self-care, and bed-bound status are also vulnerable. Living quarters can achieve temperatures in excess of ninety-five degrees. Older persons in urban settings are at increased risk because city buildings retain heat throughout the night, and safety concerns may preclude older adults from opening windows or accessing transportation to cooling centers. Elderly African Americans experience higher mortality during heat waves. This inequity is presumably due to a culmination of

85. Id. at 185.
86. Id.
87. Worfolk, supra note 81, at 71.
88. Id.
89. Id. at 72.
90. See McGeehin & Mirabelli, supra note 81, at 187.
myriad factors: poverty, poor housing, inner-city neighborhoods with high crime rates, and medical illnesses. 91

Primary prevention for heat-related illness should be the main objective of health professionals and policy makers. Community education programs and public service announcements discussing potential heat-related medical problems and emphasizing older adults' greater susceptibility are essential. Early diagnosis and treatment of heat stroke are crucial to survival and prevention of complications and long-term disability.

III. Disparities in Health Due to Race, Ethnicity, or Gender

The mechanisms by which age, race, gender, and ethnicity mediate health outcomes are a complex process. Access to care is a principal predictor of these disparities. 92 Socioeconomic status—whether measured by income, level of education, or occupation—is a key factor in variations in health and access to health care. Americans with lower socioeconomic status experience levels of medical illness in their thirties and forties that parallel the levels of medical illness observed three decades later in Americans with higher socioeconomic status. 93 Socioeconomic status is highly correlated with race and ethnicity, and thus, race and ethnic differences in health are partially attributable to variation in socioeconomic status. 94

Education correlates strongly with socioeconomic status. S.V. Subramanian et al. showed that not completing high school, as well as having an annual income less than $10,000, was associated with a greater probability of reporting poor health in 1985. 95 Lack of education may increase susceptibility to disease. Research suggests that less than eight years of education is an independent risk factor for Alzheimer disease. 96 Suboptimal literacy, language barriers, and poor health literacy predict adverse health outcomes. Health promoting behaviors are less likely to occur in individuals of lower income. 97 Socioeconomic status

91. Id.
92. Asch et al., supra note 3, at 1152–55.
94. Id.
97. Williams & Jackson, supra note 93, at 327.
only partly explains disparities between African Americans and whites.\textsuperscript{98} Studies that control for income and education show that disparities remain.\textsuperscript{99}

Self-rated health has confirmed the validity of predictions for mortality, health care utilization, disability, chronic disease status, mental health, and health-related behaviors.\textsuperscript{100} Self-reported health is a stronger predictor of mortality than physician assessment of health status.\textsuperscript{101} Patients whose principal source of care is a primary health provider rather than another source, such as a hospital, enjoy better health outcomes and higher self-rated health. A patient’s perceptions of having a good rapport with their primary care provider, receipt of good health care in the primary care setting, and accessibility to the physician are associated with better health.\textsuperscript{102}

The social milieu in which a person resides influences health. Subramanian and colleagues observed that certain neighborhood traits predicted poor health. Lower density of elderly, higher levels of neighborhood poverty, and lower levels of residential stability were strong predictors of self-rated poor health.\textsuperscript{103} African Americans and other minority groups are more likely to report poor health than whites, even after controlling for individual or neighborhood socioeconomic status and perceptions of the neighborhood. Thus, socioeconomic and neighborhood factors could not fully explain the self-rating of poorer health in African American and Latino older adults. The magnitude of race-based disparities is greater in the elderly.\textsuperscript{104}

\textsuperscript{101} Lawrence R. Wu et al., \textit{Health Perception, Pain, and Disability as Correlates of Anxiety and Depression Symptoms in Primary Care Patients}, 15 J. AM. BOARD FAM. PRAC. 183, 185–88 (2002).
\textsuperscript{102} Shi et al., supra note 100, at 544–47.
\textsuperscript{103} See Subramanian et al., supra note 95, at S158–59.
\textsuperscript{104} Cagney et al., supra note 98, at S187–88; Clark & Maddox, supra note 99, at S230–31; Wen et al., supra note 100, at 2583–84.
Elderly women, African Americans, Hispanics, and other minorities may experience increased levels of stress as a consequence of perceived discrimination. This impact of stress on health has been extensively documented. Other studies examined the burden of caregiver stress associated with care of dementia patients. Caregivers with significant levels of stress have adverse health outcomes. In a study of older adults subliminally exposed to positive and negative stereotypes of aging, older persons exposed to negative stereotypes had a heightened cardiovascular response to stress—measured by blood pressure readings and heart rate—as compared to those exposed to positive stereotypes. Health professionals need additional training in screening and diagnosis of psychological distress and appropriate therapeutic interventions. Caregiver support and education are effective means to reduce the burden of caregiver stress. Society must be confronted with education concerning age discrimination, and a policy of zero tolerance for ageism, similar to other forms of bias, must be advocated.

Health disparities related to race and ethnicity persist at an alarming level. Based on 2002 data, 83,570 deaths a year could be prevented if the black-white mortality gap were eradicated. Survival for both African Americans and whites improved in the


past four decades, but the gap in mortality persists between the
two groups. In the *Eight Americas* study, Christopher J.L. Murray
et al. divided the United States into eight distinct groups based
on education, income, population density, geography, and homici-
derate. The gap between the life expectancy for high-risk
urban black males and Asian females is 21 years. The gap
between best-off and worst-off groups is 16.1 years for males and
13.1 years for females. Hispanics experience similar dispari-
ties in mortality.

A. Heart Disease

Coronary artery disease affects twelve million people in the
United States. Another 4.6 million have congestive heart fail-
ure. Recent years witnessed a reduction in coronary artery dis-
 ease and stroke mortality, but these improvements are not
distributed equally throughout the population. Robert O.
Bonow et al. reported that "there is undeniable evidence that not
all Americans have shared equally in the improved cardiovascular
outcomes. Individuals in specific subgroups defined by race,
ethnicity, socioeconomic status, and geography have a dispro-
portionate burden of myocardial infarction, heart failure, stroke,
and other cardiovascular events." African Americans have the
highest rate of mortality due to coronary artery disease. Native
Americans have an increased incidence of coronary artery
disease.

Research demonstrates that disparities in coronary artery
disease based on patient race or ethnicity are mediated by socio-
economic factors, individual racism, and institutional racism.
Blacks, Hispanics, American Indians/Alaska Natives have higher rates of hospitalization for congestive heart failure than white Medicare enrollees.120 Higher rates of hospitalization for heart attack were observed for some areas in Appalachia.121 The primary cluster of hospital admissions for acute heart attack, heart failure, and stroke was the so-called "Stroke Belt," or the southeastern United States. Mortality due to heart disease and stroke is also higher in this region.122

B. Cancer

Cancer is a significant cause of mortality in the United States, ranking second overall for the United States population, and it is largely a disease of the elderly. Studies of cancer care provide compelling evidence of disparities. Compared to whites, African Americans tend to be diagnosed at a more advanced stage for lung, breast, cervical, and prostate cancer.123 For Asian Americans and Pacific Islanders, cancer is the leading cause of mortality. Asian Americans and Pacific Islanders are the only groups to experience an increase in cancer mortality from 1990 to 1995; women had a 240% rise in cancer-related deaths but were eclipsed by men, who suffered a 290% increase in cancer mortality.124 Disparities in access to cancer care and treatment exist throughout the United States with some regional variability.

For both men and women, more people die of lung cancer more often than all other malignancies combined.125 There are two main types of lung cancer: small-cell lung cancer and non-small-cell lung cancer. Early stage non-small-cell lung cancer has the potential to be cured by surgical resection. In a study of over 10,000 patients with early stage non-small-cell lung cancer, surgery rates were lower for African American patients than for whites (64.0% versus 76.7%).126 However, black and white patients who had surgery experienced comparable rates of survival. Mortality rates for whites and blacks who did not receive

121. Id.
122. Id.
123. Kendra L. Schwartz et al., Race, Socioeconomic Status and Stage at Diagnosis for Five Common Malignancies, 14 CANCER CAUSES & CONTROL 761, 761 (2003).
124. Miles, supra note 9, at 871.
126. Peter B. Bach et al., Racial Differences in the Treatment of Early-Stage Lung Cancer, 341 NEW ENG. J. MED. 1198, 1198 (1999).
surgery were also similar.127 The disproportionate rates of surgical interventions explain the difference in non-small-cell lung cancer mortality for African American and white patients. A recent retrospective study demonstrated that African American patients were more likely to decline surgery that white patients.128 Therefore, the difference in refusal rates explained the observed divergence in health outcomes.129 Defining factors that contribute to patient refusal is essential for increasing the proportion of patients who receive potentially curative surgical interventions.

For patients with advanced lung cancer, whites have higher survival rates than African Americans: 30% versus 22% for non-small-cell lung cancer.130 The significant difference in survival may be influenced by differences in medical and socioeconomic factors. African American patients are more likely to have poor performance status, substantial weight loss, to be unmarried, to be Medicaid recipients, and to be on disability.131 Addressing these functional and social issues should decrease mortality.

Prostate cancer is highly prevalent in the elderly. About 1.8 million men in the United States carry the diagnosis.132 African American men are disproportionately affected. Older age, family history, and African American race are risk factors for the malignancy.133 Nearly 30,000 men in the United States die annually from prostate cancer.134 Yearly prostate cancer mortality for African American men is twice that observed for white and Hispanic men. Incidence of prostate cancer is 271.3 cases per 100,000 men for African Americans, in contrast to 167.4 per 100,000 for whites and 140 per 100,000 for Hispanics.135 African American men have a younger age, higher tumor grade, and more advanced stage at time of diagnosis.136 Because of these factors,

127. Id. at 1200–04.
128. McCann et al., supra note 125.
129. Id. at 3444–45.
131. Id.
132. June M. Chan et al., The Epidemiology of Prostate Cancer—With a Focus on Nonsteroidal Anti-Inflammatory Drugs, 20 HEMATOLOGY/ONCOLOGY CLINICS N. AM. 797, 797 (2006).
133. Id.
135. Id.
136. Id. at 80.
the chance of cure at time of surgery may be less for African American men. Early detection and diagnosis are essential to alter the disparities in mortality and disease severity.

For African American and white men with comparable levels of a protein used in prostate cancer screening called prostate-specific antigen (PSA), African American men have more severe disease. The PSA threshold level used to define the need for prostate biopsy is the same for all races. Some studies suggest that because African American men have more advanced disease at this threshold level, a lower threshold level may be appropriate for African American patients. Such a change would likely influence prostate cancer outcomes and mortality.

Ethnicity predicts quality of life following prostate cancer treatment. Both African Americans and Hispanics reported significantly lower quality of life after treatment than whites. The differences were partially explained by concurrent medical conditions, level of physical activity, and sleep functioning. Lower socioeconomic status also contributed to diminished quality of life. The health-related factors that influence quality of life are treatable. Additional research can define other factors that influence disparate outcomes. Physicians should be educated about these inequities in order to address causes that are amenable to medical intervention.

Despite decreased mortality rates, colorectal cancer remains the second leading cause of cancer deaths. African Americans have a higher incidence and higher mortality due to colorectal cancer than whites. The average age at diagnosis of colorectal cancer is seventy-one years. The majority of cases do occur in the elderly.

Some researchers have attributed disparities in cancer screening and treatment to differences in rates of insurance coverage. Medicare coverage is essentially universal for the elderly and obviates the need for analysis based on insurance status. The majority of Medicare beneficiaries (93%) have a usual physi-

\begin{itemize}
  \item 137. Id.
  \item 138. See Miles, supra note 9; Sanchez-Ortiz et al., supra note 134, at 80.
  \item 139. Frank J. Penedo et al., Ethnicity and Determinants of Quality of Life After Prostate Cancer Treatment, 67 J. UROLOGY 1022, 1025 (2006).
  \item 140. Ann S. O'Malley et al., Disparities Despite Coverage: Gaps in Colorectal Cancer Screening Among Medicare Beneficiaries, 165 ARCHIVES INTERNAL MED. 2129, 2132 (2005).
  \item 142. Id. at 1077.
\end{itemize}
The continuity of care provided by a consistent primary care provider is thought to improve health care service dissemination and quality of care. Data from more than 11,000 respondents, including 1,021 African Americans, was analyzed to evaluate rates of colorectal cancer screening. Screening rates were significantly different between whites (48%) and African Americans (39%).144 Dually eligible (Medicare and Medicaid) beneficiaries had lower screening rates than those without supplemental coverage (30% versus 45%).145 Education and income were the greatest predictors of differences in rates of screening, and thus, socioeconomic status fully explained disparities in screening between white and African American Medicare beneficiaries.146

Nearly 6,000 cases in the Alabama Statewide Cancer Registry were examined to determine the relationship between race, socioeconomic status, physician density, and colon cancer incidence in Alabama. After controlling for age, socioeconomic status, and gender, African Americans had a higher rate of colorectal cancer than whites of the same socioeconomic status.147 Research also demonstrated that Hispanic elderly are less likely to be screened for colorectal cancer than African American or white peers.148 It is imperative to be aware of the impact of socioeconomic status on this important clinical assessment and to increase awareness of screening among the elderly, in general, and particularly among populations less likely to receive colorectal cancer screening.

Older women are screened significantly less frequently for breast cancer and are more likely to be diagnosed with breast cancer at a more advanced stage than women aged forty to sixty-four.149 Research suggested that disparities in screening correlated with education level.150 African American women are more likely to have mammograms than white women, but they have a greater likelihood of advanced disease and high breast cancer mortality rates.151 Education and interventions targeted at the community, older women, and their health care providers can

143. O'Malley et al., supra note 140, at 2129.
144. Id. at 2131.
145. Id.
146. See id.
147. Shipp et al., supra note 141.
149. Id. at 94.
150. Id.
151. Id.
improve breast cancer screening rates and outcomes for older women.

C. Stroke

Stroke is the third leading cause of death in the United States ranking behind heart disease and cancer. Approximately 4.7 million people have survived a stroke, and 700,000 strokes occur annually.152 Stroke is the most common cause of disability in adults in the United States. Stroke prevalence for persons aged sixty-five to seventy-four years is double the prevalence in those aged fifty-five to sixty-four years, and for people seventy-five years and older, the prevalence is twice that observed in the age sixty-five to age seventy-four cohort.153 With the “graying of America,” stroke is increasingly a disease of the elderly. In 2002, the average age of death by stroke in the United States was 79.6 years.154 Hispanics, American Indian/Alaska Natives, African Americans, and Asian Americans/Pacific Islanders have younger mean ages than whites.155

Minority groups experience not only premature stroke mortality but also increased stroke incidence and higher rates of mortality. African Americans experience more than twice the risk of stroke as whites and have a greater than two times higher risk of dying as a result of a stroke.156 Black stroke survivors bear a greater burden of residual impairment.157 Hispanics also suffer disproportionate stroke mortality,158 and Asian Americans have greater mortality from hemorrhagic stroke and subarachnoid hemorrhage than whites.159 Differences in mortality are not fully explained by socioeconomic status.160

In a study of stroke patients aged sixty-five and older who had inpatient admission to a rehabilitation facility, African Americans achieved less functional improvement at the time of discharge.161 However, at the three-month follow-up, there was no significant difference between African Americans and whites in

153. Thom et al., supra note 114, at e85, e105 (Chart 4B).
154. Id. at e103.
155. Id.
157. Id.
158. Sacco et al., supra note 152, at 1725.
159. Bhandari et al., supra note 156, at 2081.
160. Id.
161. Id. at 2083.
terms of functional improvement. In contrast, Asian Americans had less recovery following stroke than whites.\textsuperscript{162}

Interventions to eradicate disparities in stroke outcomes should emphasize patient education and primary prevention. Many stroke risk factors are treatable or preventable. Optimal management of hypertension, diabetes, high cholesterol, and other vascular risk factors must be achieved. Barriers to health care access and screening must be identified and eliminated. Health professionals can continue to advocate for primary and secondary stroke prevention.

D. Diabetes

Diabetes mellitus is increasingly prevalent in the United States,\textsuperscript{163} especially in the elderly. The number of Medicare beneficiaries diagnosed with diabetes increased 52\% from 1992 to 2001.\textsuperscript{164} If current trends continue, one in three Americans, in general, and one of every two racial or ethnic minority persons, born in 2000, will develop diabetes during his or her lifetime. Rates of diabetes in persons sixty years and older are four times the rates of the disease in the general United States population, with 10.3 million (20.9\%) older individuals diagnosed with diabetes.\textsuperscript{165}

African Americans, Hispanics, American Indians, Alaska Natives, Asian Americans, and Pacific Islanders have a much higher prevalence of diabetes. Older adults with diabetes sustain more than 50\% higher health care expenditures than those without the disease.\textsuperscript{166} Minorities and older patients are less likely to be adequately treated for diabetes and common concurrent medical conditions, including high cholesterol and hypertension.\textsuperscript{167} These therapies are essential because they decrease the risk of diabetes complications, morbidity, and mortality due to stroke and heart disease.

\textsuperscript{162} Id.
\textsuperscript{163} Sylvia Kuo et al., Trends in Care Practices and Outcomes Among Medicare Beneficiaries with Diabetes, 29 Am. J. Preventive Med. 396, 396 (2005).
\textsuperscript{164} Id. at 398.
\textsuperscript{166} Kuo et al., supra note 163, at 396.
\textsuperscript{167} See Monika Safford et al., Disparities in Use of Lipid-Lowering Medications Among People with Type 2 Diabetes Mellitus, 163 Archives Internal Med. 922, 925-27 (2003); Julienne K. Kirk et al., Ethnic Disparities: Control of Glycermia, Blood Pressure, and LDL Cholesterol Among U.S. Adults with Type 2 Diabetes, 39 Annals Pharmacotherapy 1489, 1497 (2005).
While improvements are observed for diabetes care for Medicare beneficiaries, as demonstrated by diabetes quality indicators, such as hemoglobin A1c testing (a measure of blood glucose control over the past three months), diabetes self-monitoring, and dilated eye examinations, non-white beneficiaries and those older than eighty-five experience higher rates of diabetes complications, including kidney failure, amputation, and diabetic neuropathy (deterioration of peripheral nerves).\textsuperscript{168} In long-term care settings, diabetic African American and Hispanic nursing home residents are less likely to receive diabetes medications. In certain regions, similar disparities exist for Native Americans.\textsuperscript{169} Regional variations in disparities have been observed regarding older Native Americans for many major illnesses.\textsuperscript{170}

Some hypothesize that equalizing access to health care will resolve disparities. Americans who use the Veterans Health Administration (VHA) have access to health care services in the Veterans Affairs (VA) system, and initial studies of the VA system demonstrated no disparities in care across ethnicities. However, many VHA beneficiaries have other forms of health care coverage, such as Medicare.\textsuperscript{171} When these other services are factored into the analysis, in a study of diabetes management in VHA beneficiaries aged sixty-five years and older, ethnic- and race-based differences in diabetes care are identified. Minority beneficiaries are less likely than their white counterparts to have received diabetes-related screenings such as a cholesterol test, measure of hemoglobin A1c, or an eye exam.\textsuperscript{172}

\section*{E. Alzheimer Disease}

Alzheimer disease is the most common cause of dementia, accounting for approximately 60\% of cases.\textsuperscript{173} The disorder affects five million people in the United States. By 2050, as many as sixteen million individuals will be affected.\textsuperscript{174} Several studies

\begin{thebibliography}{99}
\bibitem{168} Kuo et al., supra note 163, at 398; see also Kirk et al., supra note 167.
\bibitem{169} Jenifer E. Allsworth et al., \textit{Racial and Ethnic Disparities in the Pharmacologic Management of Diabetes Mellitus Among Long-Term Care Facility Residents}, \textit{15 Ethnicity \\& Disease} 205, 207 (2005).
\bibitem{170} Id. at 207, 210.
\bibitem{172} Id. at 443.
\bibitem{174} Id. at 5.
\end{thebibliography}
suggest that African Americans are at greater risk of developing Alzheimer disease. The trend towards increased prevalence of this disorder in African Americans is hypothesized to be due to increased burden of vascular risk factors such as high cholesterol, diabetes, and hypertension. These vascular risk factors also are independent risk factors for the development of Alzheimer disease. In a study of primary care physicians, patients who did not speak English and some sociodemographic factors were associated with a decreased likelihood of the primary care physician accurately recognizing dementia.

Current medication interventions for Alzheimer disease provide symptom relief. The goal of medications used to treat dementia is to slow or delay progression of the disease. Clinicians aim for early diagnosis and early treatment, as medications and behavioral interventions are most effective when administered early in the disease course. In the earlier stages of Alzheimer disease, people can be more involved in their care, help their families and caregivers to understand their wishes and expectations, and designate a health care proxy. Increasing awareness of the disease is essential for early diagnosis and optimal care.

African Americans tend to have fewer sources of information concerning Alzheimer disease, demonstrate less awareness of facts related to the illness, and expressed less perceived threat of the disease. In a survey of white, Hispanic, Asian American, and African American older adults, white older persons showed greater levels of accurate information about Alzheimer disease. African American, Hispanic, and Asian American elderly were more likely to endorse stigmatizing perceptions of Alzheimer disease, such as the idea that the illness is contagious or a type of insanity and the perception that the cognitive changes in Alzheimer disease are a normal part of aging. These misconceptions are proven barriers to health service utilization.

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176. Borson et al., supra note 96, at 352–53.
178. Roberts et al., supra note 175, at 22–23.
180. Id. at 55. See also Ladson Hinton et al., Working with Culture: A Qualitative Analysis of Barriers to the Recruitment of Chinese-American Family Caregivers for Dementia Research, 15 J. CROSS-CULTURAL GERONTOLOGY 119, 119-137 (2000)
Lack of physician contact also can serve as a barrier to diagnosis and treatment.\textsuperscript{181}

There is a paucity of research assessing dementia in American Indians/Alaska Natives. A search of the medical literature yielded a dozen studies. Some preliminary research suggests that Native Americans with Alzheimer disease have a greater burden of depression and cardiovascular risk factors including diabetes, hypertension, and heart disease than their white counterparts. The course of Alzheimer disease was comparable in American Indians and whites.\textsuperscript{182} This small number of studies has an inevitable conclusion: additional research is required to define the frequency of Alzheimer disease and other dementing illnesses in American Indians/Alaska Natives.

F. Depression

Clinical guidelines mandate depression screening for all older adults. Clinical care does not achieve this goal, and ethnic and racial minority elders experience inferior care. Research confirms that barriers at the level of physician-patient interactions do exist. In a study of assessment of late-life depression in the primary care setting, physicians were observed in their interactions with elderly patients.\textsuperscript{183} Doctors were less likely to assess depression in African American patients than those who reported "having more than enough money."\textsuperscript{184} Doctors who worked in an inner city private practice were least likely to evaluate patients for depression.\textsuperscript{185}

Antidepressants, psychotherapy, and other forms of depression treatment have proven effectiveness in the elderly. African American and Hispanic elderly are less likely to receive depression treatment or specialty mental health services than non-Hispanic whites. In a ten-year study of antidepressants in the elderly, use of antidepressants among white patients increased over the decade, but African Americans did not have a compara-
ble increase.\textsuperscript{186} At the study’s inception, whites were twice as likely to use antidepressants as African Americans, and ten years later, whites were three times as likely.\textsuperscript{187} Whites were eight times more likely to use antidepressants such as selective serotonin reuptake inhibitors (SSRIs) than African Americans.\textsuperscript{188} These new antidepressants tend to have greater tolerability and are the most commonly prescribed antidepressant class in the elderly.\textsuperscript{189} SSRIs have been shown to be effective in older African Americans. This trend can only be explained as a consequence of disparate prescribing practices; physicians are far more likely to prescribe SSRIs to white elderly.\textsuperscript{190}

The study’s authors suggested several potential barriers to antidepressant use in older African Americans, who were more likely to receive their care at a hospital than from a primary care physician. Medicare provides complete health coverage, but during the time of the study, it provided no prescription coverage. The cost of antidepressant medication may be prohibitive for African Americans. The study’s authors suggest that the results may be influenced by geographic variation. This research was conducted in North Carolina, and it may be that the observed inequality in care reflects regional variation in prescribing practices.\textsuperscript{191} However, the magnitude of the disparity is alarming, and additional studies show that it is another national pattern of inequity in health care.

The study demonstrates the impact of prescribing practices on the use of new generation antidepressants. Depression may remain undiagnosed or untreated in African Americans, or prescribing practices may be influenced by the patient’s race.\textsuperscript{192} These differences in prescribing may reflect the environment in which African American and white elderly patients receive care.\textsuperscript{193} Disparate use of SSRIs could be a system level issue. If hospital settings have pharmacies that provide discounted medications to poorer elders, expensive medications such as SSRIs often are not on the formulary. Patient, family, and physician education are essential to eliminate the barriers to depression

\textsuperscript{187} Id. at 1092.
\textsuperscript{188} Id. at 1093.
\textsuperscript{189} Jeste et al., supra note 36, at 850.
\textsuperscript{190} Blazer et al., supra note 186, at 1093.
\textsuperscript{191} Id.
\textsuperscript{192} Id.
\textsuperscript{193} Id. at 1093–94.
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diagnosis and treatment. Additional research is needed to identify and define health system level impediments to depression treatment.

G. Pneumonia and Influenza

Annually, influenza outbreaks and pneumococcal pneumonia cause 50,000 to 80,000 deaths. Nearly 120,000 hospitalizations for flu and 200,000 for pneumococcal pneumonia occur each year. Older adults are disproportionately affected, with the elderly accounting for the majority of hospitalizations and 85% of mortality. Thus, in older persons, influenza and invasive pneumococcal disease are possibly the infectious diseases most preventable through aggressive vaccination measures.

Clinical guidelines consistently recommend influenza and pneumococcal vaccination for the elderly. Significant disparities exist in acquisition of influenza vaccination. Persons aged seventy-five years and older report higher rates of influenza and pneumococcal vaccination than those aged sixty-five to seventy-four years. African American and Hispanic beneficiaries are less likely to receive flu vaccination than their white counterparts. Many minority elders had routine encounters with their primary health care provider when flu vaccines were available but did not receive a vaccination. The primary reasons for not receiving influenza vaccination included not knowing that it was recommended. Resistance to vaccination due to the misperception that the vaccine for influenza causes influenza, for example, serves as a barrier to vaccination and is more common in elderly African Americans. White patients were more than five times more likely than African Americans and 1.6 times more likely than Hispanic older adults to receive influenza vaccination.

American Indians/Alaska Natives are highly susceptible to respiratory tract illnesses. For Native American elderly, com-

194. Dedra Buchwald et al., Influenza and Pneumococcal Vaccination Among Native American Elders in a Primary Care Practice, 160 ARCHIVES INTERNAL MED. 1443, 1445 (2000).
195. Id.
196. Id.
197. Id.
200. Id. at 524–25.
bined mortality due to influenza and pneumonia represents the fourth leading cause of death. Data specific to immunization rates in American Indians/Alaska Natives are limited. A retrospective study showed that very few American Indian/Alaska Native elders aged sixty-five years and older received influenza and pneumococcal vaccination with rates of 31% and 21% respectively. 201 Despite high mortality from these illnesses among American Indians/Alaska Natives, rates of vaccination remain disturbingly low.

Older persons reported lower rates of pneumococcal vaccination. Approximately half of older adults reported receiving the immunization. Black and Hispanic elderly were less likely to receive the pneumonia vaccine than white older persons. Age, gender, level of education, and length of time since last check-up did not explain the inequality in immunization status. 202 Barriers to optimal rates of vaccination in minority older adults can be addressed through patient and community education concerning the need for influenza and pneumococcal vaccinations and physician education regarding increasing patient adherence to immunization.

H. Smoking Cessation

Reducing tobacco use in the United States can decrease rates of several malignancies and other tobacco related illnesses, such as chronic obstructive pulmonary disease. Health professionals may forget the elderly when recommending preventive health measures. Physicians have a decisive role in smoking cessation interventions for their patients. Nearly 70% of smokers are seen by a physician every year, and physicians may prescribe smoking cessation medications which are a useful adjunct to behavioral interventions for smoking cessation. 203 Female smokers were more than half as likely as men to receive a prescription for smoking cessation treatments, and patients aged sixty-five years and older were more than seven times less likely to receive a prescription for these medications. 204 Older smokers are no

201. Buchwald et al., supra note 194, at 1444.
204. Id. at 408.
less likely to achieve smoking cessation than younger patients, and these medications were proven safe in medically ill patients. Health professionals may believe that attempts to achieve smoking cessation in the elderly are futile, as they have irreversible lung damage and therefore would not benefit from cessation. This perception is wholly inaccurate; even for medically ill smokers, cessation at any age is associated with increased quality of life, greater life expectancy, and decreased medical complications.

I. End-of-Life Care

End-of-life care recently garnered attention from the media, society, and health care professionals. Despite heightened awareness of end-of-life care issues, studies indicate that patients receive care that is not congruent with their wishes and that alleviation of symptoms is inadequate. A significant proportion of dying patients have inadequate pain control or are referred for hospice or palliative care services very late in their terminal illness. Some physicians experience ethical issues in providing end-of-life care that conflicts with their consciences. Death and dying in the United States predominately involves the elderly. Persons aged sixty-five and older account for three-fourths of dying patients in the nation. Older patients are disproportionately impacted by unsatisfactory end-of-life care.

Similar to other health care concerns, end-of-life care for all Americans is deficient, but minority groups suffer inordinately from insufficient care. Research examining disparities in end-of-life care is limited to date. Some studies have focused on specific aspects of end-of-life care issues, such as pain management,
health care costs, and advanced care planning. African Americans are more likely than other races and ethnic groups to express a preference for life sustaining measures.\(^{212}\) Hospital resource use for seriously ill African American patients was less, and this was neither due to decisions to withhold or withdraw life-sustaining measures nor due to timing of interventions.\(^{213}\)

In end-of-life care, the unit of care is the dying patient and family. The care and concerns of both patient and family must be recognized and addressed. A recent study revealed that African American and white patients and families experience disparate end-of-life care. African American families were 60% less likely to report end-of-life care for the decedent was excellent or good. African Americans, who reported more difficulty with communication with physicians, were two-and-a-half times more likely to report never speaking to a physician despite their desire to do so.\(^{214}\)

When African American families had the opportunity to speak with a physician, they were twice as likely to express concern about the quality of communication. Concerns related to communication were: whether the family member understood what the physician(s) said about anticipated effects of treatment; whether the physician(s) listened to what the family member said about the patient’s plan of care; whether the physician(s) provided an appropriate amount of information concerning the patient’s medical problems and condition; and whether the physician(s) gave confusing or conflicting counsel regarding treatments.\(^{215}\)

African American family members were two-and-a-half times as likely as white family members to convey at least one problem related to being informed to their expectations about the patient’s treatments—what to anticipate and what to do after the time of death. African Americans were also more than twice as


\(^{213}\) Welch et al., supra note 212, at 1148.

\(^{214}\) Id.

\(^{215}\) Id. at 1147–48.
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likely to express that their needs for spiritual and emotional support were not met.\textsuperscript{216}

End-of-life care for all Americans requires interventions to optimize care for patients and families, but minorities experience a greater degree of suboptimal care. Health professional education and training can optimize skills in management of end-of-life care issues. Patients and families need education concerning end-of-life care planning, designation of power of attorney for health care, and advanced directives.

J. Health Care Providers

Increasing geriatric education at all levels from medical and nursing school curriculum to resident training to continuing medical education for all health professionals will improve care of older patients and physician confidence in managing syndromes. Research demonstrated that third-year medical students who participated in a mandatory geriatrics clerkship felt they had enhanced clinical skills, patient assessment abilities, and fund of knowledge related to geriatric care. Students expressed increased awareness of the relevance of geriatrics to their development as physicians.\textsuperscript{217}

In order to eradicate health disparities, health care professionals must conduct introspective analyses of their conduct, the structure of their local health care environment, and service provided. Issues of bias, trust, cultural competence, and communication may contribute to unequal care for older adults in general and specifically women and racial and ethnic minorities.\textsuperscript{218} Cultural sensitivity training for health professionals can facilitate more effective and constructive interactions with a diverse population of patients. Levels of trust correlate with the use of preventive health services. In a study of poor African American women age forty and older, use of preventive services including clinical breast exams, mammography, Pap tests, and colon cancer screening were examined. Researchers found that women aged sixty-five and older were more likely to trust their physicians and that

\textsuperscript{216} Id. at 1148.


\textsuperscript{218} See Howard B. Degenholtz et al., Race and the Intensive Care Unit: Disparities and Preferences for End-of-Life Care, 31 CRITICAL CARE MED. S373 (Supp. 2003) (discussing the preferences and differences between black and white elderly in end-of-life care); Giselle Corbie-Smith et al., Distrust, Race, and Research, 162 ARCHIVES INTERNAL MED. 2458 (2002) (citing problems of distrust as one of the reasons that minorities, such as African Americans, might be less willing to participate in medical research).
factors like continuity of care, accessibility of the clinical practice, and the primary care provider’s coordination of specialty care were stronger predictors of patients’ trust of physicians than were socioeconomic factors.\textsuperscript{219} Thus, constructive and proactive interactions with a primary health care provider are an effective and economical intervention to improve health outcomes and service utilization.

K. Health Care Infrastructure

Geographic and regional variability in use of procedures exists, suggesting that hospitals are significant mediators of disparities in health care. In a study of elderly Medicare enrollees, African Americans had lower rates of procedures using emerging technologies than whites.\textsuperscript{220} Such procedures were also less frequently performed in women than men. Whites admitted to hospitals with more than 20% black patients were less likely to have several innovative procedures performed. African Americans admitted to hospitals with a higher proportion of black patients were similarly less likely to receive these procedures than African Americans at hospitals with less than 9% black patients. Hospitals with larger populations of African American patients had greater racial disparity.\textsuperscript{221}

As illustrated in the previous sections, older persons, especially older women and racial and ethnic minorities, experience disparities in health outcomes and health care. Causes of these inequalities in health and health care are often multifactorial. For health care infrastructure at local, regional, and national levels, an amalgam of factors related to bias, access to health care, and limited resources combine to serve as barriers to equal care for all in our nation. Identifying and eliminating barriers at all levels is vital to eradication of health disparities. Appropriate interventions at the health system level include development of systems to track and better define issues related to unequal care, increasing the proportion of underrepresented minorities in the health professions, ensuring access to services that improve care—such as use of interpretation services—and providing cultural competency training and education concerning the impact of race, ethnicity, culture, gender, and age on clinical decision making.

\textsuperscript{219} O’Malley et al., \textit{supra} note 140, at 2131-32.

\textsuperscript{220} Peter W. Groeneveld et al., \textit{Technology Diffusion, Hospital Variation, and Racial Disparities Among Elderly Medicare Beneficiaries: 1989-2000, 43 MED. CARE 320, 323 (2005).}

\textsuperscript{221} \textit{Id.} at 323-25.
CONCLUSIONS

Disparities in health care for the elderly are a pervasive problem. Older persons confront both institutional and individual ageism. Moreover, society presents negative stereotypes of older adults, and the citizenry at large may interact with the elderly in adverse manners, with the cumulative effect of such bombardment of experienced negative perceptions of the elderly serving to occasion adverse psychological and other health consequences.

The health care infrastructure and health professionals manifest active ageism. The elderly remain underrepresented in clinical research, which directly impacts clinical care. Medical education frequently neglects geriatric education, and consequently, physicians harbor lingering misperceptions of the older adults and express lack of knowledge or discomfort with aspects of the provision of care.

In a landmark report, the Institute of Medicine enumerated and analyzed race- and ethnicity-based health disparities. One of the key goals of the report was to define causes of unequal care. Potential causes of disparities included patient preference, patient mistrust, cultural factors, communication between the patient and health care provider, health provider bias, and systemic inequities. These factors contribute to disparate care for the elderly in general and specifically for elderly women and minorities.

Barriers to clinical research participation necessitate reassessment of the current research environment in academic, federal, industry, and other private sector settings. The elderly are underrepresented in numerous research protocols often only by virtue of mandatory age limits. Inclusion of the elderly, especially racial and ethnic minority older adults, is essential to the universality of research findings.

Community-based participatory research models evolved as a means to facilitate effective inclusion of underrepresented populations. Community members are involved in the research process from initiation to completion of a project. Thus, research participants and investigators are involved in a collaborative effort. The active involvement of underserved and vulnerable populations in the investigative process has benefits for both

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222. Unequal Treatment: Confronting Disparities in Health Care, supra note 1, at 7-12.
researchers and the community, in addition the nation as a whole. Community-institution partnerships result in greater sustainability, increased trust, and improved multidisciplinary research collaborations. Communities gain improved health, education, and economics through dissemination of information acquired by research projects. While a relatively recent model for research, many successful studies have been completed, and researchers and community partners have expressed great satisfaction with the projects.

Despite the fact that moral and ethical arguments for eliminating health disparities are quite evident and universal in appeal, the attendant often expressed exhortations have not yielded to a comprehensive, highly competent, and strategic address regardless of age, gender, race, ethnicity, income, education, or geographic location writ large. In the specific instance of the elderly, such disparities in health care remain deeply pervasive. While not yet elaborated in a strongly rigorous sense, addressing health issues manifested by older adults could hardly be advantaged by sustained individual and institutional ageism.

In addition, the less than optimal health care infrastructure, the attitudes of some health professionals, the underrepresentation of the elderly in clinical research, inadequate geriatric education, and lastly, the apparent lack of sufficient national impetus to problem solve in this instance, taken in combination, do not bode well for an immediate and consequential address of health disparities among the elderly for the best interests of our nation.

224. _Id._ at 78.