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Health disparities: A barrier to high-quality care

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Abstract

Purpose—Disparities in the treatment of cardiovascular disease, diabetes mellitus, and cancer among the sexes and racial groups and possible interventions are discussed.

Summary—The ongoing process to identify and reduce health disparities has engaged numerous federal agencies as they monitor the nation's progress toward policy-driven and health-related objectives. Cardiovascular disease disproportionately affects minority groups and is the leading cause of death among women in the United States, and both groups receive suboptimal care for the disease. Disparities in the treatment of diabetes mellitus in African Americans, women, patients with less than a high school education, and the elderly have been found. Many minority groups continue to suffer disproportionately from cancer. Racial disparities also exist in cancer screening and treatment. Minorities are underrepresented in clinical trials for multiple reasons, many of which may be related to cultural beliefs. At all levels of coinsurance, the poor are less likely to seek preventive care. Adherence to national screening and treatment guidelines, clinical trial recruitment and participation, addressing language and geographic barriers, and increasing access to insurance are part of the coordinated efforts required to reduce health disparities. Because pharmacists influence patients' health status directly through pharmaceutical care and indirectly by engaging patients in their treatment, it is essential for pharmacists to be able to provide culturally competent care.

Conclusion—Despite significant efforts over the past several years, health disparities continue to exist, particularly among minority groups. Interventions aimed at eliminating these disparities should include ensuring cultural competence among health care providers and improving health literacy among patients.

Index terms

Cardiovascular diseases; Clinical studies; Comprehension; Diabetes mellitus; Ethnic groups; Geriatrics; Health care; Health-benefit programs; Neoplasms; Pharmaceutical care; Pharmacists; Protocols; Quality assurance; Race; Sex; Sociology; Women

The ongoing process to identify and reduce health disparities has engaged numerous federal agencies as they monitor the nation's progress toward policy-driven and health-related objectives. There is no consensus regarding a single definition for health disparities.[1] For example, Healthy People 2010 broadly defines health disparities as differences in disease

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prevalence or treatment by sex, race or ethnicity, educational attainment, income, sexual orientation, or geographic location.[2] Conversely, the National Institutes of Health (NIH)[3] and the Health Resources and Services Administration[4] focus on differences in diseases, adverse health conditions and outcomes, and access to health care. If inequalities generate health outcomes that appear avoidable, unfair, or unacceptable in populations or subgroups, then ethical elements of inequity reinforce the disparity.[5] Thus, as policy recommendations to address health disparities change over time according to the interests of funding agencies, the definition of health disparities and the resources allocated to reduce these disparities take on relative positions of urgency.[3]

Health priorities were initially identified in a 1979 Surgeon General's report on health promotion and disease prevention.[6] The report identified two groups that had high rates of death from causes that could be prevented: (1) premature and low-birth-weight infants and (2) younger African-American adults who were exhibiting death rates that were 2.5 times higher than whites due to strokes associated with hypertension. A 2002 Institute of Medicine (IOM) report confirmed that there are significant disparities in the quality of health care received according to a patient's socioeconomic status, access to health care, and use of health care services.[7]

In the spring of 1980, the U.S. Department of Health and Human Services (DHHS) published *Promoting Health/Preventing Disease: Objectives for the Nation*,[8] groundbreaking guidance that emerged from the Surgeon General's 1979 report.[6] Fifteen strategic areas that broadly covered public health issues, health care delivery and access, and individual health behaviors of physicians, health professionals, and consumers were distinguished. The targets for intervention included business and community entities, as well as state and federal government policymakers.

This early endeavor became the model for the subsequent health initiative. "Healthy People 2000: Final Review," published in 2001, identified three main objectives, one of which was to reduce health disparities.[9] By the end of the 1990s, the data showed a narrowing of disparities, but, for certain populations, specific gaps remained (Table 1). By the end of 1999, only 13% of Healthy People 2000's 319 objectives were met.[10]

In January 2000, Healthy People 2010 was launched.[2] Continuing the work of the prior two decades, Healthy People 2010 made eliminating health disparities one of its two goals (Table 2).[11] The document includes 467 objectives, 28 focus areas, and improved tracking mechanisms for the leading health indicators to monitor progress toward eliminating health disparities for the previously identified populations. The comprehensive measurable objectives of income, education, and access to health care are linked to the DHHS target priority areas of infant mortality, cancer screening and management, cardiovascular disease, diabetes mellitus, HIV infection and AIDS, and immunizations.[10] The full texts of the publications associated with this health initiative are available online.[12]

Despite significant efforts over the past 20 years, racial and ethnic disparities in health care remain. In 2003, an IOM report indicated that regardless of the disease or location where care is received, disparities in health outcomes exist among minorities despite insurance status, income, and education.[13] IOM recommendation 5–6 suggests that evidence-based clinical practice guidelines should be published so that health care providers can offer consistent, quality health care. Furthermore, IOM recommendation 5–11 suggests that preventive care, when provided by a multidisciplinary team, may prove to be a cost efficient and useful strategy for streamlining the health care experience for racial and ethnic minority patients. A summary of the IOM recommendations relevant to health-system interventions appears in Table 3. A Sullivan Commission report on diversity in the health care workforce compellingly argues that the low number of minority health professionals who are trained in U.S. schools must be addressed to more closely mirror the changing demographics of the nation.[14]

Since Healthy People 2010 remains on the nation's "radar screen," the impetus is to move health care professionals beyond the well-known sex-related disparities, such as breast cancer, and race-related disparities, such as sickle cell anemia, toward a broader awareness of these incongruities in order to build synergy among all stakeholders. Health disparities can be further reduced by implementing proper disease management guidelines and addressing access, language, and cultural barriers. Disparities in three of the six focus areas are discussed below.

Cardiovascular disease

According to the National Center for Health Statistics, cardiovascular disease was the first leading cause of death and stroke was the third leading cause of death for people of all ages in the United States from 1950 to 2002.[15] As noted by the Centers for Disease Control and Prevention (CDC) and NIH, cardiovascular disease has disproportionately affected minority groups in the United States. For example, the mortality rate for cardiovascular disease in 1995 was 42% higher in African-American males than white males and 65% higher in African-American females than white females.[2]

In the past, cardiovascular disease was often seen as a man's disease and breast cancer was often considered the chief risk to women's health.[16] However, 2002 preliminary data revealed that 40% of female deaths resulted from cardiovascular disease, while breast cancer was the cause of fewer than 4% of female deaths.[17] Although suboptimal, the underestimation of the threat of cardiovascular disease in women has improved over the years. A national survey conducted in 2003 found that women's awareness of cardiovascular disease as the leading cause of death in women has significantly improved.[18] In 1997, only 30% of women knew that more women died from cardiovascular disease than any other disease; this figure rose to 46% in 2003. However, African-American and Hispanic women, who have a higher risk of developing cardiovascular disease than do white women, showed smaller improvements in awareness. The percentage of women who recognize cancer as the leading cause of disease has also significantly decreased.[18] These results demonstrate that women, especially female minority populations, and their providers are not receiving adequate information regarding cardiovascular disease and its prevention.

With the identification of cardiovascular disease as the leading cause of death among women in the United States,substantial studies have focused on sex disparities in myocardial infarction (MI) outcomes.[15] Young women hospitalized for an MI have a higher risk of death than young men hospitalized for an MI.[19] Women are also more likely than men to delay seeking medical care after an acute MI.[20] One possible explanation for the prolonged delay is that women with acute MI have more transient chest pain, so hospital admission rates for ongoing angina are lower.[21]

Sex and racial disparities also exist in the treatment patients receive after an MI. The Behavioral Risk Factor Surveillance System, a CDC state-based telephone survey, was utilized to determine if disparities were evident in aspirin use for diabetics who had cardiovascular disease. Data analyzed for 2001 revealed less frequent use of aspirin for the prevention of primary and secondary cardiovascular disease in diabetic women versus diabetic men.[22] In another study, African Americans were found to be less likely than their white counterparts to receive reperfusion therapy after an MI.[23] Schulman et al.[24] conducted a study using actors to portray patients with identical cardiovascular disease symptoms. The results showed that women and African Americans were significantly less likely than men and whites to be referred for cardiac catheterization. These results were later criticized because data were reported using odds ratios instead of risk ratios.[25] Despite this criticism, the results of Schulman et al.’s[24] study strongly support the existence of unequal treatment among patients with cardiovascular disease.

Diabetes mellitus

Diabetes mellitus affects approximately 18.2 million people in the United States, or 6.3% of the total population.[26] Of those, 8.6 million (18.3%) are age 60 years or older. Diabetes is more prevalent in minority populations than whites. Chin et al.[27] investigated health disparities associated with diabetic patients receiving Medicare and found treatment disparities among African Americans, women, those with less than a high school education, and the elderly. African Americans were less likely than whites to (1) have glycosylated hemoglobin or lipid levels monitored, (2) receive ophthalmologic care or vaccinations, and (3) obtain a follow-up appointment with a physician within four weeks of a hospital admission. Women were less satisfied with the health care received, as they were more likely to receive treatment in an emergency department. Women and patients with less than a high school education received fewer vaccinations, and the elderly received fewer eye examinations. The authors posited that African Americans avoid medical testing, receive less aggressive medical care, and experience the inconvenience associated with the lack of transportation to medical appointments.[27]

Tomar and Lester[28] examined the disparities in dental care received by diabetic and nondiabetic patients. When the data were controlled by age, race or ethnicity, education, income, and insurance status, diabetic patients were less likely than nondiabetic patients to receive dental care. Hispanics and whites with diabetes were less likely than their nondiabetic counterparts to receive dental care in a 12-month period. No differences were noted in the dental care received by diabetic and nondiabetic African Americans. Both diabetic and nondiabetic groups stated no perceived need, fear, cost, and other issues as reasons for their lack of care. In a secondary analysis, diabetics were less likely to visit a dentist in the past 12 months than they were to visit their physician. Income was a factor in the care received, as diabetic patients kept nearly twice as many dental appointments if they earned at least $50,000 annually than those whose annual salary did not exceed $10,000. These findings indicate that dental care is highly sensitive to patient income; Medicare offers no dental coverage, and Medicaid offers limited care for adults. The authors concluded that targeted interventions are needed to increase the access to dental visits for minorities and that dentists must increase their awareness of culturally competent care.[28]

All diabetic adults should be vaccinated for influenza and pneumonia, according to Healthy People 2010; target vaccination rates are 65% for those younger than age 65 years and 90% for those 65 years or older.[29] Egede and Zheng[30] used the National Health Interview Survey, a national household survey of adults, to determine if access to care, insurance status, and socioeconomic factors were associated with differences in vaccination rates among patients with diabetes. When baseline factors were modeled, age of >50 years, private or public health insurance, and two or more comorbidities positively predicted vaccination rates. When race was included in the model, whites were more likely to receive influenza vaccine than were African Americans, and whites were more likely than African Americans and Hispanics to receive pneumococcal vaccines. Access to care, having more than a high school education, and active employment are additional significant factors associated with the receipt of vaccinations. These findings supports the CDC’s statement that different cultural beliefs and values may be responsible for both the variations in patient acceptability of vaccinations and physician recommendations for vaccination.[31]

Cancer

Cancer was the second leading cause of death for people of all ages in the United States from 1950 to 2002.[15] Many minority groups continue to suffer disproportionately from cancer. The cancer mortality rate for African Americans is approximately 34% higher than it is for whites.[2]

Racial disparities also exist in cancer screening and treatment. Kerner et al.[32] interviewed 184 black women who were informed that they had abnormal results of a mammogram or clinical examination. The authors found that patients who asked their provider more questions during an initial screening examination were more likely to have diagnostic resolution within 90 days, compared with those who did not have such communication. Demissie et al.[33] identified 106,372 patients diagnosed with colon or rectal cancer between 1988 and 1997. While most received standard surgical treatment, the odds of not receiving standard treatment were higher for African Americans than for whites for both men and women. This finding was observed in stage I colon cancer in men (odds ratio [OR] = 2.08 for African Americans versus whites; 95% confidence interval [CI], 1.41–3.03) and in women (OR = 2.38 for African Americans versus whites; 95% CI, 1.69–3.45) and stage IV colon cancer in men (OR = 1.25 for African Americans versus whites; 95% CI, 1.01– 1.56) and in women (OR = 1.41 for African Americans versus whites; 95% CI, 1.14–1.72).[33]

Minority patients with cancer pain, particularly those of lower socioeconomic status, tend to receive suboptimal pain management. A recent literature review revealed racial disparities in the perception, assessment, and treatment of cancer pain in different settings.[34] Socioeconomically disadvantaged African Americans and Hispanics with recurrent or metastatic cancer were reported to receive insufficient dosages of analgesics despite their high levels of pain.[35]

Age disparities in cancer screening and treatment trials have been explored in several studies. Analysis of the 2001 Behavioral Risk Factor Surveillance System found that the rates of colorectal cancer screening were higher in the elderly compared with younger adults and that mammography screening was underused in the elderly.[36]

The underrepresentation of the elderly in cancer clinical trials was also reported.[37] Possible explanations for the lack of older patients' enrollment in cancer clinical trials include (1) the misconception that older cancer patients are less likely to tolerate or benefit from the experimental treatment and (2) exclusion criteria that limit their enrollment.[38,39]

Clinical trial participation and health disparities

In 1993, the U.S. Congress instituted the NIH Revitalization Act, which states that women and minorities must be included in all clinical research studies and Phase III clinical trials and that trials must be designed to permit valid subgroup analyses.[40] The act further states that cost is not an allowable reason for excluding minorities and that NIH will support outreach efforts to fulfill this mandate.

Minorities are underrepresented in clinical trials. It has been hypothesized that African Americans' lack of participation in clinical trials may contribute to lower cancer survival rates.[41] Basic education and literacy issues related to the African-American community may facilitate the lack of participation in clinical trial research.[42–44] Some potential participants may fear discovering that they are at risk for developing disease, have concerns about insurance coverage if they participate in a clinical trial, or are suspicious of research due to the Tuskegee Syphilis Study and other negative historical occurrences.[42–54] The Tuskegee Syphilis Study was administered in Macon County, Alabama, from 1932 to 1972 and involved 600 black men: 399 with syphilis and 201 without the disease.[55] In addition to failing to obtain adequate informed consent, when penicillin became the drug of choice for syphilis in 1947, researchers did not offer treatment or inform the men that they could quit the study. Other social and economic barriers to clinical trial participation include interference with work hours, home and personal responsibilities, dietary restrictions required by prevention or diagnostic trials, charges for medical procedures or medications, and transportation expenses.[42,44,47,53,56–59]

Other minority populations face similar barriers to clinical trial participation. Many participants face additional structural barriers due to language differences.[60–62] Non-Hispanic health care professionals may group all persons of Hispanic heritage (Cuban Americans, Puerto Ricans, and Mexican Americans) into one homogeneous group. Entry criteria for many clinical study protocols require potential participants to speak English. Consent forms and recruitment materials may be available in Spanish or may be explained to the patient or family by a health care provider or translator who is not proficient in a specific dialect and may not be aware of the verbal and nonverbal nuances of communication.[60] Asian Americans encounter physicians and staff who are unable to effectively communicate and demonstrate an understanding of the cultural and economic barriers faced by new immigrant subgroups.[63,64]

American Indian and Alaska Native clinical trial recruitment faces the unique barrier of understanding and showing respect for tribal relationships. For some tribes, tribal councils must approve trial participation. This concept is difficult for Institutional Review Boards who seek informed consent of only the individual participant. Investigators must also agree to community and individual confidentiality. Payment for participation may also be required for the tribe as a whole or to the individual participant. Because of historical losses of ancestral land, language, and autonomy caused by whites and the U.S. government, potential participants are suspicious of government-sponsored programs.[65] They fear that the information gained from interviews or observations of members of tribes would produce misinterpreted and misused results.[66]

Barriers to access

Out-of-pocket expenses affect medical service utilization.[67] At all levels of coinsurance, the poor are less likely to seek preventive care. However, when the poor receive medical care for acute and chronic conditions, fewer disparities are evident in illness-related diagnoses and treatments. One study indicated that cost sharing does not significantly affect inpatient hospitalization, but outpatient mental health services are highly sensitive to cost sharing, with patients reducing the amount of services according to the level of copayment required by the insurance company.[67]

When offered free care, the poor receive more medical screening appointments, but changes to behavioral health outcomes, such as reduced smoking, increased exercise, and improved diet, are few. Recent studies suggest that the type of prescription insurance coverage may be a factor in identifying health disparities associated with the use of and access to medications.[68–72] In a study conducted by Briesacher et al.,[73] Medicare plus Choice or employer-sponsored plans reported relative success for African Americans in eliminating differences in access to medications for hypertension and heart disease but not for oral hypoglycemic agents. For Hispanics covered by Medicare plus Choice or employer-sponsored plans, medication access and use increased for hypertensive patients but remained problematic for diabetics and those with cardiovascular disease.

Competent use of language and effective communication are the crux of a good physician–patient relationship. Language barriers not only impair the exchange of information between physicians and minority patients but also raise important ethical problems during medical decision-making that can affect access to medical services.[74] One study revealed that, after adjusting for other factors affecting health care use, Latinos with limited English proficiency had fewer physician visits than did non-Latinos whose native language was English.[75] This study also found that limited use of physician services may compromise health outcomes. Another study found that Hispanic children were less likely than white children to use health care services.[76] The substantial disparities in Hispanic children's access to health care may be attributable to their parents' inability to speak English. The results of these studies solidify the need for interpreters and bilingual health care providers for minorities.

The bridging of the language barrier gap must extend beyond the physician–patient relationship to other health professional–patient relationships. Although most research focuses on physician–patient communication, many minority patients receive health care from nonphysician professionals, such as pharmacists, nurses, and other allied health professionals.[13] Further studies addressing potential language barriers and interactions between other health professionals and minority patients and the implications on health care are warranted.

Culture and ethnicity influence patients' perceptions of health and illness. They influence the way symptoms are recognized and interpreted and how health services are sought. If health care providers appear insensitive to cultural diversity, their actions may negatively affect the quality of health care they provide.[77] For example, Asian Americans with limited English skills may have difficulty communicating with their health care providers about non-Western medicines. They may also need assistance to find urgent health care.[78] Racial and ethnic disparities in health care are confounded by differences in communication among African Americans and Latinos. Patients from diverse ethnic groups may have different inclinations for providing health information, asking questions, and expressing concerns. Patients may eliminate some information that they assume the physician will not find acceptable. The ability to remain assertive during a medical intervention and accurately describe symptoms may be influenced by ethnic and cultural factors.[79]

Geography plays an important role in patient compliance, especially for diseases that require intensive therapies. For example, longer travel time and difficulties in traveling to the preferred health care provider have been associated with rural residents making fewer visits and having a lower likelihood of receiving guideline-concordant treatment for depression.[80]

While many rural residents report having a health care provider, they tend to report fewer annual visits to health care providers than do residents of large metropolitan areas.[81] Within an urban environment, geography can influence the likelihood of health care use. In New York City, the overall revascularization rates among patients hospitalized with MI were higher in an affluent community than in two socioeconomically disadvantaged communities. This disparity in the revascularization rates was addressed through a community-based intervention with moderate success. When the ability to perform coronary reperfusion increased in facilities in the disadvantaged communities, the revascularization rates rose.[82] Therefore, improving access to health care may be a successful intervention to help eliminate health disparities among geographic areas.

Successful interventions

Adherence to national screening and treatment guidelines, clinical trial recruitment and participation, addressing language and geographic barriers, and increasing access to insurance are part of the coordinated efforts required to reduce health disparities. Successful strategies include numerous partnerships and collaborative models that extend from the leading federal agencies and health care institutions into the local communities. It is essential to translate the theories of successful interventions into practice. Similarly, it is beneficial to patient health outcomes to form multidisciplinary teams and practice evidence-based medicine.

To address and reduce health disparities, it is critical to understand that disparities in health status and health care received arise from complex decisions made every day by many parties, including patients, their providers, utilization managers, and health system administrators.[13] Many health care treatment decisions are based on health status as well as perceived need, access to care, and perceived quality of health care. In addition, culture, economics, racism, and politics may play a pivotal role in health care decision-making and thus contribute to disparities in health status and health care received.

There have been a number of successful interventions to reduce health disparities. These interventions have been introduced at the health care system, provider, and patient levels. Many of the successful interventions are culturally sensitive, community based, and targeted to specific minority populations.

Interventions to reduce or eliminate health care disparities must be based on four key areas: (1) systematic identification, documentation, and definition of the specifics of the disparity, (2) explanatory research on the etiology of the disparity, (3) development and evaluation of the intervention research, and (4) translation and application of research results.[83]

Using interpreter services

Efforts have been directed at the system level to augment cultural competence. Cultural competence has been defined as “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or profession that enables that system, agency, or profession to work effectively in cross-cultural situations.”[84] Culturally competent communicators acknowledge that communication barriers can stem from racial, ethnic, cultural, and linguistic differences in values and customs and have the skills to manage the communication gap appropriately and effectively.[85] The idea is that culturally competent communication needs to be addressed at the system level (provider, institution, health plan, and national levels) to achieve better patient adherence and satisfaction with health care.[86,87] One approach is to increase the knowledge, awareness, and management of multicultural issues, such as language barriers in written and oral communications systemwide. For instance, providing linguistically appropriate services to persons with limited English proficiency may improve health communication via diagnosis and treatment, which may result in better patient compliance, satisfactory health outcomes, and decreased costs. In addition, patients may feel more at ease going to a health care provider that offers interpreter services.

Jacobs et al.[88] conducted a two-year retrospective study to examine the effect of interpreter services on the delivery of health care to Portuguese- and Spanish-speaking patients in a large health maintenance organization (HMO) in New England. They found that the implementation of a professional interpreter service program increased the delivery of health care to the Portuguese- and Spanish-speaking patients. Disparities in the rates of preventive service use (i.e., influenza immunizations, fecal occult blood testing, and rectal examinations) were significantly reduced between patients with limited English proficiency and a comparison group (a 10% random sample of all other eligible HMO members who accessed care at one of the health centers where the new interpreter services were implemented).

Ensuring ethnic diversity among health care professionals

Another successful strategy for reducing health care disparities involves increasing the representation of racial and ethnic minorities among health care providers. According to the Sullivan Commission, “increasing diversity in the health care professions will improve health care access and quality for minority patients and assure a sound health care system for all our nation’s citizens.”[14] The theory is that minority patients feel more comfortable seeking medical care from minority health care providers who can understand their cultural background in terms of ethnic customs, attitudes, and beliefs as they relate to health. In addition, minority patients may be receptive to culturally competent nonminority providers who they believe are trustworthy and treat them with respect. Having a diverse health care professional work force that is also composed of culturally competent nonminority professionals is a critical element in making health care accessible to those who need it most.

In 2001, a model program to increase the diversity in the field of emergency medicine was instituted by Heron and Haley[89] at the department of emergency medicine at Emory University to address the growing diversity of the patients treated at the institution. The model framework addressed plans to (1) expand and support the recruitment and retention of underrepresented students, faculty, and trainees, (2) investigate possible barriers for the promotion of underrepresented women and minorities, (3) mentor underrepresented minority faculty in research and education, (4) provide opportunities for underrepresented minorities to advance in the field, and (5) mentor underrepresented minorities in junior high and high schools in the sciences to expand the applicant pool in the field. Efforts aimed at ensuring diversity in the health care work force, such as the model above, are integral for mitigating disparities in health.

Improving health literacy among patients

Although initiatives to reduce health care disparities have been more system and provider centered, strategies are in place to intervene at the patient level. For example, improving patients’ health literacy (i.e., the ability to read, understand, interpret, and act on health information) can reduce health disparities.[90] If patients cannot understand needed health information, attempts to improve the quality of care and reduce health care costs and disparities may be unsuccessful. Patients who lack literacy skills are prone to hospitalization, medication errors, premature death, and misunderstanding the policies of their health care benefits provider.[90] Educational endeavors aimed at improving health literacy levels among specific minority and ethnic populations can bridge the gaps in health status. One way to increase health literacy is through community health interventions that target the communities of specific minority populations. An IOM report on health literacy recommends that programs to encourage health literacy, health education, and health promotion should be developed with involvement from the people who will use them.[91] According to Nutbeam,92 “Improving health literacy involves more than transmission of health information. It involves helping people to develop confidence to act on that knowledge through personal forms of communication and through community-based educational outreach.”

An example of such a program is Sadler et al.’s[93] Asian grocery store-based cancer education program. The objectives of this program were to (1) assist health care providers, educators, promoters, and policymakers in recognizing the multiple ethnic subgroups that exist under the Pan-Asian population and (2) understand that similarities and differences in health exist within ethnic subgroups of the population. Data were collected and analyzed from a convenience sample of 1202 Asian-American women in San Diego County, California, regarding their breast cancer knowledge, attitudes, and screening behaviors before and after participation in the brief educational intervention. The authors found statistically significant variations in breast cancer knowledge, attitudes, and screening behaviors among ethnic subgroups. These findings reiterate the importance of identifying cultural differences that can affect health literacy and create inequalities in health and health care among minority subgroup populations.

Even under the best of circumstances, intervention efforts to eliminate health disparities remain a challenge. First, cultural, language, educational, and economic barriers still exist for many patients with limited English proficiency.[88] Second, more culturally competent education programs are needed to recruit racial and ethnic minorities into the health professions. Finally, improving health literacy in a population involves more than the transmission of health information; it involves community participation in health interventions, a hard task to accomplish when asking for change in health behaviors that may be culturally sensitive.

Interventions aimed at eliminating health disparities must involve the local community in a dual role. Health professionals and researchers should encourage local communities to provide outreach to members of the target population and work with community leaders to assume pivotal roles as planners and advisory board members.[42,94] For example, for the American Indian and Alaskan Native minority, involvement within the local community early in the clinical trial process builds local tribal member and council leader support and ensures the confidentiality of the tribe while aiding in the sharing of the study results within the community.[66] Clinical trial researchers must recognize that structural language barriers are inherent to certain minority groups, specifically the Hispanic and Asian communities. Recruitment efforts are notably enhanced using targeted radio and television advertisements on Spanish-speaking stations, door-to-door canvassing, fliers, newspapers, and booths at local health fairs.[41,61] Linguistically competent staff and the inclusion of translated informed-consent forms, as well as culturally appropriate dress and ethnically appropriate graphics on health promotion materials, are recommended.[60,63,95]

Implications for pharmacists

As the numbers of racial and ethnic minority patients and providers continue to increase, pharmacists will be faced with multiple challenges. Because pharmacists are at the frontline of patient care, their active participation in the health care system can improve health outcomes and reduce health disparities. Pharmacists influence patients' health status directly through pharmaceutical care and indirectly by engaging patients in their treatment. Therefore, it is essential for pharmacists to be able to provide culturally competent care.

Community pharmacists are most likely to have direct contact with individuals with both diagnosed and undiagnosed diseases. These pharmacists are ideally situated in neighborhoods and strategically positioned to influence patients' health in their daily lives. Hospital pharmacists often interact with patients during their worst health states. Successful pharmaceutical interventions during hospitalizations and at discharge can make the difference between a worsening and an improvement in a leading health indicator, such as appropriate post-MI pharmacotherapy management for patients. Hospital pharmacists can work with other health care professionals and social workers to ensure that patients have both the appropriate prescriptions and the appropriate knowledge to manage their diseases. As patients leave the hospital, language barriers can reduce patient adherence to therapy guidelines, while age- and sex-appropriate materials and culturally sensitive interventions can enhance health outcomes. Health-system pharmacists routinely make evidence-based recommendations regarding medication therapy, including recommendations based on national quality indicators. One goal for these indicators is to ensure that all patients receive effective and cost-effective medication therapy.

Pharmacists who work in the public health services are tangibly involved in patient care, and improving the public health through individual patient care is a requisite part of their job. Still, all pharmacists are responsible for the health of their patients and can have a global impact on reducing health disparities through active participation in the health care system. Active participation in reducing health disparities will contribute to improved health for everyone and reduce unnecessary health care spending.

Conclusion

Despite significant efforts over the past several years, health disparities continue to exist, particularly among minority groups. Interventions aimed at eliminating these disparities should include ensuring cultural competence among health care providers and improving health literacy among patients.

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Table 1

Unresolved Health Care Disparities from Healthy People 2000[9]

Racial Group	**Unresolved Disparity**
American Indian and Alaska Natives	Increased rates of diabetes-related deaths and end-stage renal disease
Asian Americans	Exhibited increased rates of tuberculosis
African Americans	Continue to have health care gaps with increased diabetes-related deaths or amputations, maternal mortality, and fetal alcohol syndrome
Hispanics	Unable to decrease adolescent pregnancy rates or increase high school completion rates

Table 2

Goals and Proposed Framework for Healthy People 2010[11]

Goal	Framework
Visionary	Increase the number of years of healthy life for all Americans, eliminate health disparities among Americans
Enabling	Promotion of healthy behaviors, protection of health, assurance of access to quality health care services, and strengthening of community-based prevention efforts and a focus on the areas of mental and physical impairment and disabilities and public health infrastructure, which includes objectives relevant to surveillance, data systems, training, and research

Table 3

IOM Recommendations Relevant to Health-System Interventions[13], [a]

Recommendation No.	Summary
5–6	Promote the consistency and equity of care through the use of evidence-based guidelines.
5–7	Structure payment systems to ensure an adequate supply of services to minority patients, and limit provider incentives that may promote disparities.
5–8	Enhance patient-provided communication and trust by providing financial incentives for practices that reduce barriers and encourage evidence-based practice.
5–9	Support the use of interpretation services where community need exists.
5–10	Support the use of community health workers.
5–11	Implement multidisciplinary treatment and preventive care teams.

[a] IOM = Institute of Medicine.