

Moving Beyond the Status Quo in Reducing Racial and Ethnic Disparities in Children's Health

DENNIS P. ANDRULIS, PhD, MPH^a

During the 1990s, increasing attention was focused on longstanding racial and ethnic disparities in health and health care. New research and experiences from the front lines documented the extent of these differences, their costs to individuals and society, and the role the health care system plays in perpetuating them. As evidence continued to mount, policymakers, practitioners, and others intensified their interest in improving the knowledge base, skills, communication, and training around care for diverse populations. Since then, these and other cultural competence efforts have grown from typically small, isolated programs into more sophisticated and potentially far-reaching initiatives whose value has been strongly reaffirmed in a series of reports and recommendations, including those from the Institute of Medicine (IOM),¹ the Department of Health and Human Services Office of Minority Health,² The Agency for Health Research and Quality,³ the Centers for Medicare & Medicaid Services cultural competence/disparities health plan language that was part of the 2003 Quality Assurance/Performance Improvement requirements,⁴ numerous state issuances, and specific programs undertaken by providers. In many ways, having acknowledged the considerable body of evidence attesting to racial and ethnic disparities, the field is moving beyond documentation to seek and implement models and strategies to reduce them. To date, however, health care professionals and research have not tended to focus specifically on how to reduce racial and ethnic disparities affecting families and children. Such inattention exists in spite of the growing documentation that rates for certain conditions, such as asthma, are disproportionately higher among minority children.⁵ The consequences of these disparities can be profound, affecting activities of daily living, schooling, and other areas.

The purpose of this article is to use information from research and other work emerging from the field of cultural competence and disparities reduction to suggest directions for research, practice, and service settings to address the needs of children. It presents 1990 and 2000 data from our project that profiled the nation's 100 largest cities and their suburban areas (defined as the metropolitan statistical areas [MSAs] surrounding these cities) for families, children, and maternal/infant health to describe a subset of racial/ethnic disparities.⁶ Using these indicators and other research to document progress as well as significant, continuing challenges, this article identifies four dimensions that contribute to racial/ethnic disparities: biologic/genetic factors, access, quality of care, and language and communication. Recommendations for future directions to address these dimensions are intended to guide practitioners and their health care settings as well as research focused on reducing disparities and improving cultural competence for this patient population.

^aCenter for Health Equality, Drexel University School of Public Health, Philadelphia, PA

Address correspondence to: Dennis P. Andrulis, PhD, MPH, Center for Health Equality, 245 N. 15th St., MS 660, 13th Flr., Bellet Bldg., Philadelphia, PA 19103; tel. 215-762-6957; fax 215-762-7840; e-mail <dennis.andrulis@drexel.edu>.

©2005 Association of Schools of Public Health

PORTRAITS OF MATERNAL/INFANT HEALTH IN URBAN AND SUBURBAN AMERICA

In our 2003 report, *Dynamics of Race, Culture and Key Indicators of Health in the Nation's 100 Largest Cities and their Suburbs*, we used U.S. Census and Centers for Disease Control and Prevention (CDC) data on race/ethnicity to compare poverty, income, education, maternal/infant health, and other measures for whites, blacks, Hispanics, and Asians in 2000 and how these indicators had changed since 1990.⁶ (The project scope and methodology are described in the report and available at <http://www.downstate.edu/healthdata>.) This report documented the great growth in diversity occurring in metropolitan areas across the country and differential patterns of progress in addressing disparities for residents in these areas. Tables 1–4 present summary findings from this report for each racial/ethnic group.

White residents

Whites in cities and suburbs continued to lead all other racial/ethnic groups in the positive status of most family, maternal, and infant indicators (Table 1). Between 1990 and 2000, moderate progress in reducing child poverty in cities (–5%) and substantial progress in the suburbs (–12%) meant that whites remained for the most part well ahead of all other racial/ethnic groups. Single mothers in poverty also declined to an average of 3% or less in these areas. However, the percent of households headed by single mothers demonstrated by far the largest increases in both suburbs (16%) and cities (11%) than any other racial/ethnic group. Finally, adults made significant strides in education. By 2000, six in 10 residents of cities and slightly less than that proportion in the suburbs had at least some college education.

Measures of maternal/infant health generally reflect progress with one important exception. While rates of early prenatal care and teen births continued to move in positive directions—prenatal care in the first trimester led all other racial/ethnic groups—low birthweight rates among whites climbed almost 18% in suburban areas and 12% in cities, by far the largest increases across the four major racial/ethnic groups.

Black residents

Black residents in the 100 largest cities made some of the greatest strides in reducing poverty and improving education (Table 2). Their urban-suburban decline in the proportion of adults without a high school diploma was the highest of the four racial/ethnic groups. And with the exception of Asians in the cities, blacks had the greatest declines in child poverty and overall poverty among the 100 largest cities and their suburbs. With the exception of Asians, blacks also witnessed the greatest declines in the percent of families headed by single mothers in poverty, over 22% in the suburbs and 16% in cities. However, the rise in the proportion of families headed by single mothers generally meant that blacks remained by far the group with the highest proportion—36% in cities and 27% in suburbs.

Blacks had some of the best improvements in maternal/infant measures of health, including the greatest progress in early prenatal care, up 20% in the cities and 15% in the suburbs between 1990 and 2000, and respective teen birth declines of 14% and 11%. Finally, blacks in the cities were the only group to register a decline in low weight births (3%), while the suburbs rate was flat.

While these improvements are encouraging, comparisons with white residents continue to reaffirm that signifi-

Table 1. Maternal/infant health profile of whites in urban and suburban America, 1990 and 2000

	Cities			Suburbs		
	1990 (percent)	2000 (percent)	Percent change	1990 (percent)	2000 (percent)	Percent change
Population						
White	58.9	50.7	–13.9	79.4	73.8	–7.0
Education						
Adults 25 and over without a high school diploma	20.7	16.5	–20.4	19.7	14.6	–25.9
Adults 25 and over with any college attendance	53.5	60.0	12.2	50.2	57.4	14.5
Poverty and family composition						
Population living below 100% of poverty	11.5	11.5	0.1	8.0	7.3	–8.4
Children under 18 living in poverty	14.6	13.9	–5.0	10.1	8.9	–11.6
Families headed by single mothers	9.3	10.3	11.4	6.8	7.9	15.5
Families headed by single mothers in poverty	3.3	3.0	–7.8	2.0	1.9	–7.0
Maternal-infant health ^a						
Live births of low birth weight	6.1	6.8	11.8	5.5	6.4	17.7
Live births to teen mothers (<age 20)	9.4	8.1	–13.6	8.4	7.7	–8.3
Live births with mother receiving early prenatal care (first trimester)	82.9	87.6	5.6	85.3	89.6	5.1

SOURCE: Andrulis D, Duchon L, Reid H. Dynamics of race, culture and key indicators of health in the nation's 100 largest cities and their suburbs. Brooklyn (NY): State University of New York Downstate Medical Center; 2003.

^aCities, 1990: n=80; cities, 2000: n=82; suburbs, 1990: n=79; suburbs, 2000: n=80.

Table 2. Maternal/infant health profile of blacks in urban and suburban America, 1990 and 2000

	Cities			Suburbs		
	1990 (percent)	2000 (percent)	Percent change	1990 (percent)	2000 (percent)	Percent change
Population						
Black	23.8	25.4	6.8	7.5	8.2	10.1
Education						
Adults 25 and over without a high school diploma	32.3	25.1	-22.4	28.8	20.5	-29.0
Adults 25 and over with any college attendance	40.7	46.1	13.3	45.1	52.1	15.5
Poverty and family composition						
Population living below 100% of poverty	30.3	26.5	-12.6	23.0	18.4	-19.8
Children under 18 living in poverty	41.2	35.3	-14.3	30.9	24.1	-22.2
Families headed by single mothers	34.5	36.2	4.9	25.6	26.5	3.4
Families headed by single mothers in poverty	18.6	15.6	-16.3	12.2	9.4	-22.3
Maternal-infant health ^a						
Live births of low birth weight	13.6	13.1	-3.4	12.0	12.0	0.1
Live births to teen mothers (<age 20)	23.9	20.6	-13.9	18.7	16.8	-10.5
Live births with mother receiving early prenatal care (first trimester)	62.0	74.2	19.6	67.4	77.2	14.6

SOURCE: Andrulis D, Duchon L, Reid H. Dynamics of race, culture and key indicators of health in the nation's 100 largest cities and their suburbs. Brooklyn (NY): State University of New York Downstate Medical Center; 2003.

^aCities, 1990: *n*=78; cities, 2000: *n*=81; suburbs, 1990: *n*=61; suburbs, 2000: *n*=66.

cant disparities exist for black residents in cities and suburbs. These disparities continue to be manifested in rates of child poverty, with black rates more than 250% higher than whites in both cities and suburbs and the highest of the four racial/ethnic groups. Overall poverty differences were similar. For single mothers in poverty, rates approached or exceeded 500% higher compared with whites.

Maternal/infant health measures also continued to reflect disparities: black low birthweight was about 1.5 to 1.9 times higher respectively in cities and suburbs; black teen births were more than 200% higher in both areas; and early prenatal care for black women remained notably lower as well.

Hispanic residents

The 1990s was a decade of great growth in the numbers of Hispanics living in the nation's largest cities and suburbs, but mixed progress in improving the health and well-being of families and children (Table 3). Hispanics overall saw the numbers of adults without a high school diploma rise during the decade—the only racial/ethnic group to register such a change. They also experienced the smallest improvement in both child and adult poverty for the 100 largest cities and their suburbs, with the exception of overall white poverty—where no change occurred and where rates remained by far the lowest compared with Hispanics, blacks, and Asians. Hispanics did make notable improvements in the proportion of urban-based single mothers in poverty—a drop of 20%.

On maternal/infant indicators, urban and suburban Hispanics registered comparatively low increases in low birth weight infants, so that by 2000 they had equaled or overtaken whites for the lowest rates in both cities and suburbs.

However, their average teen birth rate decline was only 5% in the cities and non-existent in the suburbs. Finally, despite modest progress, urban and suburban-based black women now lead Hispanic women in the proportion receiving early prenatal care.

Asian residents

Asians have made considerable progress in family and maternal/infant measures but notable gaps persist compared with whites (Table 4). The proportion of Asians with at least some college overtook urban and suburban whites during the 1990s, so that they now have the highest rate among the four racial/ethnic groups. The decline in the percent of urban children in poverty—24%—was the greatest improvement, as was the drop in single mothers in poverty (30% in the cities and 24% in the suburbs). This group's percent of families headed by single mothers overall was also the lowest in 2000.

Two of the three measures of maternal/infant health registered positive gains during the 1990s. The teen birth rate decline meant that Asians continued to have the lowest rate in both cities and suburbs. They also experienced a 13% urban increase in early prenatal care and almost 8% in the suburbs, narrowing the difference from white women. However, similar to whites, the proportion of urban and suburban low birthweight infants increased significantly—10%.

Improvements for Asians in cities and suburbs meant considerable narrowing of disparities compared with whites, and in some cases, elimination of disparities. However, child and overall poverty rates in cities are about 1.5 times greater, and the lack of progress in reducing the rate of low weight births meant that urban and suburban Asians lag behind

Table 3. Maternal/infant health profile of Hispanics in urban and suburban America, 1990 and 2000

	Cities			Suburbs		
	1990 (percent)	2000 (percent)	Percent change	1990 (percent)	2000 (percent)	Percent change
Population						
Hispanic	11.9	16.3	36.6	9.9	12.5	26.7
Education						
Adults 25 and over without a high school diploma	39.1	42.8	9.7	34.2	37.0	8.0
Adults 25 and over with any college attendance	38.5	34.8	-9.6	40.8	38.7	-5.0
Poverty and family composition						
Population living below 100% of poverty	24.4	23.9	-2.1	17.1	17.0	-0.8
Children under 18 living in poverty	30.5	29.3	-3.9	20.9	19.7	-5.5
Families headed by single mothers	18.4	17.7	-4.1	12.3	13.4	8.8
Families headed by single mothers in poverty	10.1	8.1	-19.6	5.3	4.8	-9.2
Maternal-infant health ^a						
Live births of low birth weight	6.5	6.6	2.2	6.0	6.3	5.6
Live births to teen mothers (<age 20)	18.1	17.2	-5.3	15.1	15.1	-0.1
Live births with mother receiving early prenatal care (first trimester)	63.8	71.9	12.7	67.0	74.8	11.7

SOURCE: Andrulis D, Duchon L, Reid H. Dynamics of race, culture and key indicators of health in the nation's 100 largest cities and their suburbs. Brooklyn (NY): State University of New York Downstate Medical Center; 2003.

^aCities, 1990: *n*=57; cities, 2000: *n*=75; suburbs, 1990: *n*=55; suburbs, 2000: *n*=71.

whites and Hispanics. Finally, about four in five Asian women in cities received early prenatal care—a rate that remains well below the 88% rate for white women.

AREAS OF FOCUS FOR REDUCING RACIAL AND ETHNIC DISPARITIES IN CHILDREN'S HEALTH

The limited portrait of racially and ethnically diverse families and children living in the nation's largest cities and suburbs focuses only on a very few indicators associated with child health. Nonetheless, while revealing a dynamic that offers some encouragement in narrowing gaps in health and prenatal care, this information documents the substantial improvements that still need to occur if disparities are to be eliminated. In so doing, it offers a data-based context for considering the actions that practitioners and their health care settings can take to achieve this objective.

Achieving significant and long-term improvements in low birth weight, teen births, and the many other factors affecting the health of children from diverse cultures starts with the fundamental relationship between the child/family and the practitioner. At the same time, the full and continued commitment of the health care setting will ultimately make the difference between well intentioned efforts that may fail to take root and successful adoption and integration of cultural competence into health care systems.

These two points of emphasis are nothing new in disparities discussions. As practitioners and their health care settings develop efforts to redress disparities, however, it is important to recognize that "one size fits all" may not apply across all age groups, especially when considering the significantly different forces affecting the health of children.⁷ For children, these influential and distinctive forces include

significant developmental change. Youth and adolescence in particular are accompanied by emerging ethnic identity affected by social environment; dependency on parents or caregivers for access to and use of health services, which is in turn affected by the caregiver's own experiences in the health care system; a focus on preventive, well child, and developmental services or care (vaccination rates, anticipatory guidance, specific health issues such as obesity, etc.); and setting differences, such as schools. Acknowledging these factors, the following sections identify and discuss barriers and practitioner and organization-based models that, used together, can help reduce and eventually eliminate disparities.

DIMENSIONS AFFECTING THE CHILD/FAMILY-PRACTITIONER RELATIONSHIP

There are at least four major disparities likely to affect morbidity and mortality among children from diverse cultures: (1) biological and genetic predispositions to disease and health; (2) access to care; (3) quality of care and services; and (4) language and communication barriers affecting care. Failure to acknowledge their role and take action to reduce their effects is likely to adversely affect health care outcomes for these children.⁸

Biological and genetic predispositions to disease and health

It is well accepted that practitioners must know and understand that biological and genetic factors can influence the health of children. For example, family genetic history plays a central role in children's susceptibility to certain conditions. Evidence also indicates that individuals of specific race/ethnicities may be predisposed to such diseases as sickle

Table 4. Maternal/infant health profile of Asians in urban and suburban America, 1990 and 2000

	Cities			Suburbs		
	1990 (percent)	2000 (percent)	Percent change	1990 (percent)	2000 (percent)	Percent change
Population						
Asian	4.6	5.8	27.1	2.9	4.0	40.6
Education						
Adults 25 and over without a high school diploma	25.1	23.6	-6.2	19.3	17.6	-8.7
Adults 25 and over with any college attendance	58.2	59.8	2.8	61.7	65.7	6.5
Poverty and family composition						
Population living below 100% of poverty	23.4	18.8	-19.7	11.1	9.7	-12.8
Children under 18 living in poverty	25.3	19.4	-23.5	11.6	10.7	-8.0
Families headed by single mothers	9.0	8.6	-4.7	7.1	7.2	0.3
Families headed by single mothers in poverty	4.3	3.0	-30.1	2.5	1.9	-24.1
Maternal-infant health ^a						
Live births of low birth weight	7.0	7.8	10.4	6.8	7.5	9.9
Live births to teen mothers (<age 20)	6.7	6.2	-8.0	4.2	3.6	-13.0
Live births with mother receiving early prenatal care (first trimester)	72.0	81.3	13.0	80.2	86.3	7.6

SOURCE: Andrulis D, Duchon L, Reid H. Dynamics of race, culture and key indicators of health in the nation's 100 largest cities and their suburbs. Brooklyn (NY): State University of New York Downstate Medical Center; 2003.

^aCities, 1990: n=55; cities, 2000: n=68; suburbs, 1990: n=46; suburbs, 2000: n=61.

cell anemia and Tay-Sachs. Moreover, as noted in the IOM report, drug sensitivities based on race-ethnicity have led practitioners to conclude that "one dose" may not fit all patients.¹ In adults, these differences have been found in Asian patients, who tend to metabolize certain psychotropic medications at slower rates than the general population, and among blacks, who may require different doses of ACE inhibitors to achieve desired antihypertensive effects. Finally, further compounding the biological-genetic-race/ethnic link to disease is the predisposition to certain adverse birth outcomes. For example, higher rates of very low birth weight infants among racial/ethnic groups may also lead to conditions such as cerebral palsy.⁶

Lack of attention to these and other race/ethnic-related causes of children's illness or differential responses to drug treatment are thus likely to perpetuate disparities through missed diagnoses, inappropriate treatment, and ultimately, adverse outcomes. Moreover, failure to recognize culturally related drug sensitivities among children may jeopardize patient safety and lead to complications or less than optimal effects of care.

Access to care

In theory, access to needed health care for children should transcend race and culture. Reality, however, tells a different story of significant disparities for children, starting in the womb and continuing through childhood. As we have documented, early prenatal care rates vary significantly by race/ethnicity.⁶ Emergency rooms frequently become the point of entry to the health care system, especially for those without insurance—a status that tends to be higher among diverse populations. Those without insurance are also more likely to postpone needed care due to cost. Moreover, even when

poor patients use the health care system, the likelihood of incurring medical debt may discourage future care.⁹

In its review of research from numerous studies, the IOM noted that non-white residents were more likely to reside in communities with fewer health care providers and were less likely to have a regular source of care.¹ And even when they used health services, Hispanics stated they waited longer for care and were more likely to be dissatisfied with their primary care visits.¹⁰ Access issues may also reach into the community, where investigations have found that pharmacies in areas with higher proportions of non-whites are less likely to carry certain drugs.¹¹

Research into child-specific disparities in access and their consequences point out that children are not immune from a similar fate. An analysis of data on almost 100,000 children from the 1989–1991 National Health Interview Survey found that compared with whites, non-white children average fewer doctor visits and are more likely to have excessive intervals between visits.¹² Almost all ethnic group disparities persisted after adjustment for family income, parental education, and other covariates. The authors concluded that major ethnic groups and subgroups of children differ strikingly in demographics, health, and use of services; that subgroup differences are easily overlooked; and that most disparities persist after adjustments for other factors.

Quality of care and services

Once a child enters the health care system, many assume that he or she will receive the best care available, regardless of race or ethnicity. While few studies have examined quality of care by race/ethnicity, evidence from studies of adults and some that have focused on children suggest that non-white patients may be at risk to receive less than optimal

care than whites. A review of reports on racial/ethnic disparities in treatment of childhood asthma¹³ found the following for blacks, Latinos, and/or patients from the Indian subcontinent or Afro-Caribbeans compared with whites: lower frequency of receiving appropriate prescriptions; greater likelihood to not be prescribed a nebulizer for home use at hospital discharge; higher odds of receiving medications that are contrary to national recommendations; lower odds of receiving beta 2 agonists; less likelihood to be prescribed anti-inflammatory medications; higher odds of receiving contraindicated antitussive prescriptions; higher odds of receiving non-prescriptions for anti-inflammatory medications; and lower odds of cortico-steroid prescriptions after emergency visits or hospitalization. The study authors recommended broad use if not adherence to uniform clinical practice guidelines to be applicable across racial/ethnic groups.

A review of 2,000 citations and 177 articles¹⁴ found that failure to appreciate the importance of culture and language in pediatric emergencies can result in multiple adverse consequences including difficulties with informed consent, miscommunication, inadequate understanding of diagnoses and treatment by families, dissatisfaction with care, preventable morbidity and mortality, unnecessary child abuse evaluations, lower quality of care, clinician bias, and ethnic disparities in prescription analgesics, test ordering, and diagnostic evaluations. As with the IOM conclusions, differences persist even after controlling for insurance status and severity, resulting in non-white patients having a greater likelihood of receiving lower quality of care.

Language and communication barriers affecting care

Understanding and communicating across cultural divides is perhaps the core component to establishing an effective patient-practitioner relationship. While accomplishing this goal is critical in any health care encounter, it takes on an added dimension of complexity in caring for children, where frequently three perspectives—parent or guardian, child, and practitioner—must be effectively integrated into the clinical encounter and where failure to do so may lead to unintended outcomes. For example, a cross-sectional survey of parents of more than 200 Latino children using health care in an inner city found that about one in 12 parents reported that if they spoke little or no English and the medical staff did not speak English, adverse consequences such as poor medical care, misdiagnosis, and inappropriate prescriptions were more likely to occur.¹⁵ A survey of self-reported experiences of individuals with limited English proficiency found patients unable to obtain access to an interpreter in a hospital were significantly more likely to not understand their medications (27%) compared with patients who had an interpreter provided or whose provider spoke their language (2%).¹⁶ This finding contrasts with other research on Hispanic patients that found a positive relationship between the ability of the practitioner to speak Spanish and higher self-reported scores on functioning and well-being.¹⁷ In sum, the practitioner must be prepared to address children's health care concerns in a way that not only meets the immediate needs of the child/patient, but is also fully understood and effectively interpreted by the family member(s).

GUIDING FUTURE DIRECTIONS FOR RESEARCH, EDUCATION, AND INTERVENTIONS ON RACIAL AND ETHNIC HEALTH DISPARITIES IN CHILDREN

This review of data and information on disparities offers direction for future work for a population that, to date, has not received sufficient attention. Specifically, five strategies should be employed to address children's health disparities. Some of these recommendations support in-depth documentation of distinct disparities in child health.¹⁸ Others may be seen as extensions of adult-based investigations and interventions. In all, they are intended to recognize the need for attention by both practitioners and their health care settings.

1. Develop and apply data on disparities in child health and health care.

The results from our study of maternal and infant health as measured by low birth weight, teen births, and prenatal care raise questions about the variations in community-based efforts to address these longstanding challenges. Specifically, our findings indicate that some cities and suburbs have been more successful in improving these measures.⁶ However, unknown at this time is whether these positive changes are the result of identifiable health initiatives or interventions, socioeconomic shifts such as higher employment and income levels and higher levels of education that improved overall health and child well-being, or demographics. Documenting the causes and lessons learned from these communities could offer valuable experience for other areas of the country.

Our study data set that profiled health in the nation's 100 largest cities and their suburbs is but one example of the application of measures to address child health. Efforts must occur at other levels as well, in particular in the health care provider setting. Here, collection and use of race/ethnicity data can lead to more specific review of program, service, and provider effectiveness. This fundamental action is critical given that child health care quality measures are, for the most part, currently not designed to monitor disparities, and that identification and application of related data to date are minimal.¹⁷

2. Bridge the communication divide.

The literature focusing on both adult and child health disparities suggests the need for significant improvement in at least three areas: reducing language and communication barriers; developing knowledge and skills that integrate factors affecting development in children from diverse heritages; and understanding the cultural context affecting child/parent health decisions.

Our review⁶ and other adult-focused research on language barriers in the health care encounter leave little doubt about the adverse consequences of failure to communicate effectively. Just how bridging communication differences is accomplished will vary, depending on the extent of parental/guardian involvement, the degree of limited English proficiency of the child/patient and adult, and the capacity of the setting or practitioner to provide language assistance. In addition, Horn and Beal recommend defining where dis-

parities exist for children, such as patient safety or medical errors, especially with limited English-speaking households.⁷ Finally, any effort to improve understanding must recognize and adjust oral communication and written materials to accommodate the health literacy needs of the greatest number of families. This will require developing standardized messages at the fourth-grade level in English and other languages specific to the population served.

3. Address concerns specific to the child life stages of development.

Refining and enhancing knowledge and skills around the developmental stages alone and in the context of socialization for children of diverse heritage must also be factored into care. Thus, as children develop, family and peer reference points become more influential. In adolescence, factors that influence health-related decisions at points in development will be critical in determining health behavior as well as health care use. For example, understanding the role and legacy of racism and discrimination, as perceived by the family, will in turn play a role in determining a broad array of personal issues such as self-esteem.

Researchers have suggested that investigations into child health services must consider such distinguishing characteristics as rapid developmental change, parental dependency, differing patterns of disease, disability and health, and demographic characteristics such as single parents and poverty. These factors are relevant to minority populations of children as well, but related research must consider differences and possibly recognize disproportionate impact. For example, these children are more likely to live in poverty, have single mothers in poverty, and have higher rates of certain conditions such as asthma.¹⁹

4. Recognize the significant influence of culture on health.

Culture potentially plays a powerful role in influencing health care. As Pachter has noted, "Individuals from ethnic minorities may approach health care differently, depending on how that person combines his or her particular cultural health beliefs and behaviors with biomedical practices. If these beliefs conflict with the medical intervention, adherence may suffer."²⁰

Understanding the cultural context for health care decision-making is critical to effective clinical encounters. Thus, understanding the role, norms, or customs of the family in medical decisions, healing practices, rituals, and other culturally influenced priorities must be integrated into health care interactions. For example, in her book, *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors and the Collision of Two Cultures*, Anne Fadiman describes how the health care system failed to bridge the medical/cultural divide for a young girl with epilepsy.²¹ In the Hmong culture, epilepsy is considered a serious condition, but an afflicted person is also seen as having special qualities as "shamans," who can help others. Living with this duality in the American culture is foreign if not inimical to allopathic medicine.

Practitioners and health care settings that are moving to address disparities and increase their knowledge of the importance of culture can draw on lessons learned from cur-

rently accepted practices. Pediatric providers have been encouraged to obtain parental opinions and concerns about their children as well as elicit histories of development and behavior, using a broad set of tools such as questionnaires, screening, and record-keeping.²² Application of pediatric provider skills, experiences, and available tools—adapted to consider diversity-specific concerns—will offer new ways to track needs and develop effective interventions for these children. Acknowledging that race/ethnicity may play a significant role in shaping behavior or influencing children's mental and physical health may also create effective communication among parents, children, and providers and may help in addressing identified problems.

5. Integrate disparities and cultural competence into quality of care.

While identification of problems in childhood and access to care are critical, addressing the special concerns of diverse children requires fully integrating efforts into quality of care.²³ Poor-quality care provided to children of color is linked to bias and delivery of less than optimal care to this population whether it is asthma management, immunizations, or other services.⁷ Among the recommended areas in child health are the need to recognize racial and ethnic disparities as a core component of efforts to improve quality of care for children. Embracing this objective are organizations such as The National Institute for Child Health Quality, which is working to integrate measurable cultural competence principles and practices in their child health models of care.

CONCLUSIONS

Although the great expansion of interest and work around disparities and cultural competence has not extended as fully into child health, the lessons being learned from innovations and research on adults offer significant opportunities for application with younger individuals. At the same time, the distinct characteristics of childhood and the factors that influence health and illness imply that lessons learned from the adult world must be complemented by research and innovation directed explicitly toward children.

This research must extend through and beyond the clinical encounter to address the role of the health care setting and system. Their importance is underscored by emerging lines of investigation suggesting the benefit of broad-based commitment. Thus, efforts to improve child health must also extend to health professions education for current practitioners as well as school curricula. Innovative patient-based approaches to curriculum development that consider the patient's social context, health beliefs, and health behavior can be adapted to address the stages of development and special characteristics of children.²⁴ More broadly, each health care setting must recognize its importance in this process. Reinforcing this direction is a 2004 report based on children's asthma care data by race/ethnicity from five health plans. Focusing on variations among their health services sites in implementing cultural competence policies (as evidenced by recruitment of diverse and bilingual medical staff, tailoring printed materials to address cultural issues, implementing related training including communication, and assessing cultural competence among practitioners), this study

concluded that patients (with parents) using sites scoring highest on cultural competence scales tended to use asthma medications appropriately. These sites also had higher parent-based ratings of care.²⁵

The growing recognition not only of disparities but also of emerging innovations to reduce them is generating opportunity and promise for diverse communities and their residents. The purposeful and concrete application and advancement of these efforts for younger populations is a natural next step that is awaited by parents and their children in creating a healthier nation for all.

The author acknowledges the assistance of the Robert Wood Johnson Foundation in supporting the project on the 100 largest cities and their suburbs.

REFERENCES

1. Institute of Medicine. Unequal treatment: confronting racial and ethnic disparities in health care. Washington: National Academies Press; 2003.
2. Department of Health and Human Services (US). National standards for culturally and linguistically appropriate services in health care. Washington: Office of Minority Health; 2001.
3. Agency for Healthcare Research and Quality. National healthcare disparities report: summary. Rockville (MD): Agency for Healthcare Research and Quality; 2004. Available from: URL: <http://www.ahrq.gov/qual/nhdr03/nhdrsum03.htm>
4. Department of Health and Human Services (US), Centers for Medicare & Medicaid. Quality Assessment and Performance Improvement (QAPI) projection completion report instructional guide, 2003 CLAS QAPI project addendum; 2004. [cited 2005 April 14]. Available from: URL: <http://www.cms.hhs.gov/healthplans/quality/ClasQapiPerGuidelines01162004.pdf>
5. Newacheck P, Halfon N. Prevalence, impact and trends in childhood disability due to asthma. *Arch Pediatr Adolesc Med* 2000; 154:287-93.
6. Andrulis D, Duchon L, Reid H. Dynamics of race, culture and key indicators of health in the nation's 100 largest cities and their suburbs. Brooklyn (NY): State University of New York Downstate Medical Center; 2003. Also available from: URL: http://www.downstate.edu/urbansoc_healthdata/Urban%20Center%20Website/web%20design2/pdf%20files/urbanreport2003final.pdf
7. Horn I, Beal A. Child health disparities: framing a research agenda. *Ambul Pediatr* 2004;4:269-75.
8. Andrulis D. Reducing racial and ethnic disparities in disease management to improve health outcomes. *Disease Management and Health Outcomes* 2003;11:789-801.
9. Andrulis D, Duchon L, Pryor C, Goodman N. Paying for health care when you're uninsured: how much support does the safety net offer? Boston: The Access Project; 2003.
10. Phillips K, Mayer M, Aday L. Barriers to care among racial/ethnic groups under managed care. *Health Aff (Millwood)* 2000;19:65-75.
11. Morrison R, Wallenstein S, Natale D, Senzel RS, Huang LL. "We don't carry that"—failure of pharmacies in predominantly non-white neighborhoods to stock opioid analgesics. *N Engl J Med* 2000;342:1023-6.
12. Flores G, Bauchner H, Feinstein AR, Nguyen US. The impact of ethnicity, family income and parental education of children's health and use of health services. *Am J Public Health* 1999;89:1066-71.
13. Cabana M, Flores G. The role of clinical practice guidelines in enhancing quality and reducing racial/ethnic disparities in pediatrics. *Pediatr Resp Rev* 2002;3:52-8.
14. Flores G, Rabke-Verani J, Pine W, Sabharwal A. The importance of cultural and linguistic issues in the emergency care of children. *Pediatr Emerg Care* 2002;18:271-84.
15. Flores G, Abreu M, Olivar M, Kastner B. Access barriers to health care of Latino children. *Arch Pediatr Adolesc Med* 1998;152:1119-25.
16. Andrulis D, Goodman N, Pryor C. What a difference an interpreter can make: health care experiences of uninsured with limited English proficiency. Boston: The Access Project; 2002.
17. Perez-Stable E, Napoles-Springer A, Miramontes J. The effects of ethnicity and language on medical outcomes of patients with hypertension or diabetes. *Med Care* 1997;35:1212-9.
18. Beal A. Policies to reduce racial and ethnic disparities in child health and health care: eliminating racial and ethnic disparities will require multiple interventions throughout the health care system. *Health Aff (Millwood)* 2004;23:171-9.
19. Forrest C, Simpson L, Clancy C. Child health services research: challenges and opportunities. *JAMA* 1997;277:1787-93.
20. Pachter L, Weller S. Acculturation and compliance with medical therapy. *J Dev Behav Pediatr* 1993;14:163-8.
21. Fadiman A. The spirit catches you and you fall down: a Hmong child, her American doctors and the collision of two cultures. 1st ed. New York: Farrar, Strauss and Giroux; 1997.
22. Dworkin P. Detection of behavioral, developmental, and psychosocial problems in pediatric primary care practice. *Curr Opin Pediatr* 1993;5:531-6.
23. McGlynn EA, Halfon N, Leibowitz A. Assessing the quality of care for children. Prospects under health reform. *Arch Pediatr Adolesc Med* 1995;149:359-68.
24. Carrillo JE, Green AR, Betancourt JR. Cross-cultural primary care: a patient-based approach. *Ann Intern Med* 1999;130:829-34.
25. Lieu TA, Finkelstein JA, Lozano P, Capra AM, Chi FW, Jensvold N, et al. Cultural competence policies and other predictors of asthma care quality for Medicaid-insured children. *Pediatrics* 2004;114:e102-10.