Health Disparities: Examination of Evidence Relevant for Occupational Therapy

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Key Words
- health status disparities
- human activities
- minority health
- social justice
- socioeconomic factors
- utilization, occupational therapy

Healthy People 2010 identified elimination of health disparities as a national priority. Few studies in the occupational therapy literature document health disparities. The purpose of this study was to examine the evidence on U.S. health disparities with specific relevance to occupational therapy and by racial/ethnic groups and income levels. National survey data were used to identify variables related to occupational performance or occupational therapy services that showed evidence of disparities. Data on U.S. citizens included health and behavioral characteristics, activity profiles, home and work environments, experiences in health systems, and outcomes of health care services. On many variables, the nature of differences for non-White groups and lower income–level groups provide evidence of health disparities. The findings support the National Healthcare Disparities Reports, which concluded that health disparities are still prevalent in the United States, and opportunities remain in health professions, like occupational therapy, to improve the health of all citizens.


Health disparities have been identified as a national priority for health care during the past decade. Several definitions of health disparities are evident in the literature. The National Institutes of Health (NIH) defined health disparities as “differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States” (U.S. Department of Health and Human Services [DHHS], 2000b, p. 4). Healthy People 2010 identified elimination of health disparities as one of its two primary goals, with specific objectives targeted for health “differences that occur by gender, race or ethnicity, education or income, disability, geographic location, or sexual orientation” (DHHS, 2000a, p. 11).

Several federal agencies have health disparities as a primary focus area for programs, research, and data collection (Centers for Disease Control and Prevention [CDC], Office of Minority Health and Health Disparities, 2007). DHHS created the Office of Minority Health in 1985 because large and persistent gaps in health status among Americans of different racial and ethnic groups were still evident. In 1995, the Center of Cultural and Linguistic Competence in Health Care was added to address specific needs in health care by service providers. The CDC created its own Office of Minority Health in 1988 in response to the same report. Congress passed the Disadvantaged Minority Health Improvement Act of 1990 to improve the health status of underserved populations, including racial and ethnic minorities.

In 2000, the National Center on Minority Health and Health Disparities was established as an extension of the work of the Office of Research on Minority Health (National Center on Minority Health and Health Disparities, 2007). This center is part of the NIH. Many other governmental agencies, including the Health Resources and Services Administration, Administration for Children and Families,
Administration on Aging, and Agency for Health Care Research and Quality (AHRQ), have also identified health disparities as a focus area.

These federal agencies have worked with some of the country’s major foundations to collect data on existing disparities, disseminate information to professional and lay audiences, and propose solutions for general and specific areas of needs. Foundations such as the Kaiser Family Foundation, Kellogg Foundation, Prevention Institute, United Health Foundation, and the Robert Wood Johnson Foundation, among others, have contributed to the understanding of the prevalence and complex nature of health disparities in the United States.

Within the past decade, there has been a growing emphasis on trying to understand the causes of health disparities. Although more is known today than in the past, the causes of health disparities are still complex, multidimensional, and poorly understood. Evidence on disparities is often classified by contributing factors, including person characteristics; health care; environment; and the systemic factors of poverty, oppression, and discrimination.

Person characteristics were long believed to be a primary explanation for health disparities. For years, people claimed that racial differences in the genetic makeup of people explained disparities as a biological variable; now, growing evidence increasingly supports race as a social category (Williams, 1997). For example, groups with similar physical characteristics, like skin color, vary greatly in their genetic makeup and, thus, in their predisposition to disease.

The U.S. health system and practices have come under increasing scrutiny for their contributions to disparities. The *Unequal Treatment* report (Institute of Medicine, 2003) has been important in raising awareness that racial and ethnic groups are treated differently by practitioners within the health system. The health care environment contributes to disparities through many factors, including access, insurance, linguistic barriers, and complex bureaucracies. The clinical encounter itself is also a contributing factor. The report documented evidence from more than 100 studies of enormous differences in quality of care for different racial and ethnic groups for the leading clinical conditions. It proposed that practitioners’ clinical uncertainty, beliefs or stereotypes, time pressure, limited or incomplete information, and high demand on attentional or cognitive processes were contributing factors to care discrepancies in addition to possible biases and prejudices. Patients also bring their own background, beliefs, and values to the clinical encounter, and these are shaped by previous negative experiences, limited familiarity with diseases and treatment options, culturally determined health beliefs, or lack of interpreters.

There is growing research on the contributions of the environment to health disparities. The Prevention Institute (Davis, Cohen, & Mikkelsen, 2003) has classified and developed interventions for the environment in four community clusters: (1) built environments, (2) social capital, (3) services and institutions, and (4) structural factors. ** Built environments are defined as activity-promoting environments that provide nutrition, transportation, housing, products, environmental quality, and appearance or ambience. ** Social capital includes factors that fulfill individual and group needs for social cohesion and trust; collective efficacy; civic participation and engagement; and positive social, behavioral, and gender norms. ** Services and institutions provide access to medical and health care, public safety, education, and literacy. ** Structural factors include ethnic and racial relations, economic capital, media marketing, community-based organizations, and cultural and artistic opportunities.

The root factors of poverty, oppression, and discrimination are central to any discussion of health disparities. According to the 2000 U.S. Census, 12.6% of the population, or 34 million people, live in poverty. This population will grow because 17.6% of all children ages 17 or younger live in poverty (U.S. Census Bureau, 2007b). A discussion of the role of oppression and discrimination as they contribute to health disparities is beyond the scope of this article, but it is an important foundation for studies of disparities.

The *National Healthcare Disparities Report* (AHRQ, 2006) has documented disparities that relate to quality of and access to care for general and priority populations since 2003. The 2006 report indicates that disparities are still prevalent for racial, ethnic, and socioeconomic groups for all dimensions of quality of and access to care, many types of care and care settings, and leading clinical conditions and subpopulations. Although some disparities are diminishing, others are increasing, especially in poor populations. The report also suggested that opportunities for reducing disparities remain. Information on disparities is improving, but there are still gaps in information available. Data from new measures will be available in the future. Both national standards and neighborhood strategies were proposed as solutions to the challenge of eliminating health disparities.

The national goal of eliminating health disparities is important for occupational therapy. During the early to mid-1990s, occupational therapy made strides in increasing awareness of multicultural issues and promoted studies and publications that explored the topic of diversity (Abreu & Peloquin, 2004; Black, 2002). However, until recently, the profession has had a primary focus on multiculturalism and diversity issues rather than health disparities. Moreover, studies on race and ethnicity represent only one aspect of cultural diversity (Blakeney, 1987). Each person participates in multiple

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cultures such as families, workplaces, institutions, professions, classes, and neighborhoods (Davis et al., 2003).

There are limited studies in the occupational therapy literature on health disparities. The American Occupational Therapy Association (AOTA) Board Task Force on Health Disparities Report (Bass-Haugen et al., 2005, p. 6) described a recent search of health disparities studies in the occupational therapy literature:

A preliminary search in the Occupational Therapy Bibliographic System using a combination of key words as search terms for terms related to health disparity identified a limited body of knowledge in occupational therapy: cultural diversity (120 references); occupational therapy and prejudice (23 references); health care justice (6 references); occupational therapy and minority (5 references); and occupational therapy access (72 references). Using the term health disparity and including a focus on all subheadings provided resulted in: OT BYBS (1 reference); Ovid Medline (71636 references); and CINAHL (16463); CDRS, ACP Journal Club, DARE, CCTR (716 references). This search shows that the occupational therapy literature has not evolved to reflect the growing emphasis on health disparities [italics added].

Themes of social and occupational justice (Kronenberg & Pollard, 2006; Townsend & Wilcock, 2004), occupational deprivation (Hasselkus, 2006), and client advocacy (McColl, 2005) are beginning to appear in the occupational therapy literature, with growing references in international journals (Whiteford, 2000).

In 2005, the AOTA Board of Directors convened a task force with a charge to prepare a report on health disparities (Bass-Haugen et al., 2005) that summarized the problem, provided background information, and identified implications for the professional association. By 2006, the representative assembly had prepared a societal statement on health disparities (Braveman, 2006). At the 2006 AOTA Annual Conference & Expo in Charlotte, North Carolina, several presentations highlighted health disparities as an occupational therapy practice issue, including the plenary session (Kronenberg & Pollard, 2006).

Although there is growing interest in health disparities, the majority of Americans still have limited knowledge of the nature and prevalence of health disparities. As recently as 1999, more than 50% of all Americans were unaware of many health disparities (Kaiser Family Foundation, 1999). Occupational therapy practitioners and researchers need further awareness of existing disparities and must examine health care disparities and distributive justice (Cassidy, 1988) in a more systematic and comprehensive manner, especially in regard to implications for occupational therapy services. The primary purpose of this study was to examine the evidence on health disparities for the United States with specific relevance to occupational therapy by racial/ethnic groups and income levels.

Method

Design

The design for this study is a retrospective analysis of secondary data available through the U.S. Census Bureau and the National Center for Health Statistics. A cross-sectional, descriptive analysis was used to examine variables relevant to occupational therapy and to depict health disparities by race/ethnicity and income levels for selected surveys representing the years 2001–2006.

Measures

The American Community Survey (ACS; U.S. Census Bureau, 2007a) is an annual survey that collects population and housing information. Approximately 3 million households are surveyed each year, including every county in the nation. Information collected includes economic, social, demographic, and housing information. The 2005 ACS provides data for all U.S. geographic areas with a population of 65,000 or more. The U.S. Census Web site (www.census.gov/acs/www/) provides information on sampling error for each variable.

The 2006 National Health Disparities Report (AHRQ, 2006) summarized data from AHRQ (3 databases), the CDC (14 databases), Centers for Medicare and Medicaid Services (8 databases), and 9 other databases. Of these 34 databases, 4 consisted of variables that were related to occupational therapy practice. For this study, the data collected in the Behavioral Risk Factor Surveillance System, National Health Interview Survey, Home Health Outcome and Assessment Information Set, and Nursing Home Minimum Data Set were reviewed. Detailed information on the surveys and sampling are provided on the report’s Web site (www.ahrq.gov/qual/nhdr06/nhdr06.htm).

The 2003 National Survey of Children’s Health (NSCH) and the 2001 National Survey of Children’s Health with Special Needs (NS–CSHCN) were conducted by the DHHS, Maternal and Child Health Bureau (Child and Adolescent Health Measurement Initiative, 2005). The NSCH was a national telephone survey completed during 2003–2004 with 102,353 completed surveys. The survey covered physical, emotional, and behavioral child health indicators, as well as the family and neighborhood context for children ages 0 to 17. The NS–C SHCN was conducted during 2000–2001, with a total of 38,866 interviews completed. This survey included topics related to the child’s
health and functional status, insurance and access to health care, care coordination, family centeredness, and impact of child’s health on family. Detailed information on the survey and sampling characteristics are provided on the bureau’s online Data Resource Center for Child and Adolescent Health (Child and Adolescent Health Initiative, 2005).

Categories of race/ethnicity and income levels/poverty status were based on available data for each survey. Thus, there is some inconsistency in the reported categories. Some racial/ethnic groups had small sample sizes and were collapsed into a larger category, typically named “other.” Because this category consisted of people from various groups, caution was used in interpretation of findings. Similarly, different categorization schemes were used for income and poverty status levels. Some surveys reported annual incomes, whereas other surveys reported categories based on Federal Poverty Level (FPL).

Procedures

AOTA official documents related to practice guidelines and standards were reviewed to identify and document terminology integral to occupational therapy practice. The description and purpose of each U.S. Census measure were reviewed and screened for additional terms relevant to occupational therapy. Terms associated with occupational performance and related factors (e.g., activity, occupation, function, limitation, environment, disability) or occupational therapy services (e.g., access, referral, outcome) were then used to select survey items for further analysis. Each survey was examined three times to determine whether there was a match between item content and the key occupational therapy terms. Cross-tabulations were obtained in two-dimensional contingency tables for each selected item and for race and ethnicity and income levels as available.

Data Analysis

Because the purpose of the study was to identify existing health disparities for racial/ethnic groups and income levels, variables were selected and included in summary tables if one or more of the groups for race/ethnicity and income level had margins of error, standard errors, or confidence intervals that indicated significant differences in one or more of the groups. Because of space limitations, only percentages are included in the tables.

Results

An analysis of variables relevant to occupational therapy from the selected surveys showed evidence of health disparities for race/ethnicity and income levels. General characteristics of the U.S. population are provided in Table 1.

Health and Behavioral Characteristics of Adults by Racial/Ethnic Group and Poverty Status

Mental health feelings and limitations and participation in physical activities were compared for racial/ethnic groups and poverty status (Tables 2 and 3). Adults who were American Indian/Alaska Native or in the multiple race category were more likely to report sadness, hopelessness, or worthlessness some, most, or all of the time. Black adults (17.3%), American Indian/Alaska Natives (16.3%), and multiple race adults (26.7%) reported that everything was an effort some, most, or all of the time more frequently than non-Hispanic White adults (13.2%), Asian adults (11.2%), or Hispanic adults (12.9%). Adults in the multiple race category were most likely to report general and specific physical activities that were difficult or could not be done at all. Black and American Indian adults reported more difficulty than White, Asian, and Hispanic adults in activities requiring lifting or carrying 10 lb and pushing or pulling large objects. Adults in the multiple race category also had the highest percentage of responses in positive and negative behavioral characteristics, including limitations in any activities, need for special equipment, and participation in exercise or physical activities at various frequency levels.

Table 1. General Characteristics of U.S. Population Estimated by 2005 American Community Survey

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>288.4</td>
<td>100.0</td>
<td>Civilian veterans</td>
<td>23.4</td>
<td>10.9</td>
</tr>
<tr>
<td>Ages 65 years or older</td>
<td>34.8</td>
<td>12.1</td>
<td>Less than high school education</td>
<td>X</td>
<td>15.8</td>
</tr>
<tr>
<td>Non-White</td>
<td>73.0</td>
<td>25.3</td>
<td>Nonfamily households</td>
<td>X</td>
<td>33.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>41.9</td>
<td>14.5</td>
<td>Individuals below poverty level</td>
<td>X</td>
<td>13.3</td>
</tr>
<tr>
<td>Don’t speak English at home</td>
<td>51.9</td>
<td>19.4</td>
<td>Not in labor force (ages 16 or older)</td>
<td>76.2</td>
<td>34.1</td>
</tr>
<tr>
<td>Foreign born</td>
<td>35.7</td>
<td>12.4</td>
<td>Changed residence within past year</td>
<td>X</td>
<td>15.5</td>
</tr>
<tr>
<td>Disability</td>
<td>39.7</td>
<td>14.9</td>
<td>Live in rental housing</td>
<td>X</td>
<td>33.1</td>
</tr>
<tr>
<td>Uninsured</td>
<td>X</td>
<td>15.8</td>
<td>Children living in one parent household</td>
<td>22.6</td>
<td>30.9</td>
</tr>
</tbody>
</table>

Note. N is recorded in millions. X indicates the estimate was not available or not applicable. The margin of error for all variables in the table is ±0.1.

Trends were also evident in mental health feelings and difficult physical activities for poverty status levels. Adults who were poor were 2 to 4 times more likely than their nonpoor counterparts to report feelings of sadness, hopelessness, worthlessness, or everything is an effort some, most, or all of the time. Poor adults were also 2 to 3 times more likely to report that general and specific physical activities were difficult or impossible to perform. For example, 11.8% of nonpoor adults reported that any physical activity was difficult or impossible to perform compared with 28.4% of poor adults. Poor adults also had the highest percentage of limitations in activities and need for special equipment as well as the lowest percentage of participation in physical exercise and activities.

Health Status of Adults in Nursing Facilities and Home Care by Racial/Ethnic Group

Selected health characteristics for adults in nursing facilities and home care vary by racial/ethnic group (Table 4). Consistent trends for different racial/ethnic group were not evident, and the highest percentages of adults with a given characteristic varied. White adults in chronic care settings were more likely than other racial/ethnic group to become more depressed or anxious; to have decreased ability to move about, in, and around the room; and to need more help with daily activities. Black adults in the same type of setting were most likely to spend most of their time in a bed or chair and have pressure sores. American Indians/Native Alaskan adults...
were more likely to have moderate to severe pain and pressure sores. Asian adults were most likely to be physically restrained.

Inconsistent trends were also evident in racial/ethnic groups for home health care. Asian and Pacific Islander adults had high percentages of getting better at bathing, getting in/out of bed, walking or moving around, and having less pain when moving around. White adults had high percentages of getting better at taking medication correctly, bathing, and getting in and out of bed. Black adults had similar percentages to White adults at getting better at taking their medication correctly. Hispanic adults had high percentages of getting better at walking or moving around. For all racial/ethnic groups, fewer than 50% of adults improved at taking their medications correctly and getting better at walking or moving around.

**Activity and Environmental Characteristics for Children by Race/Ethnicity and Poverty Status**

The living environments and activities of children varied greatly by racial/ethnic group and income level of families (Table 5). Respondents for non-White children were less likely to report feeling usually or always safe in their neighborhoods and schools or to be living in supportive neighborhoods. For example, 94.2% of White children typically felt safe at school, whereas only 74.6% of Black children and 79.1% of Hispanic children shared the same perspective. It was no surprise, then, that the activity profiles were also different for racial/ethnic groups. White children were less likely than their non-White peers to have 4 or more hr per week of TV, video, or video games (4.8%) and more likely to engage in activities outside school (87.4%), work outside the home for pay 1 to 9 hr per week (15.0%), be read to every day (55.0%), and go on four or more family outings per week with a family member (66.8%). Black, multiracial, and Hispanic children attended early childhood programs at levels similar to their White counterparts.

Family income levels were also associated with living environments and activities. Children who lived in families with higher incomes were more likely to report living in supportive neighborhoods and to be usually or always safe in their neighborhood and school. For example, 68.9% of children from the poorest families lived in supportive neighborhoods, whereas 89.4% of children from families at more than 400% of FPL had this same level of support. This same trend was evident in the activity profiles. Children from families with the highest incomes were more likely to participate in activities outside school, work for pay outside the home, volunteer, have frequent outings with family members, and be read to every day. They were less likely to have 4 or more hr per school day in passive activities, such as TV, video, and video games.

**Health and Occupational Therapy Concerns for Children by Race/Ethnicity and Poverty Status**

Tables 6 and 7 summarize the health and occupational therapy concerns for children by racial/ethnic group and income.
levels. Non-White children were more likely to be at moderate or high risk for developmental, behavioral, or social delay (24.2%–33.5%) than White children (22.2%). Non-White parents were also more likely to have one or more concerns about their child’s physical, behavioral, or social development (36.8%–46.2%) compared with White parents (33.6%). All children and special needs children who met the CSHCN criteria for functional limitations; special therapy (occupational therapy, physical therapy, speech therapy); and emotional, developmental, and behavioral conditions were described by racial/ethnic group. Although there were similarities in the percentages of children qualifying on the criteria, non-White children tended to have slightly higher percentages in most CSHCN categories. However, there

Table 5. Percentage of Selected Activity and Environment Characteristics for Children, by Racial/Ethnic Group (N = 102,353)

<table>
<thead>
<tr>
<th>Children Characteristics</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Multiracial</th>
<th>Hispanic</th>
<th>≥400</th>
<th>200–399</th>
<th>100–199</th>
<th>&lt;100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually or always safe in neighborhood (N = 88,393)</td>
<td>91.7</td>
<td>68.9</td>
<td>77.4</td>
<td>84.6</td>
<td>69.8</td>
<td>92.6</td>
<td>88.5</td>
<td>77.8</td>
<td>69.8</td>
</tr>
<tr>
<td>Live in supportive neighborhood (N = 83,439)</td>
<td>87.0</td>
<td>67.9</td>
<td>80.4</td>
<td>76.7</td>
<td>73.5</td>
<td>89.4</td>
<td>85.1</td>
<td>76.4</td>
<td>68.9</td>
</tr>
<tr>
<td>Usually or always safe at school (N = 60,723)</td>
<td>94.2</td>
<td>74.6</td>
<td>87.9</td>
<td>91.4</td>
<td>79.1</td>
<td>95.6</td>
<td>92.0</td>
<td>83.5</td>
<td>76.3</td>
</tr>
<tr>
<td>Attends early childhood school (ages 3–5; N = 10,197)</td>
<td>63.5</td>
<td>69.9</td>
<td>68.8</td>
<td>64.9</td>
<td>44.1</td>
<td>74.5</td>
<td>63.3</td>
<td>50.5</td>
<td>50.4</td>
</tr>
<tr>
<td>Participates in activities outside school (ages 6–17; N = 58,608)</td>
<td>87.4</td>
<td>74.0</td>
<td>80.5</td>
<td>83.6</td>
<td>62.5</td>
<td>93.2</td>
<td>86.6</td>
<td>73.2</td>
<td>60.6</td>
</tr>
<tr>
<td>Works outside home for pay (1–9 h per week; ages 12–17; N = 5,217)</td>
<td>15.0</td>
<td>9.0</td>
<td>10.0</td>
<td>12.2</td>
<td>7.1</td>
<td>14.4</td>
<td>13.7</td>
<td>10.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Volunteers (ages 12–17; N = 24,409)</td>
<td>64.7</td>
<td>54.0</td>
<td>66.5</td>
<td>64.7</td>
<td>44.9</td>
<td>72.0</td>
<td>63.3</td>
<td>52.5</td>
<td>43.4</td>
</tr>
<tr>
<td>Are read to every day (ages 0–5; N = 17,318)</td>
<td>55.0</td>
<td>38.1</td>
<td>46.4</td>
<td>51.8</td>
<td>33.4</td>
<td>58.2</td>
<td>49.9</td>
<td>43.5</td>
<td>36.4</td>
</tr>
<tr>
<td>≥4 outings per week with family member (ages 0–5; N = 20,561)</td>
<td>66.8</td>
<td>48.2</td>
<td>48.3</td>
<td>62.4</td>
<td>44.5</td>
<td>69.8</td>
<td>62.9</td>
<td>53.3</td>
<td>45.3</td>
</tr>
<tr>
<td>Families who ate together every day (N = 46,203)</td>
<td>42.9</td>
<td>46.7</td>
<td>61.5</td>
<td>47.3</td>
<td>58.4</td>
<td>39.4</td>
<td>43.7</td>
<td>51.2</td>
<td>60.3</td>
</tr>
<tr>
<td>≥4 hr per school day TV, videos, or video games (ages 6–17 only; N = 4,369)</td>
<td>4.8</td>
<td>15.8</td>
<td>6.3</td>
<td>8.5</td>
<td>8.8</td>
<td>3.6</td>
<td>5.9</td>
<td>9.5</td>
<td>12.8</td>
</tr>
</tbody>
</table>

Note. 2003 National Survey of Children’s Health (NSCH; Child and Adolescent Health Measurement Initiative, 2005); 95% confidence intervals are nonoverlapping for many categories and are available for these data on the NSCH Web site (www.cdc.gov/nchs/about/major/slaits/nsch.htm).

Table 6. Percentage of Health Concerns for All Children, by Racial/Ethnic Group and Family Income (N = 102,353)

<table>
<thead>
<tr>
<th>Health Concerns About Children</th>
<th>Race/Ethnicity</th>
<th>% Federal Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Black</td>
<td>Other</td>
</tr>
<tr>
<td>Parental concerns about child’s physical, behavioral, or social development (n = 11,695)</td>
<td>33.6</td>
<td>45.1</td>
</tr>
<tr>
<td>Children (ages 1–5 years) at moderate/high risk for developmental, behavioral, or social delay (n = 6,305)</td>
<td>22.2</td>
<td>33.5</td>
</tr>
<tr>
<td>Children (ages 0–17 years) who have special health needs (n = 18,578)</td>
<td>19.2</td>
<td>18.9</td>
</tr>
<tr>
<td>Children (ages 0–17 years) with big or moderate problems getting special health services or equipment (n = 3,539)</td>
<td>13.0</td>
<td>19.3</td>
</tr>
<tr>
<td>Qualified on CSHCN criteria for Functional limitations (n = 3,833)</td>
<td>3.9</td>
<td>4.6</td>
</tr>
<tr>
<td>Special therapy (n = 7,734)</td>
<td>3.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Emotional, development, behavior conditions (n = 5,160)</td>
<td>5.4</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Note. 2003 National Survey of Children’s Health (NSCH; Child and Adolescent Health Measurement Initiative, 2005). “Other” is a collapsed category of respondents from racial/ethnic groups with small sample size. CSHCN = children with special health care needs. 95% confidence intervals are nonoverlapping for many categories and are available for these data on the NSCH Web site (www.cdc.gov/nchs/about/major/slaits/nsch.htm).
were striking differences in the percentage of children (ages 0–17) who had a personal doctor or nurse and needed special services or equipment but had big or moderate problems getting needed special health services or equipment. Only 13.0% of White children had problems in this area compared with 19.3% of Black children, 24.1% of children classified as other racial/ethnic groups, and 22.5% of Hispanic children.

Health concerns for children also varied by family income. Families with the highest incomes were the least likely to have children (ages 1–5) who were at moderate or high risk for developmental, behavioral, or social delay (20.2%) and the least likely to have children or special needs children who met CSHCN criteria for functional limitations; special therapy (occupational therapy, physical therapy, speech therapy); and emotional, developmental, or behavioral conditions. For example, 13.7% of children from families with incomes at more than 400% of FPL met criteria for special therapy such as occupational therapy, physical therapy, speech therapy compared with 22.7% of children from families with incomes at less than 100% of FPL. The children with the greatest needs also had the most problems getting needed special health services or equipment; 11.1% of children from families with incomes at more than 400% of FPL had big or moderate problems getting needs met compared with 22.7% of children from families with incomes at less than 100% of FPL (Table 6).

Occupational Therapy and Special Needs Children by Racial/Ethnic Group and Income Level

The needs and experiences of families who have special needs children varied greatly by racial/ethnic group and income levels of families (Table 8). Non-White families were more likely to report that they spent 11 or more hr per week on health care needs and had cut back or stopped working because of the child’s needs. Health care experiences also differed by racial/ethnic group. Non-White families had more difficulties getting referrals when they needed specialty care and were less likely to report that they received family-centered care or were partners in decision making with health professionals.

Differences in the needs and experiences of families with special needs children were also noted by income level. Families with less income were more likely to report that their child’s health condition moderately or consistently affected daily activities and resulted in greater family demands in terms of providing care for the child or changing work status. For example, the percentage of families spending 11 or more hr per week in providing care for a special needs child was only 4.3% for families who had incomes 400% over FPL compared with 18.5% of families with incomes less than 100% of FPL. Poorer families were also less likely to report that they were partners in decision making with health professionals or satisfied with services.

Discussion

There was evidence of health disparities in children and adults that are relevant for occupational therapy as it relates to race/ethnicity and socioeconomic status. Governmental surveys conducted on large national samples of U.S. citizens provided valuable information on health and behavioral characteristics, activity profiles, home and work environments, experiences in health systems, and outcomes of health care services. On many variables, there was evidence of differences in White and non-White groups as well as differences in income levels.

Activity and Participation Levels for Adults

Data from the 2005 National Health Interview Survey indicated that adult citizens representing different racial/ethnic
Table 8. Percentage of Occupational Therapy Concerns for Children With Special Health Care Needs (CSHCN) Special Needs Children, by Racial/Ethnic Group and Family Income (N = 102,353)

<table>
<thead>
<tr>
<th>Occupational Therapy Concerns for Children and Families</th>
<th>Race/Ethnicity</th>
<th>% Federal Poverty Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>Health conditions moderately affect daily activities (n = 15,646)</td>
<td>37.3</td>
<td>43.5</td>
</tr>
<tr>
<td>Health conditions consistently affect daily activities (n = 9,205)</td>
<td>21.9</td>
<td>27.1</td>
</tr>
<tr>
<td>Families spend ≥11 hr per week on health care needs (n = 3,618)</td>
<td>8.2</td>
<td>12.8</td>
</tr>
<tr>
<td>Families cut back/stopped working because of child’s needs (n = 9,167)</td>
<td>21.6</td>
<td>25.9</td>
</tr>
<tr>
<td>Needed specialty care but problem getting referral (n = 2,683)</td>
<td>19.9</td>
<td>19.1</td>
</tr>
<tr>
<td>Families are not partners in decision making or satisfied with services (n = 16,485)</td>
<td>39.0</td>
<td>46.5</td>
</tr>
<tr>
<td>Do not receive family-centered care (n = 12,614)</td>
<td>28.0</td>
<td>47.6</td>
</tr>
<tr>
<td>Needed therapy in past 12 months (n = 9,142)</td>
<td>22.3</td>
<td>22.1</td>
</tr>
<tr>
<td>Difficulties with self-care (n = 4,240)</td>
<td>10.8</td>
<td>12.9</td>
</tr>
<tr>
<td>Difficulties with coordination or moving around (n = 5,447)</td>
<td>13.6</td>
<td>14.5</td>
</tr>
<tr>
<td>Difficulties using hands (n = 4,348)</td>
<td>11.0</td>
<td>9.4</td>
</tr>
<tr>
<td>Difficulties with learning, attending, or understanding (n = 16,143)</td>
<td>39.8</td>
<td>43.9</td>
</tr>
<tr>
<td>Behavior problems (n = 10,643)</td>
<td>25.1</td>
<td>38.2</td>
</tr>
<tr>
<td>Difficulty making and keeping friends (n = 7,682)</td>
<td>19.8</td>
<td>21.8</td>
</tr>
</tbody>
</table>


groups and income levels reported varying frequencies of negative emotions and challenges in performing physical activities. In general, Black, multiple race, and Hispanic citizens along with groups classified as poor were more likely to report negative emotions, difficulty and limitations in performing activities, and infrequent participation in physical activities.

**Occupations and Environments for All Children and Special Needs Children**

Findings from the 2003 National Survey of Children’s Health, the 2001 and 2005/2006 National Survey of Children with Special Health Care Needs (Child and Adolescent Health Measurement Initiative, 2005), and the 2005 National Health Interview Survey (National Center for Health Statistics, 2005) indicate that typical children from various racial/ethnic groups and income levels have different activity profiles, living and school environments, health characteristics, and health care needs. Of particular concern are the disparities in the reported safety and supportiveness of schools, neighborhoods, and communities. Differences in the health status and health care of children were also noted for racial/ethnic groups and income levels. In general, the samples of all children and special health care needs children who were classified in Black or multiracial racial/ethnic groups and whose families had lower incomes were more likely to meet CSHCN federal criteria for developmental, behavioral, or social delay; functional limitations; ongoing emotional, developmental, or behavioral conditions; and the need for special therapy. These differences were also evident in the impact on the family in terms of caregiving responsibilities and lost hours in the workforce.

**Health Care Experiences and Outcomes**

Differences in health care experiences and outcomes by racial/ethnic group and income level have direct relevance to occupational therapy practice. In general, health care experiences were reportedly less positive for individuals and families from non-White racial/ethnic groups and lower income levels. The outcomes of health care in nursing facilities and home health varied inconsistently by racial/ethnic group depending on the measure of health status. It is clear, however, that disparities exist on measures of health directly related to occupational therapy practice. These trends need further study to understand the influencing factors on incidence. These findings are consistent with the findings of the 2006 National Healthcare Disparities Report (AHRQ, 2006), which concluded that health care disparities still exist for all aspects of health care access and quality with many opportunities for improvement remaining.
Implications

These findings have several implications for occupational therapy. Research is needed to understand these activity and participation profiles for different groups. There is limited understanding of the environmental and person characteristics that serve as assets and barriers for occupational performance related to racial/ethnic groups and income levels. Increased knowledge of nonmedical person and environmental factors, including the social determinants of health, could open new doors for occupational therapy practice. Many of the priorities of the national health agenda identified in Healthy People 2010 (DHHS, 2000b) are directly related to activity, participation, and lifestyle issues. Occupational therapy has multiple opportunities to contribute to improved individual and community health through new areas of practice in preventive and public health. Occupational therapy practitioners also have expertise in addressing person and environmental barriers to performance.

According to the AOTA Workforce Trends (www.aota.org/Students/Prospective/38231.aspx), approximately 34% of occupational therapy practitioners work with children in school settings. Occupational therapy also serves children’s needs in a variety of health and community settings. These findings provide valuable information for practitioners who work with children from different racial/ethnic groups and income levels. A preliminary understanding of environmental influences on disparities should prompt further studies of the contributions of environment to occupational profiles and participation. In the public health arena, it is evident that children need equitable opportunities to occupations that support health and well-being. Occupational therapy practitioners have expertise in occupations and environments that have a positive impact on physical, emotional, and social health and may provide valuable services to community planning agencies.

The findings from this study suggest that occupational therapy needs to take an active role in the national goal to eliminate health disparities. Federal data suggest that there is evidence of disparities on variables by racial/ethnic group and income level that are directly related to occupational therapy philosophy, education, research, and practice. Occupational therapy needs to embrace the nation’s public health agenda and work with individuals and communities to improve activity performance and participation for children and adults and develop supports and reduce barriers in the environment. Initiatives are needed in practice, education, and research to achieve this national goal.

National and local efforts to eliminate health disparities provide new opportunities in occupational therapy practice to promote the importance of occupations on health and provide leadership on improving public health. Occupational therapy practitioners may increase their involvement in population-based programs, community building and planning, advocacy, and public policy. Efforts are also needed to ensure that occupational therapy clients have equitable access to and quality of services.

Education of students and current practitioners regarding the incidence and causes of health disparities is critical to help the AOTA and occupational therapists achieve its Centennial Vision of “meeting society’s occupational needs” (AOTA, 2007). Recruitment and retention of a diverse workforce and professional development of cultural competencies in the existing workforce are needed to address disparities related to occupational therapy practice.

Additional research is needed on occupation-based health disparities across the lifespan and for specific populations. Occupational therapy models of practice may provide new direction for research that furthers knowledge of factors that contribute to health disparities and identifies effective strategies for reducing disparities. Dissemination of occupational therapy research on health disparities to public and other professional audiences needs to be a priority in the profession’s research agenda.

These implications are consistent with the action items identified in the AOTA Board Task Force on Health Disparities Report (Bass-Haugen et al., 2005) that recommended commitment to addressing health disparities, cultural competencies, and workforce development at all levels of the association and profession; identification of specific action-oriented objectives; and charting our contributions to this important societal goal.

Limitations

This study had limitations that are inherent in retrospective investigations involving secondary data and surveys based on the recall and perspectives of willing participants who are available for phone interviews. In addition, the summary statistics for data were obtained from available federal Web sites rather than raw data files. Moreover, the categories used for racial/ethnic groups and income levels have weaknesses that have been summarized in the literature. In particular, it is unfortunate that the “other” category remains in use to categorize individuals from smaller racial/ethnic groups. Finally, this study design also does not support conclusions of cause–effect for health disparities relevant to occupational therapy.

Conclusions

This study highlighted evidence of health disparities for children and adults by racial/ethnic group and income level
that are relevant to occupational therapy practice. National data used in this investigation indicate important differences in health and behavioral characteristics, activity profiles, home and work environments, experiences in health systems, and outcomes of health care services. These findings may provide direction for future initiatives in research, education, and practice.

References


