Child and Adolescent Health Care Quality and Disparities: Are We Making Progress?

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ABSTRACT

OBJECTIVE: Children and adolescents are known to experience poor health care quality; some groups of children have poorer health care than others. We sought to examine trends over time in health care quality and disparities by race, Hispanic ethnicity, income, insurance, gender, rurality, and special health care needs.

METHODS: Source data were extracted from the 2011 National Healthcare Quality Report (NHQR) and National Healthcare Disparities Report (NHDR) database, which contains aggregated data from many government and private sources for the years 2000 through 2009. The NHQR and NHDR approaches to calculating disparities and trends in quality and disparities were used. Within each quality measure with available data, results for demographic subgroups of children characterized by race/ethnicity, income, insurance, residence, special health care need, and gender were compared to those of a reference group to determine whether disparities existed and whether disparities had changed over time.

RESULTS: Of 68 measures with data for calculating potential disparities, 50 showed disparities in quality for at least 1 comparison subgroup in the most recent year of data available, while 18 measures showed no such disparities. Of the 50 measures with current disparities, 39 measures had sufficient data to calculate trends. Among the 137 comparisons made within these 39 measures, there was no change in disparities over time for 126 comparisons, 3 comparisons worsened, and 8 comparisons improved.

CONCLUSIONS: There was some progress in health care quality and reducing disparities in children's health care quality from 2000 to 2009; opportunities for targeting improvement strategies remain.

KEYWORDS: asthma; Children's Health Insurance Program (CHIP); disparities; Hispanic; Medicaid; patient centeredness; preventive services; quality; trends

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WHAT'S NEW

This study newly examines national trends in a broad range of child health care quality and disparities measures between 2000 and 2009. Although some progress was identified, opportunities for targeting improvement strategies remain.

RECENT FEDERAL EFFORTS have made health care quality improvement and reduction of disparities in health care quality and access national priorities.[1–4] Relatively recent efforts such as the National Healthcare Quality Report (NHQR) and the National Health Care Disparities Report (NHDR) provide data to help identify targets for improvement activities.[5] Although recent trends in quality and disparities in quality of care have been reported for the total US population,[6] evaluations of trends in quality and disparities in care provided to children have been less common.[7] Yet quality and disparities in health care for children exist and can be important to children's and families' current well-being and to society at large, now and in the future.[8–11] For example, timely receipt of effective preventive and treatment services (eg, immunizations, kidney transplants) can save lives,[12,13] and medical errors can shorten them.[14] Patient-centered care approaches, such as shared decision making, have been associated with reduced health care expenditures and improved outcomes.[15,16]

Groups of employers have recognized the need to invest in maternal and child health care, noting that 1 out of 5 health care dollars is spent on mothers and children.[17] Although a specific return on investment ratio for children's health care has not been calculated as it has for early development services, an argument for early investment in improving children's health care and health is analogous to arguments about effective and accessible early child development services.[18–22] For example, the life course perspective elaborates the importance of time, context, process, and meaning on human development.[23,24] In addition, there is increasing recognition of the economic impact of disparities in care.[25]

We analyzed data to identify recent trends in quality and disparities for children, including adolescents. We looked at overall trends for children, then focused on trends in disparities for several key measurement topics (asthma and clinical preventive services), key subgroups of children (Hispanic ethnicity and publicly insured), and a quality domain of national importance (patient centeredness[26]). We noted several national efforts under way to improve quality and reduce disparities for children with a focus on these key pediatric topics.

METHODS

OVERVIEW

As mandated by the US Congress,[27] the NHQR/NHDR are annual reports prepared from 2003 onward by the US Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ). The NHQR/NHDR are designed as chart books that contain data on more than 250 health care quality measures using data from more than 45 databases. Measures in the reports are selected with guidance from a federal interagency work group convened by AHRQ. Measures represented in the reports are chosen for their importance, scientific acceptability, and degree to which they capture phenomena attributable to health care.

DATA SOURCES

The NHQR/NHDR rely on a variety of sources but primarily on nationally representative data collected by federal agencies; our study also relied on these data. The source data are summary statistics generated by the federal agencies or other public and private organizations (Online Appendix A). The NHQR and NHDR Data Source Appendices include brief descriptions of each data source.[28]

MEASURES

The NHQR/NHDR focus on the Institute of Medicine (IOM)-recommended domains as a framework for measuring quality of care.[29] Similarly, measures used for this study included measures for most of the IOM domains—effectiveness (eg, care for chronic kidney disease, diabetes, asthma, and screening for overweight), patient safety (eg, postoperative respiratory failure, accidental laceration or puncture during a hospital procedure), timeliness (eg, getting an appointment as soon as needed for routine care and for illness or injury treatment), patient centeredness (eg, the extent to which providers engaged with parents in shared decision making), and access to care (eg, having health insurance, out-of-pocket spending above a certain threshold, usual source of care)—for which the NHQR/NHDR had measures with data for children (ie, individuals 0 to 19 years of age, but typically 0 to 17 years). Measures with data for children that were included in the 2011 NHQR/NHDR but that were excluded from this study include composite measures where the components of the composites are included separately in our analysis; measures of utilization of specific health care services that often have no clear desired direction; measures of health care infrastructure (eg, presence of health information technology) where data on disparities were typically not available; and measures that were considered supplemental rather than core measures in the 2011 NHQR/NHDR by the NHQR/NHDR reports team. Measures in the 2011 NHQR/NHDR had data for the years 2000 to 2009.

DATA EXTRACTION

Data were extracted from the 2011 NHDR/NHQR database. Some measures had data only for children (eg, childhood immunization rates), and other measures had data for adults and children (eg, cancer deaths). For all measures, we extracted data for all children, a reference group of children, and comparison groups (subgroups) by race, Hispanic ethnicity, family income, gender, health insurance, special health care need status, and residence (rurality) status where the data on these variables were available. Reference groups were defined as population groups that represent the current majority of the US population and/or typically receive better health care than do other subpopulations (eg, non-Hispanic whites, individuals in high-income families). Not all measures had data for all of the groups of interest. The incomplete availability of data for some subgroups limited our ability to identify potential disparities for these groups. Some estimates in the NHQR/NHDR source data did not meet criteria for statistical stability, data quality, or confidentiality (eg, data are suppressed for cells with fewer than 30 cases).

ANALYSIS

The 2011 NHQR/NHDR approaches to estimating the presence and magnitude of disparities and trends in disparities were used for all analyses without modification (Online Appendix B). In short, identification of significant trends in the quality of care required that the following 2 criteria be met: first, the average annual percentage change had to be more than 1.0% or less than −1.0%, and second, the regression coefficient (β_1) had to be statistically significant ($P < .10$). To be identified as a disparity, a difference in scores between the reference group and a comparison group had to meet 2 criteria: first, the relative difference between the scores for the selected comparison group and the reference group had to exceed 10%, and second, the absolute difference between the scores for the 2 groups had to be statistically significant ($P < .05$) by a 2-tailed test. Finally, the following 2 criteria had to be satisfied to identify a change in disparities over time: first, the change in the magnitude of the disparity had to be more than 1.0% or less than −1.0% per year, and second, the z score of the magnitude of the disparity had to be significant ($P < .10$).

We captured information on health care quality and disparities for multiple measures across an array of care settings, conditions, and child subgroups. Presentation of the data in ways that are understandable and actionable to a variety of readers is challenging, and many different approaches are possible. Here we summarize findings at several levels. First, we provide overall trends in quality and disparities for children. Second, we summarize overall