Primary Care Quality by Race, Ethnicity and Language among Medicaid Children in California: The Role of Managed Care.

Arpita Chattopadhyay
Primary Care Research Center
University of California at San Francisco

Introduction

Racial, ethnic and language barriers in various aspects of health care have been extensively documented. Minority race and limited English proficiency have been linked to lower likelihood of having a regular source of care, fewer physician visits and higher rate of preventable hospitalization (Fiscella, Franks and Clancy 1998; Centers for Disease Control and Prevention 1998). While health disparities have been shown to exist for both adults and children on multiple domains of health care (see for example Ayanian et.al.1999; Kahn et. al 1994; Hahn 1995; Kogan et. al. 1993, Gornick et al. 1996 among others), the focus on primary care of children is particularly salient. Children's physical, social, emotional and behavioral development impacts their overall health. Children's health care needs are mostly in the realm of preventive and acute care-- the hallmarks of primary care. They develop rapidly, underscoring the importance of comprehensive evaluation of their primary care. Moreover, children are more likely than adults to be covered by public health insurance programs emphasizing the need for assessment of their access to primary care for public health policy makers.

Many states are relying heavily on managed care to deliver health care in recent years. California expanded Medicaid managed care statewide by implementing mandatory managed care programs targeting mainly women and children. One articulated goal of this policy was to improve beneficiaries' access to primary care. Managed care requires beneficiaries to have a regular source of primary care and relies heavily on health maintenance (primary prevention). However, a language barrier may block access to health education that promotes primary prevention. Moreover, patients' inability to comprehend physician instruction can lead to poor compliance and under use of physician services (Derose and Baker 2000).

Using hospitalization rates for ambulatory care sensitive (ACS) conditions, this study describes the variation in quality of primary care by race ethnicity and primary language for children in Medi-Cal. and investigates how managed care affects the quality of primary care for minority and non-English speaking children.

Data and Methods

This study used a specially created data file that linked annual files of the California discharge database (PDD) with Medicaid eligibility records for the period 1996-1999. The California hospital discharge record includes among other things, information on admission month and year, and diagnosis codes. Every discharge in the hospital was linked, using a combination of deterministic and probabilistic matching techniques to an individual Medicaid beneficiary in the monthly enrolment file maintained by the California Department of Health Services (Rains & Tagupa 2001). Detailed information on the enrollee's eligibility status, race/ethnicity, principle language spoken, county of residence, and health plan were appended to the hospital discharge record. This provided a clear identification of the Medicaid patients in the hospital discharge data file.

Data on the size of the "at risk population" for the calculation of the hospitalization rates by age, race/ethnicity, language, and health plan type for each month of the period 1996-1999, were obtained from DHS' Medicaid Monthly Eligibility File (MMEF). The study population consists of all TANF eligible Medicaid children in California aged 18 years or less during the period 1996-1999.

Commonly accepted lists of conditions defined with diagnostic codes for children are used to calculate the number of hospitalizations for ACS conditions for children (Agency for Health Care Research and Quality 2003). These codes generally rely on the primary diagnosis. ACS conditions for children such as asthma, diabetes and dehydration are conditions that can often be managed with timely and effective treatment in an outpatient setting, thereby preventing hospitalization. Hospitalizations for these conditions reflect inadequate access and inferior quality of primary care. Several studies have validated the use of ACS hospital admission rates as an indicator of the effectiveness of primary care (Agency for Health Care Research and Quality 2003). In California, higher patient ratings of access to care in a community were strongly

associated with lower hospitalization rates for ACS conditions in those communities (Bindman et al. 1995).

In studies of quality of care potential access or to care may be an important confounder. Potential access is defined as "structural indicators such as characteristics of health care delivery system and enabling resources that influence potential care seekers use of health services" (p17; Anderson and Davidson 1996). These are variables such as having health insurance or having a regular care provider which are necessary for primary care access, but do not determine the actual use of or quality of that care. In this study, I broadly control for potential access to care by first focusing on Medicaid insured children, and secondly by distinguishing children with managed care plan from those in traditional fee-for-service plans. Individuals enrolled in managed care in Medi-Cal are required to identify a regular source of care.

I use multivariate Poisson regression analysis to model the monthly ambulatory care sensitive condition admission rate as a function of the principal language spoken (Spanish, Asian, English, Other) controlling for race/ethnicity (African American, Asian and Pacific Islander, Hispanic, Non Hispanic White, and Others), Medi-Cal delivery model (fee-for-service, and managed care) patient age (0-1, 2-5, 6-10, 11-15, 16-18 years), sex, admission month and year. We also corrected for any remaining over-dispersion in our model (McCullagh and Nelder 1989).

Results

Results on racial and ethnic variation in hospitalization rates for ACS conditions reiterate earlier findings on health disparities. Hispanic and African American children have 29 and 22 percent higher rates of hospitalization ($p<.0001$) indicating worse quality of primary care than non-Hispanic white children. Asian children, on the other hand appear to enjoy better quality primary care, as indicated by their lower rates of hospitalization for ACS conditions (Risk Ratio=.89; $p=.0007$) than white children. Moreover, children who primarily speak an Asian language fare better in terms of primary care than their English speaking counterparts (risk Ratio=.88; $p = .001$) . We do not find such an advantage among Spanish speaking children.

Managed care among Medicaid children is associated with approximately 30% ($p<.0001$) reduction in hospitalization for ACS conditions indicating improved access and quality of care under managed care. Furthermore, managed care seems confer additional health care advantage for non-English speaking children. Children in managed care whose primary language is Asian have a 43% ($p<.0001$) lower rate of ACS hospitalization and Spanish speaking children have a 44% ($p=<.0001$) lower ACS hospitalization rates than English speaking children in fee-for-service model.

Discussion

Studies that have used subjective ratings of access and satisfaction show person's with limited English proficiency face barriers to care (Weech-Maldonado et. al 2003). However, subjective ratings based on patient/parent perceptions, are influenced by respondent expectations and cultural factors. Using an objective measure for quality of primary care—hospitalization rates for ACS conditions, we find that children who speak their native language have better quality of primary care. This could be because Spanish speaking Latinos and Asian speaking Asians may be more embedded in the ethnic community that offers a protection for adverse health outcomes such as ACS hospitalization. In the next phase of this analysis I will incorporate contextual information on the ethnic composition of children's residence to test this hypothesis.

Significance of the paper

This study represents at least two improvements on previous studies on language proficiency and health care disparity. First by using statewide administrative data, I am able to study Asian children as a separate group. Indeed, this is the first large scale quantitative study that documents the primary care experience of Asian American children. Much of previous research examined Hispanic population only. Secondly, as opposed to patient/parent perceptions which are influenced by respondent expectation and cultural factors, ACS hospitalizations represent an objective measure of primary care access and quality.

References

1. Agency for Health Care Research and Quality 2001. "AHRQ Quality Indicators – Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions." AHRQ Pub No. 02-R0203. Rockville, MD.
2. Andersen, R., and Davidson, P. 1996 "Access to Health Care: Measuring Access and Trends." In Changing *the US Health Care System: Key Issues in Health Services*, edited by R. Andersen, T. Rice, and G Kominsky pp. 13-41. San Francisco: Jossey-Bass
3. Ayanian, J.Z. Weissman J.S. Chasan-Taber S., et al. 1999. "Quality of Care by Race and Gender for Congestive Heart Failure and Pneumonia." *Medical Care* 37:1260-1269.
4. Bindman AB, Grumbach K et al. 1995 Preventable Hospitalizations and Access to Health Care. JAMA 274:305-11.
5. Centers for Disease Control and Prevention. 1998. " Demographic Characteristics of Persons Without a Regular Source of Medical Care – Selected States 1995. *JAMA* 279: 1603.
6. Fiscella K., Franks P, Clancy C.M. 1998. "Skepticism toward Medical Care and Health Care Utilization. *Medical Care* 36:180-189.
7. Gornick M. E., Eggers P.W., Reilly T.W. et al. 1996. "Effects of Race and Income on Mortality and Use of Services among Medicare Beneficiaries." *New England Journal of Medicine* 335:791-799.
8. Hahn B.A. 1995 "Children's Health: Racial and Ethnic Differences in the use of Prescription Medication." *Pediatrics* 95:727-732.
9. Kahn K.L. Pearson M.L. Harrison E.R. et al. 1994 "Healthcare for Black and Poor Hospitalized Medicare Patients." *JAMA* 271:1169-1174.
10. Kogan M.D. Kotechuck M., Johnson S. 1993. "Racial Differences in Late Prenatal Care Visits." *Journal of Perinatol* 13:14-21.
11. McCullagh P, Nelder J.A. 1989 *Generalized Linear Models*, 2nd Edition. London: Chapman and Hall, 198-200.
12. Rains J. and Tagupa C. 2001 *OSHPD/Medi-Cal Match Calendar Years 1994 through 1999*: Department of Health Services, Medical Care Statistics section.