Effect of Managed Care on Children’s Relationships With Their Primary Care Physicians

Differences by Race

Gregory D. Stevens, PhD; Leiyu Shi, DrPH, MPA, MBA

Context: Racial and ethnic disparities in the quality of the patient-provider relationship have been documented previously, but only among adults. Few studies have examined this aspect of primary care quality for children, and none has examined the role of managed care in mediating disparities.

Objective: To explore variations in the associations among 3 managed care policies and the sustained patient-provider relationship for children by racial and ethnic group.

Design, Setting, and Participants: Telephone survey of parents of a random sample of 413 children attending elementary school in a large school district spanning 3 cities in southern California. Self-reported managed care information was validated through contact with health plan representatives.

Main Outcome Measure: Parent reporting of the strength of affiliation and interpersonal relationships among the child, the family, and the health care provider.

Results: Parents of Hispanic and black children reported significantly lower strength of affiliation than whites did (mean, 3.19 and 3.27 vs 3.57; \(P<.05\) and \(P<.01\), respectively). Asians and Hispanics reported significantly poorer interpersonal relationships with providers than whites did (mean, 3.35 and 3.38 vs 3.53; \(P<.05\) for both). Managed care policies requiring patients to (1) sign up with a particular provider, (2) seek a referral for specialty care, and (3) stay within a network were associated with reductions in the interpersonal relationship. All minority groups, but not whites, reported significantly poorer relationships when managed care policies were present. Asian children were most sensitive to the managed care policies.

Conclusions: Our data suggest that racial and ethnic minority children experience poorer patient-provider relationships compared with white children, even controlling for socioeconomic status and health system factors. Minority children are particularly sensitive to managed care policies that restrict patient freedom in choosing where to seek care. Implementing less restrictive policies may enhance the development of the patient-provider relationship.

Arch Pediatr Adolesc Med. 2002;156:369-377

THE INSTITUTE of Medicine defines primary care as “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.” ^1(1)^ A sustained relationship between a patient and a health care provider, also called longitudinality, is the foundation for the delivery of high-quality primary care. ^1(2)^ For children, the patient-provider relationship involves the physician building mutual trust, conducting coparticipatory communication with parent and child, giving support and empathy, and accumulating knowledge about the patient and family. Without a sustained relationship, physicians may not have sufficient patient familiarity to accurately recognize and diagnose children’s health needs. This may lead to poor delivery of preventive services, ^3(3)\(^5^\)- ^5(3)\(^5^\) increased patient reliance on emergency departments, ^6(4)\(^6\) and, ultimately, the patient switching providers. ^9(9)

Health plans, particularly the myriad variants of managed care, have become intermediaries in the development and maintenance of these relationships for children. Early managed care organizations (MCOs) showed promise for promoting sustained relationships because they linked children with primary care providers (PCPs) instead of emergency departments and assumed responsibility for the well-being of their enrollees. ^6(7)^ To curb rising costs, however, insurers implemented a

From the Department of Health Policy and Management, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Md.
STUDY DESIGN AND SETTING

We conducted a cross-sectional, community-based survey among a random sample of 1200 parents of elementary school-aged children in one school district. The district spans 3 large suburban communities in San Bernardino County, California. A school district was the setting for this study because it provides a comprehensive list of children in a community. A community sample avoids the biases associated with research in provider settings, which generally includes only the most frequent users of services.

The sampling frame of children was sorted and systematically sampled by the child’s sex, grade level, and school stratum to ensure that the sample was as representative of the community as possible. To improve the analytic capacity of the sample, Asian and black subgroups were oversampled at 4 times the rate for Asians (compared with whites) and 16 times the rate for blacks to obtain approximately equal numbers of respondents across racial and ethnic groups.

DATA COLLECTION

The Johns Hopkins University Office for Research Subjects, Baltimore, Md, approved the survey instrument and administrative procedures. Questionnaires were administered during structured telephone interviews between November 2000 and January 2001.

Two rounds of informational mailers were sent to parents before they were contacted by telephone. To maintain legal privacy protections for parents, clerks employed by the school district made the initial contact with families to schedule appointments for interviewers to complete the telephone interview. Letters were mailed to parents who had missed an appointment reminding them to reschedule the interview. Interviews were conducted at a time specified by the respondent. Mothers made up the vast majority (98%) of respondents, and the remaining respondents were fathers or grandparents.

Of the original sample of 1200 children, 289 families had moved homes or left the school district, disconnected their telephone numbers, or had a telephone number that was busy or not answered on repeated (≥10) attempts; 59 families were unable to participate because of language difficulties. Interviews were completed with the families of 413 children. After subtracting the unreachable families from the original sampling frame, the overall response rate was 49%. Children with no regular source of health care or insurance coverage were excluded from the analyses in this article, leaving 377 respondents in the analytic sample. The moderate response rate is partially a trade-off of conducting a community-based study, where parents may be less motivated to respond than if they were to participate in a study from which they would more directly benefit (eg, a consumer satisfaction survey from their physician).

For all children, data on race and ethnicity, sex, grade level, and school were available through an administrative data set assembled annually from parent-completed enrollment forms. Analysis of nonrespondents suggests that they were similar to respondents on all factors, except that respondents were slightly more likely than nonrespondents (P<.05) to have a younger child (mean age, 8.1 vs 8.4 years).

MEASUREMENT OF STUDY VARIABLES

Categories of race/ethnicity coded in the administrative data set were white (non-Hispanic), Hispanic, black (non-Hispanic), Asian, Filipino, Pacific Islander, and American Indian. To assure a sufficiently large sample size, we combined Asian, Filipino, and Pacific Islander into a single category called “Asian,” and we chose to exclude American Indians from the study sample.

Independent Variables

The independent variables were the managed care policies. Questions about health insurance were borrowed from the Community Tracking Study Household Survey, designed and conducted by the Center for Studying Health System Change, Washington, DC.27 Parents’ responses to 3 questions about their child’s health insurance were used to construct 3 managed care variables. Respondents were asked about (1) the requirement to select a primary care provider from a panel of physicians; (2) the requirement to obtain a referral from a PCP to see a specialist; and (3) financial restrictions on seeing providers outside the provider network. Answers were recorded dichotomously (yes/no).

For 213 respondents (approximately 57%) who reported the exact name of their child’s health insurance plan (obtained from their insurance card in all cases), responses to the 3 insurance questions were verified through anonymous structured interviews with health plan administrators. To avoid overburdening families, only parents who had their child’s insurance card available at the time of the interview were asked to respond. This accounts for the 23% overall response rate for the subsample. Both self-reported and validated data are presented in this study because they reflect perceived and actual health insurance experiences, and each has the potential to influence the patient-provider relationship.

Because we were not able to validate information for the entire sample, it is possible that the subsample could vary in some important way from the full sample. Our analyses, however, show that there were very few differences between the full respondent sample and the validated subset (data not shown). In most cases, differences were no greater than 3% to 4% and did not change the directionality or ordering of the characteristic among racial groups. The largest difference was a moderately insignificant increase of about 6% in Asian female children in the validated subsample.

Dependent Variables

The Pediatric Primary Care Assessment Tool, developed by the Johns Hopkins Primary Care Policy Center for the Underserved, was used to evaluate longitudinality of care. Longitudinality refers to the development of a sustained relationship with a health care provider over time, regardless of the presence of disease or injury. This relationship can be formed with a provider, a group of providers, or a facility, but in the latter cases, particular care must be taken to coordinate services and records across providers.
Such continuity in the delivery of health care is intended to help the patient and provider develop mutual knowledge and trust in each other and improve the efficiency and effectiveness of care. A sustained relationship with a provider distinguishes primary care from most specialty care, where the majority of patients enter into problem-specific partnerships of limited duration.1,3

The Pediatric Primary Care Assessment Tool assesses the structural characteristics of the facility or provider that reflect the capacity to achieve a sustained patient-provider relationship and processes of care that indicate the achievement of the sustained relationship in actual practice. Two subdomains of longitudinality that cover these facets of the patient-provider relationship are strength of affiliation with the provider and the interpersonal relationship. Child, adult, and provider versions of the instrument are available, and the reliability and validity are reported elsewhere.27,28

The strength of affiliation subdomain assessed the extent of the child’s affiliation with a specific provider or place of care. The subdomain was scored with an algorithm based on 3 questions. A higher value was assigned if the provider was (1) identified as the regular source of care and was also (2) the provider who knew the child best and (3) the provider from whom care would be sought for a new problem. Respondents who identified a provider for only 1 question were considered to have low strength of affiliation and were given the minimum score of 1, as were respondents who identified different providers for each question. Those identifying the same provider for all 3 questions were considered to have high strength of affiliation and were given the maximum score of 4. Respondents who identified the same provider for 2 questions were given a score of 3 if the provider was the regular source of care and knew the child best and a 2 for any other combination.

The interpersonal relationship subdomain was evaluated through 14 questions asking parents to report on the interactions between the child, the family, and the health care provider. Questions asked, for example, about 2-way communication, knowledge of the family, and the interaction between provider and child. Four Likert-type response choices were given including “definitely” (score = 4), “probably,” “probably not,” and “definitely not” (score = 1). “Don’t know” responses were coded as the middle score (2.5) because we assumed that not knowing about a provider’s behavior signified a partial failure on the part of the physician to convey or practice this behavior. Responses were averaged to produce a single scale score. A complete list of the questions is included (Figure). Interpretation of the interpersonal relationship domain is slightly complex because of the small range of the scale scores (1-4). Because of the large number of items in the scale and the small scale range, even a relatively small change in the mean score reflects a substantive difference in interpersonal relationship experience. Though the ability of the Pediatric Primary Care Assessment Tool to predict future outcomes has not yet been established, differences of a single point (1.0) reflect a real change from one Likert point to another (eg, “probably” to “definitely”). Though this may seem insignificant at first glance, most of the scores fall in the range of 2.5 to 3.5, and, therefore, a difference of even half a point (.50) is likely to reflect a real change in direction from having a generally negative experience (responses averaging “probably not”) to a generally positive one (responses averaging “probably”).

Covariates

We controlled for socioeconomic status (family income, maternal employment, and maternal education), characteristics of the health care system (provider specialty and cost sharing), and demographics (child’s age and sex and public vs private insurance coverage). Covariates were selected from previous studies examining primary care quality, use, and satisfaction—factors inherent to a sustained patient-provider relationship. The effects of also controlling for health status and naming a provider vs a place as a regular source of care are described in the “Comment” section.

ANALYSIS

The analyses tested the significance of the association among the 3 managed care policies and longitudinality scores for each of the 4 racial and ethnic groups separately, while adjusting for study covariates. To further explore which racial group was most affected by the managed care policies, we then tested the difference in mean longitudinality scores across the racial and ethnic groups for both self-reported and validated managed care characteristics.

First, frequencies of the study variables (including socioeconomic status, health system factors, and demographic characteristics) were assessed across racial and ethnic groups. Then, a χ² test of association was used to assess the significance of differences across groups. The frequencies of the self-reported and validated managed care policies were also compared across racial and ethnic groups, again using a χ² test of association. Mean longitudinality subdomain scores were reported across racial and ethnic groups, and the significance was assessed using a standard t test.

Second, generalized linear model procedures were used separately for each racial and ethnic group to assess differences in longitudinality across managed care characteristics, while adjusting for covariates. Bonferroni t tests were used to test the significance of the difference in mean scores between “yes” and “no” responses to a particular managed care policy, while accounting for multiple comparisons. These analyses were done separately for the self-reported and validated managed care data. Health status and having a provider vs a place as the primary source of care were controlled for in additional models described in the “Comment” section.

Third, we assessed differences in mean longitudinality scores across racial and ethnic groups, adjusting for covariates. To control for the effects of managed care, we used the same generalized linear model procedures to compare scores across races, but only for those who reported “yes” to a managed care policy. This was done for each policy, as well as for both self-reported and validated insurance information, using white race as the reference group. The mean values that are presented in the tables for across-policy comparisons naturally differ from the mean values of across-race analyses because of the process of adjustment. These differences do not affect the direction or overall magnitude of the findings; therefore, only the across-policy means are presented.
MCOs. Other studies reveal lower patient trust and continuity and communication with their PCP than those in specialists and limiting choices to a network of providers. The unique characteristics of Medicaid and the State Children's Health Insurance Program, which rely heavily on managed care, influence the sustained relationship for children, and to explore variations in the effects by race and ethnicity. We examine managed care less by its various names than by the rules and restrictions the health plans place on their enrollees and physicians. In this study, we explore the effects of (1) the requirement to select a primary care physician from a provider network; (2) the requirement to obtain a referral from a primary care provider before seeing a specialist; and (3) restrictions on use of providers outside the plan's network. Both self-reported and validated insurance data are used in the analyses. This study makes a unique contribution to our understanding of primary care delivery because it is the first to unravel racial and ethnic disparities in the effect of managed care on the patient-provider relationship specifically for children.

Complete list of survey questions on the relationships among children, families, and primary care providers.

- When you take your child to the doctor, do you see the same doctor or nurse every time?
- Do you think the doctor or nurse understands what you ask or say?
- Are your questions to the doctor or nurse answered in ways that you understand?
- If you have a question, can you call or talk to the doctor or nurse who knows your child best?
- Does the doctor seem interested in your child as a person, rather than as someone with a medical problem?
- Does the doctor give you enough time to talk about your worries or problems?
- Do you feel comfortable telling the doctor about your worries or problems?
- Do you think the doctor knows your family very well?
- Does the doctor understand what problems are most important to you and your family?
- Would you recommend the doctor to a friend or relative?
- Would you recommend the doctor to someone who does not speak English well?
- Would you recommend the doctor to someone who uses folk medicine, such as herbs or homemade medicines, or has special beliefs about health care?
- How long has the doctor been your child's source of care (1, <6 mo; 2, 6-12 mo; 3, 1-2 y; and 4, ≥2 y)?
- How many times total has your child been to see his/her regular doctor (1, 0-2 visits; 2, 3-5 visits; 3, 6-9 visits; and 4, ≥10 visits)?

Table 1 shows the unadjusted demographic characteristics, socioeconomic status, and health system factors of our analytic sample by racial and ethnic group. Because of the sampling strategy, respondents were approximately equally divided among the 4 categories of race and ethnicity, although slightly greater numbers of Hispanic respondents were uninsured (n = 7) and, therefore, were excluded from these analyses. Most of the respondents (74.3%) had family incomes greater than $36000 per year, although a smaller proportion of black (69.0%) and Hispanic (72.6%) families had incomes above this amount compared with Asians (83.5%) and whites (92.2%) (P < .001). Racial and ethnic groups also differed in maternal education and employment, with Asians reporting the highest proportion of respondents with a high school education or greater (P < .01) and blacks reporting the highest employment among mothers (P < .001).

With regard to health system factors, there were no significant differences across racial and ethnic groups in the proportions of children who saw a pediatrician as their regular source of care. Asians and whites, however, were more likely to report a particular provider (82.4% each) rather than a place, such as a clinic or hospital department, as their source of care (P < .01). Black respondents had the lowest proportion reporting any cost sharing (60.0%), which is likely attributable to their 3-fold greater participation in Medicaid (which does not require cost sharing) compared with whites (16.0% vs 4.9%). Asians were the most likely to report cost sharing (81.3%) (P < .01). There were no significant differences in child’s age, sex, or health status across groups.

Table 1 also compares the frequencies of self-reported and validated managed care policies and longitudinality scores by race and ethnicity. Hispanics were the most likely (77.4%) and whites the least likely (55.9%) to report that their health plan required them to sign up with a particular network provider (P < .01). When compared with the validated data, all racial and ethnic groups overestimated the prevalence of this policy. According to the validated data, Asians and Hispanics were more likely to be required to sign up with a PCP (about 48%...
for both), and blacks were the least likely (24.6%) (P<.05).

There were no significant differences in self-reporting of the requirement to seek a referral for specialty care or to stay within the provider network. Compared with the validated data, however, all racial and ethnic groups underestimated the prevalence of the policies. The validated data suggest that Hispanics and blacks were the racial and ethnic groups most likely to be required to seek referrals and stay within a provider network. Hispanics had the highest frequency of the 2 policies (88.5% and 92.3%, respectively), and Asians had the lowest frequency (62.9% and 67.9%, respectively) (P<.01 for both).

Verification of the self-reported insurance information with the validated data revealed that 67.1% of parents correctly reported the requirement to select a PCP, 78.0% correctly reported that they needed a referral to see a specialist, and 86.4% correctly reported that their health plan would pay some portion of the expense for out-of-network care (data not shown).

The longitudinality subdomain scores also varied according to race and ethnicity. Whites had the greatest strength of affiliation and interpersonal relationship scores (3.57 and 3.33, respectively, on a scale of 1-4). Hispanics, followed by blacks, reported significantly lower affiliation scores (3.19 and 3.27, respectively) than whites (P<.05). And Asians and Hispanics had the lowest relationship scores (3.35 and 3.38, respectively (P<.05). These scores reflect differences of about 5% to 10% across racial and ethnic groups.

More detailed analyses (not shown) reveal that racial disparities are particularly large for 2 specific items in the interpersonal relationship domain. Asian, black, and Hispanic respondents, compared with whites, had shorter-duration relationships with their regular sources of care. On average, whites had been seeing their regular provider for between 1 and 2 years, and minorities, on average, had been seeing their regular provider for 6 to 11 months (P<.05 for Asians and Hispanics; P<.01 for blacks). Similarly, Asians and Hispanics were, on average, leaning toward “probably” changing providers if it were easy to do (mean scores, 2.88 and 2.86, respectively) compared with whites (mean, 3.20) who were, on average, “probably not” interested in changing providers.

Table 2 compares the associations among the 2 measures of longitudinality and the 3 managed care policies for each race and ethnicity, adjusting for socioeconomic status, health system factors, and demographic characteristics. When data were reported by respondents, there were no significant differences in the affiliation subdomain for any racial and ethnic group across these policies. Although the differences were not significant, there

---

Table 1. Sociodemographic Characteristics, Managed Care Policies, and Mean Relationship Scores of 377 Participants by Race and Ethnicity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Asian (n = 91)</th>
<th>Black (n = 100)</th>
<th>Hispanic (n = 84)</th>
<th>White (n = 102)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, 9-11 y (vs 5-8 y)</td>
<td>45.1</td>
<td>48.0</td>
<td>40.2</td>
<td>44.1</td>
</tr>
<tr>
<td>Female sex</td>
<td>55.0</td>
<td>53.0</td>
<td>51.2</td>
<td>52.9</td>
</tr>
<tr>
<td>Excellent/very good health (vs good, fair, or poor)</td>
<td>78.0</td>
<td>79.0</td>
<td>88.1</td>
<td>89.2</td>
</tr>
<tr>
<td>Public health coverage (vs private)</td>
<td>8.8</td>
<td>16.0</td>
<td>10.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family income &gt;$36 000‡</td>
<td>83.5</td>
<td>69.0</td>
<td>72.8</td>
<td>92.2</td>
</tr>
<tr>
<td>Employed‡</td>
<td>67.0</td>
<td>80.0</td>
<td>67.9</td>
<td>56.9</td>
</tr>
<tr>
<td>Education &gt;high school†</td>
<td>89.0</td>
<td>74.0</td>
<td>53.6</td>
<td>82.4</td>
</tr>
<tr>
<td>Health system factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pediatrician as PCP (vs other provider)</td>
<td>53.9</td>
<td>51.0</td>
<td>56.0</td>
<td>61.8</td>
</tr>
<tr>
<td>Specific clinician (vs clinic)‡</td>
<td>82.4</td>
<td>71.0</td>
<td>65.5</td>
<td>82.4</td>
</tr>
<tr>
<td>Cost-sharing (vs none)‡</td>
<td>81.3</td>
<td>60.0</td>
<td>74.5</td>
<td>77.4</td>
</tr>
<tr>
<td>Self-reported managed care policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must select provider‡</td>
<td>67.0</td>
<td>60.0</td>
<td>77.4</td>
<td>55.9</td>
</tr>
<tr>
<td>Must seek referral</td>
<td>65.9</td>
<td>75.0</td>
<td>76.2</td>
<td>68.6</td>
</tr>
<tr>
<td>Must stay in network</td>
<td>64.8</td>
<td>73.0</td>
<td>75.0</td>
<td>69.6</td>
</tr>
<tr>
<td>Validated managed care policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must select provider§</td>
<td>48.2</td>
<td>24.6</td>
<td>48.1</td>
<td>40.4</td>
</tr>
<tr>
<td>Must seek referral‡</td>
<td>62.5</td>
<td>82.5</td>
<td>88.5</td>
<td>73.1</td>
</tr>
<tr>
<td>Must stay in network‡</td>
<td>67.9</td>
<td>84.2</td>
<td>92.3</td>
<td>73.1</td>
</tr>
<tr>
<td>Longitudinality, range 1-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strength of affiliation, mean (SE)</td>
<td>3.43 (0.10)</td>
<td>3.27 (0.09)‡</td>
<td>3.19 (0.10)‡</td>
<td>3.57 (0.09)</td>
</tr>
<tr>
<td>Interpersonal relationship, mean (SE)</td>
<td>3.35 (0.05)¶</td>
<td>3.40 (0.04)¶</td>
<td>3.38 (0.05)¶</td>
<td>3.53 (0.04)</td>
</tr>
</tbody>
</table>

*Data are given as percentage of participants unless otherwise indicated. PCP indicates primary care provider.
‡P<.001 for the difference across racial/ethnic groups.
§P<.05 for the difference across racial/ethnic groups.
¶P<.05 for the difference in mean group score compared with white participants.
||P<.01 for the difference in mean group score compared with white participants.
was a consistent overall trend of lower affiliation scores associated with reporting “yes” to any of the restrictive policies for all groups.

According to the self-reported data, all 3 managed care policies were correlated with interpersonal relationships among the child, the family, and the provider. These 3 policies were particularly correlated with reductions in the relationship scores for Asian and Hispanic children. Requiring patients to sign up with a PCP was associated with a 0.23-lower mean affiliation score for Asians (P < .01) and a 0.25-lower mean score for Hispanics (P < .05). The requirement to stay within a provider network was associated with nearly equivalent reductions in the relationship scores of 0.40 for Asians (P < .001), 0.36 for blacks (P < .05), and 0.49 for Hispanics (P < .01). Similarly, the requirement to stay within a provider network was associated with deficits in relationship scores of 0.43 for Asians (P < .001), 0.36 for blacks (P < .01), and 0.34 for Hispanics (P = .06). In addition, black children who were required to sign up with a PCP reported a 0.40-lower mean relationship score (P < .05). The majority of these managed care policy differences reflect reductions of approximately 10% to 12% in interpersonal relationship scores.

Table 2 demonstrates that, controlling for managed care policies, racial and ethnic minorities experience poorer longitudinality of care. The self-reported insurance data show that Hispanics and blacks report much lower strength of affiliation than whites, regardless of the managed care policies. Hispanics, in particular, report striking deficits in strength of affiliation of about 25% or more compared with whites—findings that are corroborated by the validated data. Asian and Hispanic children also experience poorer interpersonal relationships with their primary care physicians than whites. According to

---

**Table 2. Adjusted Longitudinality Subdomain Means (SDs) by 377 Self-reported and Validated MCO Policy Participants**

<table>
<thead>
<tr>
<th>MCO Policy</th>
<th>Primary Care Quality</th>
<th>Must Select Provider From Panel</th>
<th>Must Seek Referral</th>
<th>Must Stay in Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength of affiliation</td>
<td></td>
<td>Y</td>
<td>N</td>
<td>Δ</td>
</tr>
<tr>
<td>Asian</td>
<td>3.19 (0.21)</td>
<td>3.31 (0.24)</td>
<td>-0.12</td>
<td>3.19 (0.21)</td>
</tr>
<tr>
<td>Black</td>
<td>3.14 (0.18)†</td>
<td>3.24 (0.19)</td>
<td>-0.10</td>
<td>3.15 (0.17)†</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.95 (0.20)†</td>
<td>3.24 (0.29)</td>
<td>-0.29</td>
<td>2.89 (0.20)†</td>
</tr>
<tr>
<td>White</td>
<td>3.81 (0.21)</td>
<td>3.91 (0.24)</td>
<td>-0.10</td>
<td>3.83 (0.21)</td>
</tr>
</tbody>
</table>

**Interpersonal relationship**

| Asian                                   | 3.05 (0.09)†         | 3.28 (0.11)                     | -0.23§             | 3.06 (0.10)†        | 3.26 (0.11)         | -0.20|| 3.05 (0.09)† | 3.26 (0.11) | -0.21 |
| Black                                   | 3.48 (0.08)          | 3.48 (0.08)                     | 0.00               | 3.49 (0.07)         | 3.44 (0.10)         | 0.05  | 3.44 (0.07)† | 3.59 (0.10) | -0.15 |
| Hispanic                                | 3.19 (0.08)          | 3.44 (0.12)                     | -0.25†             | 3.24 (0.08)†        | 3.29 (0.12)         | -0.05 | 3.13 (0.08)† | 3.42 (0.12) | -0.29§ |
| White                                   | 3.53 (0.10)          | 3.55 (0.12)                     | -0.02              | 3.53 (0.10)         | 3.62 (0.12)         | -0.09 | 3.46 (0.10) | 3.51 (0.13) | -0.06 |

**Self-reported**

| Strength of affiliation                 |                      | Y                               | N                  | Δ                   |
| Asian                                   | 3.40 (0.25)          | 3.46 (0.30)                     | -0.06              | 3.38 (0.25)         | 3.50 (0.28)         | -0.12 | 3.39 (0.24) | 3.54 (0.32) | -0.15 |
| Black                                   | 2.96 (0.37)†         | 3.41 (0.38)                     | -0.45              | 2.93 (0.29)         | 3.70 (0.38)         | -0.77 | 2.93 (0.28) | 3.90 (0.41) | -0.97† |
| Hispanic                                | 2.94 (0.26)          | 2.63 (0.33)                     | 0.31               | 2.73 (0.23)†        | 3.31 (0.24)         | -0.58 | 2.78 (0.23)† | 3.65 (0.60) | -0.87 |
| White                                   | 3.76 (0.38)          | 3.90 (0.34)                     | -0.14              | 3.80 (0.33)         | 4.00 (0.43)         | -0.20 | 3.80 (0.33) | 4.00 (0.43) | -0.20 |

**Interpersonal relationship**

| Asian                                   | 3.09 (0.12)†         | 3.11 (0.14)                     | -0.02              | 2.95 (0.10)†        | 3.35 (0.11)         | -0.40|| 3.01 (0.09)† | 3.44 (0.13) | -0.43§ |
| Black                                   | 3.40 (0.14)          | 3.80 (0.14)                     | -0.40|| 3.47 (0.11)     | 3.83 (0.14)         | -0.36|| 3.49 (0.11)     | 3.85 (0.16) | -0.36 |
| Hispanic                                | 3.28 (0.10)†         | 3.26 (0.13)                     | 0.02               | 3.19 (0.09)         | 3.68 (0.18)         | -0.49§ | 3.26 (0.09) | 3.60 (0.24) | -0.34 |
| White                                   | 3.52 (0.19)          | 3.57 (0.17)                     | 0.05               | 3.54 (0.16)         | 3.75 (0.21)         | -0.21 | 3.54 (0.16) | 3.75 (0.21) | -0.21 |

**Validated**

*Range of scores is 1 to 4. MCO indicates managed care organization.
†P < .05 for the difference in mean group score compared with white participants.
‡P < .01 for the difference in mean group score compared with white participants.
§P < .05 for the difference between “yes” and “no” answers.
¶P < .001 for the difference between “yes” and “no” answers.
both the self-reported and validated data, Asians report the largest deficits in interpersonal relationships, with disparities ranging from about 13% to 15%.

**COMMENT**

The findings of our community-based study advance the literature on MCOs and the patient-provider relationship for children by demonstrating that managed care policies restricting patient flexibility in seeking medical care are negatively correlated with the parent-reported interpersonal relationship between child and provider. Racial and ethnic minority children experienced much larger deficits in longitudinality under these policies than white children do, even after controlling for socioeconomic status, health system factors, and demographic characteristics.

The policy requiring patients to seek care within a network of physicians was associated with the largest deficits in longitudinality of care. Both self-reported and validated insurance data revealed significant deficiencies for minority children in the relationship scale. In addition, the affiliation between child and physician was severely compromised for black children in health care plans with an in-network policy (a reduction of about 25%). The policy may affect this relationship by limiting the ability of families, and minorities in particular, to seek and develop relationships with culturally appropriate providers. This may be the case particularly if there are language difficulties, or if prior relationships are disrupted by forced entry into managed care, changing of health plans, or the frequent turnover of physicians in MCOs.

The requirements to select a network PCP and to seek referrals for specialty care were also associated with significant, but slightly smaller, deficits in longitudinality of care. The policy requiring patients to select a PCP from a network was associated with reductions in the relationship domain for Asians and Hispanics (using self-reported data) and blacks (using validated data). The perception of limited choice, in this case, is more negatively correlated with a sustained relationship than the actual presence of the policy.

Requiring referral was associated with reductions in parent reporting of the interpersonal relationship between minority children and physicians, primarily when validated insurance data were used. Perception of the referral policy, in this case, appears to be less detrimental than the actual policy (and the corresponding physician behaviors it inspires) with regard to the patient-provider relationship. Policies undermining patient autonomy in seeking care or emphasizing the gatekeeping role of the PCP rather than the coordination of care role may lead to distrust of the physician and a poorer overall relationship.

Interestingly, Asian parents reported the poorest interpersonal relationships between their child and their child’s physician and were the most affected by managed care policies. Asian children experienced significant deficits in the relationship domain across each managed care policy, regardless of the source of insurance data. These findings are supported, in part, by previous research documenting tenuous patient-provider relationships for Asian American adults. These findings are particularly important because of the growing numbers of Asian children who, despite higher family education and income, are at greater risk than whites and some other ethnic groups of being in poor health, underimmunization, and contracting preventable illnesses such as hepatitis B.

Despite nearly all respondents being able to complete our interviews in English, Asian and Hispanic families (Hispanics were the second-most affected by managed care policies) commonly experience language barriers to seeking adequate health care. This was initially thought to explain some of our findings; however, examination of the questions composing the scale did not fully support this theory. Asians, but not Hispanics, were more likely to report that their physician did not know their family well (P<.05), did not show interest in their child as a person (P<.001), and did not give them enough time to talk about their child’s problems (P<.05). Scores on questions about 2-way communication between the patient and provider, however, were only slightly lower for both Asians and Hispanics and were not significant. These contradictory findings suggest some lapse in communication, but a lapse that is not clearly attributable solely to language difficulty.

Inclusion of health status as a covariate did not significantly affect the correlation between race and reporting of the patient-provider relationship. The relationship score for Hispanics self-reporting the requirement to sign up with a PCP became slightly nonsignificant (P = .06), but there was no change in the mean score. Further adjustment for whether the parent reported a specific clinician or a place of care as the PCP appeared to be overcontrolling (and was removed from the analysis) because of its colinearity with several of the longitudinality questions. Including the provider vs place variable reduced, but did not eliminate, the effect of provider network restrictions on strength of affiliation for black children. This reduction is explained, in part, by the greater reliance on clinics (vs private practitioners) among blacks compared with other racial groups.

Our analyses suggest that racial and ethnic differences in the patient-provider relationship are not clearly attributable to variations in socioeconomic status or insurance coverage. Cultural factors, including the physician and patient behaviors induced by social and cultural stereotypes or biases, are likely to play an important role in the development of the patient-provider relationship. The effects of these intentional and unintentional behaviors may be particularly salient in a primary care setting because the development of the patient-provider relationship is essential to making appropriate long-term treatment decisions, delivering and rationing adequate primary care services, and coordinating care.

An interesting secondary finding is that parents who reported a pediatrician as the child’s regular source of care reported significantly better interpersonal relationships between their family and the child’s physician than parents reporting other generalist providers. However, having a pediatrician did not provide any benefit in the strength of affiliation domain. This unique finding may be attributable, in part, to the greater frequency of visits
A strong relationship between family and physician is essential to the receipt of high-quality primary care and the ability to maintain health. However, intensifying pressure to contain health care costs has led MCOs to develop policies that restrict patient freedom in care-seeking. These policies threaten the patient-provider relationship for children in primary care, and we explore the hypothesis that these policies may be even more problematic for racial and ethnic minority patients.

This study demonstrates a significant correlation between specific managed care policies and reductions in the quality of the patient-provider relationship for minority children, regardless of ability to pay, health status disparities, or racial differences in expectations for care. To reduce racial and ethnic disparities in health and health care—a current national health priority—the studied restrictions on patient care-seeking in managed care should be limited or removed.

Third, because of the moderate response rate, the respondents in this study may not be completely representative of the population being studied. Because the sampling frame included many unreachable families—families that may, in fact, be more chaotic or mobile and have even more difficulty with the medical system—we may even be underestimating the disparities in care experienced by our population. Additionally, although respondents and nonrespondents were similar on many demographic factors, there is the possibility that respondents were motivated to participate because of some factor (eg, having children in poor health or negative experiences with the health care system) that increase or reduce susceptibility to the hypothesized effects of managed care. The internal validity of this study is not threatened by this effect, and the direction of bias is difficult to predict. Because of the similarity in health status across racial and ethnic groups, any bias would not be likely to operate differentially across racial groups.

Fourth, because the data source for determining children’s quality of care was the child’s parent, there is the possibility that the responses may be biased by parents’ own experiences with the medical care system. This applies primarily to questions about parent communication with the physician (eg, “Do you feel comfortable telling the doctor about your worries or problems?”) and not the majority of the scale.

Finally, our results suggest that relying on self-reported insurance information may be quite inaccurate. In this study, we analyzed both validated and self-reported information to more accurately capture the effects of managed care. In addition, studies that rely on self-reporting to compare aspects of quality across racial and ethnic groups may capture primarily racial group variations in perceptions of care or standards for assessing care. In this study, we chose to use an instrument for assessing quality of care that relies more heavily than other instruments on factual reporting of physician behaviors, rather than solely satisfaction or performance ratings, and, thus, our study is less subject to these biases. Future work should explore racial and ethnic differences in the validity of self-reported insurance information.

In conclusion, this study demonstrates a significant correlation between specific managed care policies and reductions in the patient-provider relationship for minority children, particularly Asians and Hispanics. A strong relationship between family and doctor is essential to the receipt of high-quality primary care and maintaining health. To reduce racial and ethnic disparities in health and health care—a current national health priority—the studied restrictions on patient care-seeking in managed care should be limited or removed. Lack of choice is particularly detrimental to racial and ethnic minorities, who may have difficulty locating linguistically and culturally appropriate providers and who may be less likely to actually change providers, even if they are dissatisfied. With so many vulnerable children moving into managed care, health plans must substantially increase efforts to attend to the different cultural needs of minority children. If these disparities already exist for children, they can only widen as they become adults.

Accepted for publication December 21, 2001.

We thank Barbara Starfield, MD, and Lisa Cooper, MD, for their insights and thoughtful reviews of the manuscript and Jane Lyon, RN, for her generous support and help coordinating the study.

Corresponding author and reprints: Gregory D. Stevens, PhD, Department of Health Policy and Management, Bloomberg School of Public Health, Johns Hopkins University, 624 N Broadway St, Room 661, Baltimore, MD 21205 (e-mail: gestevens@jhsph.edu).
REFERENCES