Patient Satisfaction with Physician Assistant, Nurse Practitioner, and Physician Care: A National Survey of Medicare Beneficiaries

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Abstract

- **Objective:** To assess the extent to which the experiences of older patients vary according to type of primary care provider (i.e., physician assistant [PA], nurse practitioner [NP], or physician).
- **Design:** National, cross-sectional survey.
- **Participants:** Medicare beneficiaries completing the 2000 and 2001 Medicare fee-for-service Consumer Assessment of Health Plans Survey who identified a primary care provider.
- **Measurements:** Satisfaction data, patient sociodemographic characteristics, health care experience, types of care, types of insurance.
- **Results:** 146,880 completed surveys from 321,407 randomly sampled Medicare beneficiaries nationwide (45.7% of total surveyed) were analyzed. 3770 respondents (2.8%) identified a PA or an NP as their personal provider. For questions on satisfaction with their personal care clinician, results were similar across the 3 providers. Patients who reported an NP as their primary care provider were significantly more likely to be Medicaid recipients as compared with patients who reported receiving care from a PA or physician. Patients who reported a physician as their primary care provider were more likely to have supplemental insurance as compared with patients who reported receiving care from a PA or NP.
- **Conclusion:** Medicare beneficiaries are generally satisfied with their medical care and do not distinguish preferences based on type of provider. Non-physician clinicians and physicians in primary care seemed to be viewed similarly regardless of patient characteristics. PAs and NPs may be a workforce that could be expanded to care for the rising needs of the elderly.

Physician assistants (PAs) and nurse practitioners (NPs) are increasingly occupying the role of provider of patient services, especially with regard to primary care and vulnerable populations [1,2]. As of 2002, an estimated 110,000 PA/NPs were clinically active, making up approximately one sixth of the medical workforce, mostly in primary care, with at least 5% specializing in geriatrics [2]. Reasons postulated for the increase in PAs and NPs have not been tested but plausible ones include an aging population, with its attenuate demands for services and resources, coupled with a shortage of physicians willing to specialize in geriatrics. As a result, virtually all U.S. states along with the federal government have passed legislation enabling PAs and NPs to work in a multitude of medical settings.

Consumer assessment of their medical providers is an important aspect of effective health care because satisfied patients are more likely to adhere to treatment recommendations [3,4]. Evidence suggests that patients may hold NPs and PAs in the same regard as physicians. However, the studies have been small and undertaken in geographically isolated populations [5,6]. In addition, studies of patient satisfaction comparing PAs, NPs, and physicians have been few [7–9]. To expand upon the empirical evidence regarding patient experiences with PA/NPs as their personal health care providers, we undertook the current study to answer the question: are patients as satisfied with PA and NP care as they are with physician care? Additionally, we sought to examine provider differences with respect to patients' age, gender, self-reported health, preventive care services received, and sources of health insurance.

**Methods**

**Study Population**

The study population was Medicare beneficiaries enrolled in the traditional Medicare fee-for-service program for 6 months or longer who identified a generalist physician, PA, or NP as
their personal health provider on the 2000 or 2001 Medicare fee-for-service Consumer Assessment of Health Plans Survey (CAHPS). The survey is a 92-question instrument administered to a sample of Medicare beneficiaries drawn from the county level in each state. The survey asks consumers to evaluate their experiences with their health plan and medical care during the past 6 months. Information collected in the survey includes experiences in getting needed care, getting care quickly, how well doctors and other health care providers communicate, ease of getting referrals to specialists, courtesy and helpfulness of office staff, and customer service of the health plan. Respondents also are asked to rate their providers, health plan, and overall health care. Information on age, gender, race, place of residence, self-reported health status, and types of supplemental health insurance are also collected.

For our study, we excluded beneficiaries who reported that their personal provider was a specialist physician as well as beneficiaries who may have received care from a PA or NP secondarily to care received from a physician whom they reported to be their personal provider. To examine patient satisfaction from a geriatric standpoint, we excluded respondents who were younger than 65 years.

Measures
Satisfaction measures were the participants’ responses to the following questions relating to the care they received from their personal care provider: “How often does your health provider listen carefully to you?” “How often does your health provider explain things in a way you could understand?” “How often does your health provider show respect for what you have to say?” and “How often does your provider spend enough time with you?” Responses were measured on a 5-item scale ranging from “never” to “always.” Responses were recoded to quantities “1” through “5” for purposes of these analyses. A single overall provider rating (on a scale ranging from 1 for “poor” to 5 for “excellent”) also measured satisfaction with provider. Other measures included self-reported health, preventive care services received, and whether respondents received Medicaid or supplemental health insurance.

Analysis
We calculated means and proportions for the satisfaction variables across each group of providers. The 95% confidence intervals around the means and proportions were computed using Taylor approximations. Differences between the types of variables for each group of providers were investigated using analysis of variance and Cohen’s d. Chi-square analyses determined if a difference in type of provider and other variables was present.

Results
Of the 321,407 completed 2000 and 2001 CAHPS Medicare fee-for-service surveys, 146,880 were completed by those 65 years of age or older who identified a generalist physician, PA, or NP as their personal health provider (45.7% of full sample). Most beneficiaries were female (57.6%) and the average age was 75.2 years. Beneficiaries were somewhat evenly distributed across provider types by age-group (Table). About one quarter were age 80 or older. Most (93.3%) lived in their personal home or apartment, with the remainder residing in assisted living (1.8%), long-term care (1.9%) or other (3.0%). In terms of additional insurance, 13,627 received Medicaid and 63,774 received supplemental insurance. Two thirds of respondents said their health was excellent, very good, or good, and one third said their health was fair or poor.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>PA</th>
<th>NP</th>
<th>Physician</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 69</td>
<td>35,428 (24.2)</td>
<td>653 (29.1)</td>
<td>383 (26.6)</td>
<td>34,392 (24.0)</td>
<td></td>
</tr>
<tr>
<td>70 to 74</td>
<td>39,894 (27.2)</td>
<td>627 (27.9)</td>
<td>381 (26.5)</td>
<td>38,886 (27.2)</td>
<td></td>
</tr>
<tr>
<td>75 to 79</td>
<td>33,146 (22.6)</td>
<td>497 (22.1)</td>
<td>302 (21.0)</td>
<td>32,347 (22.6)</td>
<td></td>
</tr>
<tr>
<td>80 or older</td>
<td>38,105 (26.0)</td>
<td>467 (20.8)</td>
<td>373 (25.9)</td>
<td>37,265 (26.0)</td>
<td></td>
</tr>
<tr>
<td>Medicaid enrollee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13,627 (9.1)</td>
<td>324 (14.1)</td>
<td>243 (16.5)</td>
<td>13,060 (9)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>No</td>
<td>135,788 (90.9)</td>
<td>1969 (85.9)</td>
<td>1234 (83.5)</td>
<td>132,585 (91)</td>
<td></td>
</tr>
<tr>
<td>Supplemental health insurance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>63,774 (85.3)</td>
<td>818 (76.8)</td>
<td>663 (72.3)</td>
<td>62,293 (85.6)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>No</td>
<td>11,002 (14.7)</td>
<td>247 (23.2)</td>
<td>254 (27.7)</td>
<td>10,501 (14.4)</td>
<td></td>
</tr>
</tbody>
</table>

NP = nurse practitioner; PA = physician assistant.
Approximately 95% of all beneficiaries in the study said there was little or no problem to find a provider they were happy with. For the single overall provider rating, ratings were consistent across the 3 provider groups ($F_{2,14840} = 3.5$, $P < 0.05$, $d = 0.08$).

The distribution of responses to the 4 satisfaction questions was similar across the 3 provider groups. Depending on the question, the response mean was 3.5 to 3.7 for physicians, 3.6 to 3.7 for PAs, and 3.5 to 3.6 for NPs. The standard deviation was between 0.55 and 0.70 and the 95% confidence interval was between 3.50 and 3.70 for all 4 questions and all 3 providers. Although many of the responses differed significantly between providers, these differences were small with regard to effect size (Cohen’s $d < 0.20$).

Because these 4 satisfaction variables were significantly intercorrelated ($r = 0.55$ to 0.65, $P < 0.001$), they were subjected to multivariate analyses of covariance (MANCOVA) to investigate potential provider differences on the satisfaction variable “set,” controlling for patients’ self-reported health. MANCOVA results revealed a significant difference (Wilk’s lambda = 1, $F_{6,23071} = 4.14$, $P < 0.01$). However, the effect size ($n$) was 0.01, meaning that the provider variable only accounted for 1% of the variance in the satisfaction variable set. The results of these analyses were further sorted to identify any patient characteristics that might be associated with differences in provider satisfaction. Specifically, we examined whether any of the following were predictors of greater or lesser satisfaction with the primary provider: age, gender, number of physician office visits, problems obtaining necessary care within the last 6 months, how often respondent had to wait 15 minutes past their appointment time to be seen, satisfaction with the health care system, and whether they were seen more than twice for the same condition in the past 12 months. In each instance, using analysis of variance, we found no statistically significant differences in the satisfaction with the care received.

When sorted by type of provider, the percentage of beneficiaries who reported to be in fair or poor health was 30.5% for those whose personal provider was a generalist physician, 33.3% for those whose personal provider was a PA, and 38.7% for those whose personal provider was an NP. In other words, the health of recipients who saw an NP was significantly worse than that of those who saw a physician or PA ($F_{2,14840} = 33.87$, $P < 0.001$, $d = 20$). No differences were found among beneficiaries by provider type regarding change in health status over the past year. When asked how they would rate their health now compared to 1 year ago, 98% of beneficiaries said it was the same.

An area where provider differences emerged was in the proportion of Medicare enrollees who had Medicaid as a supplemental insurance. Analyses revealed a disproportionate number of Medicare plus Medicaid enrollees who reported an NP (16.5%) or PA (14.1%) versus a physician (9.0%; $\chi^2_{df} = 169.36$, $P < 0.001$; OR = 1.15) as their primary care provider. On the other hand there was a greater proportion of patients who had supplemental insurance in addition to Medicare who identified a physician (85.6%) as opposed to a PA (76.8%) or an NP (72.3%; $\chi^2_{df} = 189.05$, $P < 0.001$; OR = 1.68) as their primary care provider.

Finally, we repeated our analysis to see if there were differences in preventive health care service delivery (ie, receipt of a flu shot, pneumonia immunization, and smoking cessation counseling for smokers) among the 3 providers. No significant differences were found.

**Discussion**

In our national cross-sectional satisfaction study comparing physician, PA, and NP primary care, in all indices of satisfaction PAs and NPs were rated as favorably as physicians. Our findings suggest that there are no differences in satisfaction between provider types regardless of patients’ sociodemographic characteristics and health status. This research adds to the growing body of literature indicating that PAs and NPs in primary care, and especially in geriatric care, are meeting consumer needs.

Additional health insurance is increasingly needed in the elderly since Medicare does not cover all outpatient services. Patients who reported an NP as their primary care provider were more likely to be Medicaid recipients than those who reported receiving care from a PA or physician. Conversely, patients who reported a physician as their primary provider were significantly more likely to have supplemental insurance. This suggests that PAs and NPs may be taking care of the elderly poor proportionally more than physicians.

The strengths of this study include the large number of respondents and the cross-sectional nature of the survey. In addition, this is the first time a national survey has been undertaken to examine the satisfaction beneficiaries receive from 3 main types of primary care providers. This study is unique because it incorporated not only patient satisfaction ratings but also quality of care indicators and economic status.

A limitation of the study is the low percentage of respondents (2.8%) who identified a PA/NP as a personal provider. This is lower than what the literature suggests given the fact that PA/NPs make up one sixth of the health care workforce [2]. One explanation is that many PAs and NPs work in physician offices and as part of a health care team [1]. Patients may perceive that the care they receive is a team effort and that the physician is the primary care provider even if the PA or NP delivers all of the care. Another explanation is the lack of consistency in the regulatory care system. Each state has different enabling legislation, reimbursement laws other than Medicare and Medicaid, and prescribing regulations [10]. These combined differences could account for how patients...
perceive their provider. In addition, this may be a self-selected group of beneficiaries. For example, patients who might have been dissatisfied with PA/NPs as personal providers would presumably have switched to physicians, thereby leaving only relatively satisfied patients who identify PA/NPs as personal providers. Differences may have been impacted by the so called “halo effect,” where the physician is held above reproach. Because beneficiaries may perceive the PA or NP as an extension of the physician, this halo effect may extend to these providers as well.

This study supports other findings that patients are generally satisfied with their primary health care when a physician, PA, or NP delivers it. One of the first studies examining patient expectations of PAs in dealing with a series of personal, social, psychological, and health-related items indicated that patients expect the PA to be involved in these areas but did not expect the PA to be an expert [5]. A systematic review of the literature on NPs and how they compared to physicians concluded that increasing availability of NPs in primary care is likely to lead to high levels of patient satisfaction and high quality care [6].

Studies on patient satisfaction comparing PAs, NPs, and physicians at the same time have been few. In one study that was focused on the care of a specific condition, the confidence of primary care PAs and physicians was assessed after a clinic visit for low back pain. Patients of providers who appeared confident in their overall patient rapport and assessment were significantly more satisfied with the information they received than were patients of less confident providers. Differences could not be explained by years in practice, length of visit, patient demographics, or type of provider [7]. In an HMO study, members in the Pacific Northwest region of Kaiser Permanente rated the physician, PA, or NP as “satisfied or very satisfied” more than 75% of the time [8]. Hooker analyzed the same population spanning an 18-month period in the early 1990s with regard to how members view physicians, PAs, and NPs. A 57-item questionnaire asked specifically about satisfaction with a recent medical office visit and a specific provider. When health plan members were asked how satisfied they were with their latest encounter, adult practice PAs and NPs scored within 1% to 2% of physicians (between 88% and 90% favorable globally). The technical skill of PAs and NPs rated within 3% to 4% of physicians. As for overall satisfaction, members regarded adult medicine doctors, PAs, and NPs almost the same and statistically indistinguishable from each other, regardless of the patients’ age or gender [9]. In one of the most frequently cited studies on NPs, Mundinger and colleagues found that patient satisfaction was high when an NP delivered all of the care [11]. No significant differences were found in health services utilization after either 6 months or 1 year, nor were there differences in satisfaction ratings following the initial appointment (P = 0.88 for overall satisfaction). Satisfaction ratings at 6 months differed for 1 of 4 dimensions measured (provider attributes), with physicians rated slightly higher (4.2 versus 4.1 on a scale where 5 = excellent; P = 0.05).

The decision to incorporate PAs and NPs into the American medical system may be a justified one, at least from the patient’s viewpoint. With an expanding elderly population at a time when the supply of physicians is largely static, we suggest that the incorporation of PAs and NPs into geriatric medical care is warranted, but clearly more work is needed in this area. Future studies should link the patient’s level of satisfaction with the diagnosis and by the provider to see whether there is further sorting out of clinician types. There may be important issues regarding clinical care and complexity of geriatric care that influences a physician over a PA or NP as the personal provider. Knowing this may lead to an improved division of labor in the overall delivery of team-based care.

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Author contributions: conception and design, RSH, ES; drafting of the article, RSH, DJC, ES; critical revision of the article, RSH; obtaining of funding, RSH.

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