

# Cultural Identities and Perceptions of Health Among Health Care Providers and Older American Indians

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**BACKGROUND:** Differences in provider-patient health perceptions have been associated with poor patient outcomes, but little is known about how patients' cultural identities may be related to discordant perceptions.

**OBJECTIVE:** To examine whether health care providers and American-Indian patients disagreed on patient health status ratings, and how differences related to these patients' strength of affiliation with American-Indian and white-American cultural identities.

**DESIGN:** Survey of patients and providers following primary care office visits.

**PARTICIPANTS:** One hundred and fifteen patients  $\geq 50$  years and 7 health care providers at a Cherokee Nation clinic. All patients were of American-Indian race, but varied in strength of affiliation with separate measures of American-Indian and white-American cultural identities.

**MEASUREMENTS:** Self-reported sociodemographic and cultural characteristics, and a 5-point rating of patient's health completed by both patients and providers. Fixed-effects regression modeling examined the relationships of patients' cultural identities with differences in provider-patient health ratings.

**RESULTS:** In 40% of medical visits, providers and patients rated health differently, with providers typically judging patients healthier than patients' self-rating. Provider-patient differences were greater for patients affiliating weakly with white cultural identity than for those affiliating strongly (adjusted mean difference = 0.70 vs 0.12,  $P = .01$ ). Differences in ratings were not associated with the separate measure of affiliation with American-Indian identity.

**CONCLUSIONS:** American-Indian patients, especially those who affiliate weakly with white-American cultural identity, often perceive health status differently from their providers. Future research should explore sources of discordant perceptions.

**KEY WORDS:** health status; minority health; cultural differences; doctor-patient relationships; aging.

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Health care providers and patients frequently disagree in terms of perceptions of reason for medical visits,<sup>1,2</sup> symptom severity,<sup>3-9</sup> and overall health status,<sup>10-22</sup> or physical function.<sup>23-26</sup> Discordant perceptions between providers and patients are associated with inadequate and unnecessary treat-

ment,<sup>27</sup> poor adherence to treatment advice,<sup>2</sup> poor retention in care,<sup>3</sup> dissatisfaction with care,<sup>8,28,29</sup> diminished symptom resolution,<sup>7,23,30-32</sup> and mismatching of services to needs.<sup>2,22</sup> Researchers argue that differing evaluations of a patient's health status are especially important, constituting "a key point in communication difficulties"<sup>12</sup> that may impede successful provider-patient negotiations about treatment.<sup>2,19,20,25,29</sup> Discordant perceptions of health status pose special concerns for chronically ill patients, who must continuously follow providers' advice<sup>26,33</sup> and for older patients, who are often unassertive with providers and unlikely to contest their perceptions.<sup>2,8</sup>

Little is known about the role of patients' cultural identities in health perceptions. Although researchers widely agree that culture affects health care,<sup>34,35</sup> few empirical studies compare perceptions of providers and ethnic minority patients, or explore the ways in which cultural identity may be associated with discordant views.<sup>36,37</sup> Our study focuses on the growing population of American Indians.<sup>38</sup> Qualitative work has suggested that these patients often have ideas about health that diverge from those of their predominantly non-Indian providers,<sup>39-42</sup> and several small studies describe distinctive patterns of symptom reporting.<sup>43-45</sup> Yet, to our knowledge, objective measures have never been used to explore provider-patient differences in perceived health in this population. Therefore, in this study, we ask the following questions: are provider-patient health ratings discordant for American Indians? If so, who gives higher ratings? Are magnitude and direction of discordance associated with differences in patients' cultural identities?

## METHODS

### Setting and Sample

The Cherokee Nation, headquartered in Tahlequah, OK, is the second largest American Indian tribe, with >250,000 citizens. It receives federal funding to deliver health care to American Indians. Services are provided through the Cherokee Rural Health Network, comprising 2 hospitals and 6 tribally managed outpatient clinics where patients receive health care without charge.<sup>46</sup> Data were collected at the chronic care unit of 1 clinic, chosen in consultation with the tribe's Institutional Review Board to maximize cultural diversity. Primary care was delivered at the site by 7 family practice providers, all of whom participated. Each provider has about 20 clinical encounters daily.

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Patient participants were American Indians  $\geq 50$  years. The age limitation reflected special Institutional Review Board concerns for this age group; studies have shown that discordant provider-patient health perceptions are particularly prevalent among older persons.<sup>15,17,18</sup> Also, because age is related to cultural characteristics,<sup>47</sup> it ensured an adequate number of patients who strongly affiliated with American-Indian cultural identity. Patients were required to understand English, be mentally competent, and have an appointment for evaluation or treatment of a chronic condition; no exclusions were necessary based on these criteria. Although high patient flow occasionally limited recruitment of consecutive patients, we were able to invite participation from 157 individuals, representing more than 90% of patients  $\geq 50$  years with visits during the study period. Forty-two patients declined to participate, yielding a refusal rate of 27%.

## Data Collection

Fliers were distributed as patients arrived for appointments on 11 consecutive clinic days in July-August 2001. During the normal intake process, a nurse screened for eligibility and asked whether patients wished to learn about the study. To maximize their comfort with, and comprehension of, the study, bilingual participants could have a Cherokee/English translator describe the procedures and secure written consent; all other aspects of the study were conducted in English. At the conclusion of their visit, patients completed a questionnaire asking about personal characteristics, cultural identities, and health status. We obtained provider characteristics before data were collected from patients, and providers also evaluated patient's health status after each visit. Written consent was secured from all providers. The study was approved by Cherokee Nation and Boston College Institutional Review Boards. Patients received a \$15 department store gift certificate; providers were uncompensated.

## Patient Measures

These included age, sex, marital status, tribal affiliation, education, and income. Age and education were considered as continuous variables. Sex and marital status were indicator variables, with females and unmarried respondents used as reference groups. Respondents specified tribal affiliation, which was treated as an indicator variable, with non-Cherokees used as the reference. One question asked about the pre-tax annual income of all household members.

American Indians vary in the degree to which they affiliate with the culture of their tribe or the dominant society. This is particularly true of the large, geographically dispersed Cherokee Nation. American-Indian and white cultural identities were assessed by 2 independent measures, meaning respondents could report either monocultural or bicultural identities. These questions have been validated in American Indians and used successfully with older adults.<sup>48-51</sup> Three questions asked about American-Indian identity and 2 about white-American identity. Responses were summed and averaged to create 2 separate identity indices, each with possible scores ranging from 0 (not at all) to 3 (a lot). For descriptive analyses, we created approximate tertiles reflecting weak, moderate, and strong levels of American-Indian cultural identity. In multi-

**Table 1. Items and Response Choices for Key Measures**

| Measure                        | Item   | Response Choices   |
|--------------------------------|--|--|
| American-Indian identity index | To what extent do you live by or follow the <i>American-Indian</i> way of life?                                    |  |
|                                | To what extent does your <i>family</i> live by or follow the <i>American-Indian</i> way of life?                   |  |
|                                | How important is it for you to follow religious or spiritual beliefs that are based on traditional Indian beliefs? | 0 = not at all<br>1 = a little<br>2 = some<br>3 = a lot            |
| White-American identity index  | To what extent do you live by or follow the <i>white-American</i> way of life?                                     |  |
|                                | To what extent does your <i>family</i> live by or follow the <i>white-American</i> way of life?                    |  |
| Patient self-rated health      | Overall, how would you rate your health during the <i>past four weeks</i> ?  | 1 = poor<br>2 = fair<br>3 = good<br>4 = very good<br>5 = excellent |
| Provider-rated health          | Overall, how would you rate the patient's health during the <i>past four weeks</i> ?                               |  |

variate analyses, we used this scale as a continuous variable. Because the distribution of the white-American identity index was bimodal, we dichotomized it into weak and strong for both descriptive and multivariate analyses.

Both providers and patients rated patient's health by responding to the global health measure from the Short Form-8, which offers responses ranging from 1 (poor) to 5 (excellent).<sup>52</sup> From provider-patient paired responses we calculated differences in ratings (provider rating-patient rating). Positive difference scores indicated that the provider's rating was greater than the patient's; negative difference scores indicated the converse. Table 1 summarizes the cultural identity and health status measures and responses.

## Provider Measures

Providers reported their age, sex, race, tribal affiliation, marital status, and training, and completed the American-Indian and white-American identity indices.

## Visit Characteristics

The number of previous visits with the same provider was measured by a dichotomous indicator (reference was  $< 2$  visits). The time in the waiting room was measured by a dichotomous indicator (reference was  $< 30$  minutes).

## Statistical Analyses

We examined means and percentages for patient, provider, and visit characteristics. Next, we graphed provider by patient health ratings, allowing us to determine the frequency of concordance (provider and patient rated patient's health the same) and discordance (patient's self-rating differed from provider's).

This also allowed us to determine whether providers or patients gave higher ratings.

We used fixed-effects linear regression models to examine relationships between the magnitude of provider-patient difference scores for health status and each of the 2 indices of patients' cultural identity, after adjusting for covariates. Fixed-effects models are ideally suited to our multilevel data because patients are nested within a limited number of providers. The lack of independence of observations is explicitly accounted for by modeling the provider-level variance with a fixed-effect term. For each level of affiliation with American-Indian cultural identity (weak, moderate, strong) and white-American identity (weak, strong), we calculated least-square means from the fitted model. All data analyses were performed using Stata 8.0.

**RESULTS**

As shown in Table 2, 115 unique patient visits were assessed. All patients were legal citizens of a federally recognized tribe, usually Cherokee, as were 4 of 7 providers. In terms of self-reported cultural affiliations, patients were distributed across the range of scores on both the American-Indian and white-American identity indices. In contrast, all providers strongly affiliated with white-American cultural identity and only 1 strongly affiliated with American-Indian identity. Patient scores on the 2 identity indices were only moderately correlated ( $r = -.28$ ), indicating that they measure separate aspects of cultural identity.

Figure 1 graphically displays provider and patient health status ratings. The diagonal indicates complete concordance in

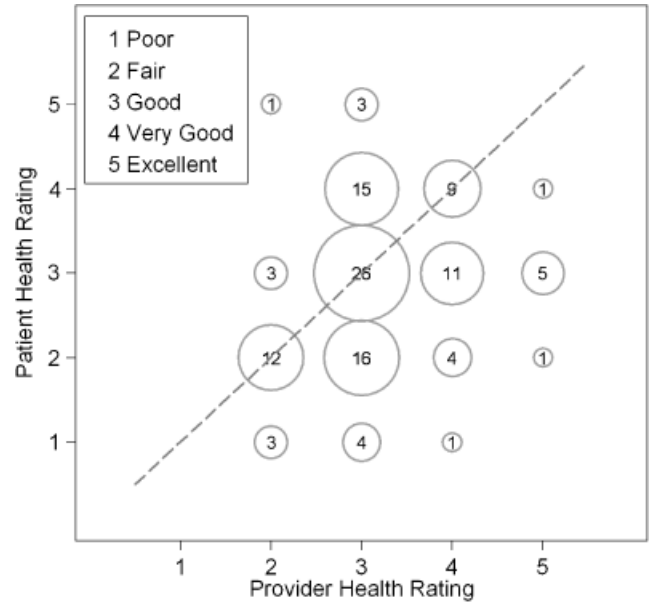


FIGURE 1. Provider-patient discordance on health status ratings.

ratings; the circles above and below indicate the number of visits with specific, discordant combinations of provider-patient scores. Overall, providers and patients differed in their evaluations in 40% of visits. The majority of discordant ratings (68%) were below the diagonal, indicating that providers rated patients healthier than patients rated themselves. For example, no visit occurred in which the provider rated the patient's health as poor, although 7% of patients rated their own health in this category. Only 19% of scores lay above the diagonal, reflecting the smaller percentage of cases in which patients rated their health as better than their provider did. The overall mean difference between provider and patient ratings was 0.32 ( $P < .01$ ).

Table 3 presents the least-square mean differences, derived from the fixed-effects model, for provider-patient discordance in health status ratings. The strength of white-American cultural identity was significantly associated with discordant health status ratings after adjusting for patients' age, sex, education, marital status, previous visits, waiting time, and American-Indian identity index scores ( $P = .01$ ). The mean difference score for patients who weakly affiliated with white-American cultural identity was larger than that for those who strongly affiliated with it (0.70 vs 0.12). The strength of patients' American-Indian cultural identity was not significant in the model ( $P = .58$ ).

Table 2. Characteristics of Patients and Providers

| Characteristic                        | Patient (n=115)  | Provider* (n=7)  |
|---------------------------------------|------------------|------------------|
| Age, mean y (range)                   | 63 (50 to 89)    | 47 (26 to 62)    |
| Females, n (%)                        | 75 (65)          | 3 (43)           |
| Race, n (%)                           |                  |                  |
| American Indian                       | 115 (100)        | 4 (57)           |
| White                                 | 0 (0)            | 3 (43)           |
| Primary tribal affiliation, n (%)     |                  |                  |
| Cherokee                              | 103 (90)         | 2 (29)           |
| Other tribe                           | 12 (10)          | 2 (29)           |
| Married or living with partner, n (%) | 73 (63)          | 7 (100)          |
| Education                             |                  |                  |
| ≥ 12 y, n (%)                         | 75 (65)          | 7 (100)          |
| Mean (y)                              | 12               | NA               |
| Family Income <\$10,000/y, n (%)      | 21 (18)          | NA               |
| Previously seen provider, n (%)       |                  |                  |
| Never                                 | 4 (3)            | NA               |
| Once                                  | 7 (6)            | NA               |
| Twice or more                         | 104 (90)         | NA               |
| Waited >30 min, n (%)                 | 13 (11)          | NA               |
| American-Indian Identity Index        |                  |                  |
| Mean score (range)                    | 1.4 (0 to 3)     | 0.3 (0 to 2.0)   |
| Response categories, n (%)            |                  |                  |
| Weak                                  | 33 (29)          | 5 (72)           |
| Moderate                              | 44 (38)          | 1 (14)           |
| Strong                                | 38 (33)          | 1 (14)           |
| White-American identity index         |                  |                  |
| Mean score (range)                    | 2.5 (0.5 to 3.0) | 2.9 (2.0 to 3.0) |
| Response categories, n (%)            |                  |                  |
| Weak                                  | 47 (41)          | 0 (0)            |
| Strong                                | 68 (59)          | 7 (100)          |

\*Four physicians and 3 midlevel practitioners.

Table 3. Mean Provider-Patient Discordance on Health Status Ratings (Adjusted)

|                      | White-American Identity Index |        | American-Indian Identity Index |          |        |
|----------------------|-------------------------------|--------|--------------------------------|----------|--------|
|                      | Weak                          | Strong | Weak                           | Moderate | Strong |
| Health status rating |                               |        |                                |          |        |
| Provider             | 3.14                          | 3.19   | 3.10                           | 3.17     | 3.26   |
| Patient              | 2.44                          | 3.07   | 2.85                           | 2.86     | 2.87   |
| Difference           | 0.70                          | 0.12   | 0.24                           | 0.31     | 0.39   |
| P value              | .011                          |        | .577                           |          |        |

## DISCUSSION

We found that discordant ratings of health status characterized 40% of clinic visits in our sample, with patients usually perceiving their health to be worse than their providers did. This level of discordance is in the middle range of published studies comparing provider and patient ratings of health and physical functioning in the general population,<sup>6,11,16-21,23,24,29</sup> although the wide range of instruments and study designs precludes accurate comparisons.<sup>53</sup> Such studies have frequently found that older patients in the general population perceive their health to be *better* than providers do.<sup>14,17,19,22,54-56</sup> Of clinical relevance to providers, our observation of the opposite dynamic in American-Indian elders suggests that results from other populations may not be generalizable across cultures.

We also found that patients who strongly affiliated with white-American cultural identity gave health ratings that did not differ significantly from those of their providers, while patients whose affiliation with white-American identity was weak gave health ratings that did differ significantly from provider ratings. Discordance remained the same regardless of how strongly patients affiliated with American-Indian cultural identity. These findings may be understood from the perspective of symbolic interactionism. This sociologic theory posits that shared perceptions do not spontaneously emerge but are negotiated in complex interactions suffused with unspoken cultural assumptions.<sup>57</sup> Given that all providers in our sample strongly affiliated with white-American cultural identity, it is reasonable, from an interactionist perspective, that patients who shared this cultural identity would enjoy the most success in negotiating concordant perceptions. It is likewise reasonable to expect our finding that patients who affiliated with white-American cultural identity only weakly would give health status ratings that differed significantly from their providers'. Finally, given that only 1 provider in our sample affiliated strongly with American-Indian culture, we would also expect our finding that the strength of patients' American-Indian identity neither helped nor harmed their ability to establish concordant perceptions: in our sample, the patient's strong affiliation with white-American identity was usually the only basis for cultural similarity with the provider.

The greater provider-patient discordance among patients with a weak white-American identity is consistent with empirical research suggesting that providers may overlook illness among patients who are racially or culturally different.<sup>58-60</sup> Explanations for variations in such discordance might focus on either provider or patient behavior. It is possible that providers vary their interaction in ways that make it harder for patients who do not strongly affiliate with white-cultural identity to convey their views and concerns. This hypothesis is supported by studies demonstrating that providers communicate differently—displaying, for example, less positive affect and empathy, fewer facilitation behaviors, and more dominance—with culturally different patients.<sup>61,62</sup> An alternative explanation is that patients who do not affiliate strongly with white-American cultural identity assume health beliefs and models different from their providers so that the 2 parties understand each other poorly. Both hypotheses for variation in discordance by patients' white-American identity merit further investigation.

This study has limitations. First, because our sample comprised older, mostly Cherokee patients, one must exercise

caution in generalizing to other groups. Similarly, those who refused to participate may have differed from participants in unmeasured ways. Second, although we adjusted for pertinent covariates used in previous research, other factors could influence the observed association between cultural identity and health perceptions. For example, perceptions may vary with specific diagnoses or illness severity<sup>26,63-65</sup>; we did not collect such information because of IRB concerns for patient privacy. Third, because we did not gather objective measures of health status, we cannot assess the validity of patient or provider perceptions. Finally, although studies indicate that blacks, whites, and Hispanics display distinctive patterns when answering surveys,<sup>66,67</sup> we are unaware of any work investigating response bias in American Indians and thus cannot speculate whether it affected our results.

In summary, our findings show 1 way cultural identity is important in health care, and suggest that providers strive to elicit health perceptions from American-Indian patients, especially those not strongly affiliated with white-American cultural identity. Findings are consistent with the interpretation that shared cultural identity allows for bridging disparate perspectives in the medical encounter and argue for providers' greater awareness of differences between majority (white) and American-Indian cultures. Our discovery that white-American and American-Indian identities are differently related to discordance underscores the importance of using complex measures of cultural identity. Future research should investigate the reasons why providers and culturally diverse subgroups of patients perceive patient health status differently.

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