

Measuring patients' perceptions of communication with healthcare providers: Do differences in demographic and socioeconomic characteristics matter?

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Abstract

Background National governments across the globe have set goals to improve healthcare delivery. Understanding patient–provider communication is essential for the development of policies that measure how well a healthcare system delivers care.

Objectives This study was designed to determine which, if any, demographic factors were independently associated with how US patients perceive various aspects of communication with their healthcare providers.

Design and methods The study was a secondary, cross-sectional analysis of nationally representative data from the 2002 Medical Expenditure Panel Survey (MEPS). Among US adults with a healthcare visit in the past year ($n =$ approximately 16 700), we assessed the association between several covariate demographic and socioeconomic factors and four dependent measures of patient perceptions of communication with their healthcare providers.

Results Across all four measures of communication, older patients were more likely to report positively. Having health insurance and a usual source of care were consistent predictors of positive perceptions of communication. Hispanic patients also reported better perceptions of communication across all four measures. The most economically disadvantaged patients were less likely to report that providers always explained things so that they understood. Male patients were more likely to report that providers always spent enough time with them.

Conclusions This study suggests that patient perceptions of communication in healthcare settings vary widely by demographics and other individual patient characteristics. In this paper, we discuss the relevance of these communication disparities to design policies to improve healthcare systems, both at the individual practice level and the national level.

Introduction

Recent efforts to improve healthcare systems across the globe have focused on changing the pattern of delivery of services to better meet the needs and expectations of patients. Targeted interventions, such as financial 'pay-for-performance' incentives, have been designed to encourage changes in practice. The success of these interventions, in large part, relies on the identification of key elements that indicate adequate or optimal care delivery and effective assessments of these attributes.^{1,2} This overall process presents unique challenges for researchers and evaluators who are faced with developing accurate measurement tools that reflect patient expectations, patient perceptions and provider performance.^{1,2}

While each national healthcare system has unique characteristics that will require different assessment tools, one attribute they do share is the interaction between patients and providers. Thus, one universal measure of how well a system delivers care is whether or not these two groups can effectively communicate with one another.^{1,3} Positive reports of patient-provider communication in healthcare settings have been closely linked to patient perceptions of high-quality care and overall satisfaction with their healthcare.^{1,4-6} Furthermore, optimizing patient-provider communication can lead to better patient health behaviours and outcomes.⁴⁻¹² Effective communication between patients and providers has been associated with improvements in pain management, blood pressure, blood glucose, recovery time, emotional health and functional status.⁸⁻¹⁰ Open lines of communication also facilitate more effective behavioural counselling interventions relevant to improved outcomes such as smoking cessation, increased physical activity, dietary change and willingness to undergo cancer screening tests.¹³⁻¹⁸

There is ample evidence to support that patient-provider communication is a key attribute in the measurement of patient preferences and satisfaction with the delivery of healthcare services.^{1,4-6} The association between patient-provider communication and health outcomes is

also well established.^{4,6-12} To date, the communication literature is less consistent, however, in describing how widely patient perceptions of communication differ and how best to address significant demographic influences. A recent study, conducted by Rutten *et al.*, used a representative sample of households in the US to explore multiple factors associated with patient perceptions about communication and found no differences based on sociodemographic characteristics.⁶ Previous studies have suggested that providers communicate less effectively with racial and ethnic minorities, older patients, and those with lower educational attainment levels.^{19,20} Other studies, however, have not been consistent in reporting these sociodemographic associations.^{6,21} Rutten *et al.* have suggested that more research is needed into this area.⁶ Satisfaction literature has identified potential demographic and clinical characteristics that may also be relevant to communication, but these studies have also yielded conflicting results with respect to the magnitude and direction of association between patient satisfaction and individual factors.²²⁻²⁶

We aimed at adding to the discussions about measuring patient perceptions of communication with the following specific objectives:

- 1 To examine how patients from a nationally representative sample of adults in the US perceived various aspects of communication with their healthcare providers.
- 2 To determine which, if any, demographic factors were independently associated with different reports of perceived communication.
- 3 To explore the significance of our findings from a policy perspective in a discussion about how this study and other similar research may have direct policy relevance.

Methods

Data source

This cross-sectional study was a secondary analysis of data obtained from the 2002 Medical Expenditure Panel Survey (MEPS) files,

sponsored and made available to the public by the Agency for Health Care Research and Quality (AHRQ).²⁷ The MEPS Household Component survey collected data from a subsample of the National Health Interview Survey and contains health services utilization information for a nationally representative sample of civilian, non-institutionalized persons in the US.²⁸ The 2002 MEPS utilized a stratified multi-stage area probability design in which certain groups (e.g. low income, racial minorities) were over-sampled.

With the use of computer-assisted personal interviewing techniques, MEPS interviewers conduct face-to-face interviews querying respondents on such topics as demographic characteristics, self-reported health status, health insurance coverage, and use of, access to, and satisfaction with healthcare services. Our analysis was restricted to MEPS participants over the age of 17 years who had visited a healthcare provider in the 12 months immediately prior to the fielding of the survey ($n =$ approximately 16 700). In line with the purposes of our study, we examined how this select group of respondents reported on communication dynamics during their recent interactions with healthcare providers.

Study variables

Dependent variables

We used a recent theoretical framework describing key attributes of patient preferences for primary care to guide the selection of outcome variables.¹ In their compilation of published conceptual reviews of patient preferences, Cheraghi-Sohi *et al.* built a conceptual 'map' of six major attributes related to the process of care from the patient perspective: access, technical care, interpersonal care, patient-centredness, continuity and hotel aspects of care. From the conceptual map, we chose two categories most relevant to health communication – patient preferences about interpersonal care and patient-centredness. We identified four related MEPS survey items pertaining to how patients who had visited a healthcare provider in the previous 12 months perceived their recent healthcare

interactions: (i) How often did providers listen carefully to you? (ii) How often did providers explain things so you understood? (iii) How often did providers show respect for what you had to say? and (iv) How often did providers spend enough time with you? Responses to these items were reported on a four-point scale (always, usually, sometimes and never). Because optimal care would require that a patient and physician always have good communication, the responses were dichotomized into 'always' and 'not always' for the purposes of creating logistic regression models. Furthermore, nearly half of all respondents endorsed 'always', most others endorsed 'never', and fewer reported 'usually' and 'sometimes', so the distribution of responses corresponded well with this dichotomization.

Independent variables

We selected independent variables according to theoretical models that describe healthcare utilization and health outcomes as a function of both individual and system characteristics.^{29–31} Individual characteristics include a person's predisposition to use services (e.g. cultural and demographic characteristics), factors that enable or impede the use of services (e.g. personal or community resources, lack of insurance, misperceptions about eligibility), and their need for care (e.g. severity of or perceived severity of illness). Characteristics of the healthcare delivery system, including resources and financing, may be directly or indirectly responsible for determining a person's ability to access and use necessary care. Access and use of services, in turn, may influence health outcomes. Based on these models, we chose several demographic and socioeconomic characteristics to include in multivariable analyses: gender, age, race, ethnicity, family income, educational attainment, census region, urban/non-urban residence, health insurance status, and whether or not the individual had a usual source of care.

Analytical strategy

Initially, we limited our analyses to those adults who had seen a healthcare provider in the

12 months preceding the MEPS 2002 survey, and we obtained descriptive statistics for this subsample (Table 1). Then, we conducted

Table 1 Demographic characteristics of US adults who had visited a healthcare provider in the year prior to the 2002 Medical Expenditure Panel Survey (MEPS)

| Demographic characteristics | All 2002 MEPS respondents ¹ (weighted %) | Adults who had visited a healthcare provider in the year prior to the 2002 MEPS ² (weighted %) |
|-----------------------------------|---|---|
| Total US adults | | 64.2 |
| Sex | | |
| Male | 48.1 | 41.8 |
| Female | 51.9 | 58.2 |
| Age group | | |
| 18–24 years | 12.6 | 9.8 |
| 25–44 years | 39.4 | 35.5 |
| 45–64 years | 31.7 | 34.4 |
| ≥65 years | 16.3 | 20.3 |
| Race | | |
| White | 82.4 | 83.8 |
| Black | 11.3 | 10.4 |
| American-Indian | 0.8 | 0.8 |
| Asian | 4.1 | 3.5 |
| Native Hawaiian | 0.3 | 0.2 |
| Multiple races | 1.1 | 1.2 |
| Ethnicity | | |
| Hispanic | 12.2 | 9.1 |
| Not Hispanic | 87.8 | 90.9 |
| Family income | | |
| Poor | 10.6 | 9.8 |
| Near poor | 4.0 | 3.6 |
| Low income | 13.1 | 12.3 |
| Middle income | 30.7 | 29.6 |
| High income | 41.6 | 44.7 |
| Completed high school | | |
| Yes | 81.0 | 83.3 |
| No | 19.0 | 16.7 |
| Geographic residence | | |
| North-east | 19.5 | 20.3 |
| Midwest | 22.7 | 23.2 |
| South | 35.5 | 35.0 |
| West | 22.3 | 21.5 |
| Residence location | | |
| Metropolitan Statistical Area | 81.3 | 80.7 |
| Non-Metropolitan Statistical Area | 18.7 | 19.3 |
| Health insurance | | |
| Any private | 73.5 | 77.3 |
| Public | 13.4 | 15.1 |
| Uninsured | 13.1 | 7.6 |

Table 1 (Continued)

| Demographic characteristics | All 2002 MEPS respondents ¹ (weighted %) | Adults who had visited a healthcare provider in the year prior to the 2002 MEPS ² (weighted %) |
|-----------------------------|---|---|
| Usual source of care | | |
| Yes | 78.3 | 87.7 |
| No | 21.7 | 12.3 |

Percentages rounded to nearest tenth, column percentages = approximately 100%, variation due to rounding.

¹Unweighted *n* = approximately 26 000, exact numbers vary slightly for each characteristic.

²Unweighted *n* = approximately 16 700, exact numbers vary slightly for each characteristic.

descriptive analyses among this subgroup to determine the relationship between all covariates and the four outcome variables (patient perceptions of provider communication). We created a series of logistic regression models to determine the strength of associations between each predictor variable and the outcome variables, while controlling simultaneously for all other covariates (Tables 2 and 3). All the factors selected as independent variables for inclusion in the multivariate analyses, based on theoretical models of healthcare services utilization, were also found to have significant descriptive associations with at least one of the outcomes.

We used the SUDAAN software to conduct the statistical tests and to make national estimates with variance adjustment required for the complex sampling design of the 2002 MEPS (SUDAAN Release 9.0.1; Research Triangle Institute, Research Triangle Park, NC, USA). In all tables provided, the reported percentages have been weighted to produce nationally representative estimates.

Results

Demographics and descriptive statistics

More than 64% of US adults reported visiting a healthcare provider in the year prior to the 2002 MEPS (Table 1). Compared with the general population, adults who had visited a provider were more likely female, more than 45 years of

Table 2 Demographic differences in patient perceptions about provider communication among US adults who had visited a healthcare provider in the year prior to the 2002 Medical Expenditure Panel Survey (MEPS)

| Demographic characteristics | Provider 'always' listened carefully to them (unweighted $n = 16\ 669$) | | Provider 'always' explained things so they understood (unweighted $n = 16\ 700$) | |
|-----------------------------|--|-----------------------------------|---|-----------------------------------|
| | Weighted % ¹ | Adjusted OR ² (95% CI) | Weighted % ¹ | Adjusted OR ² (95% CI) |
| Total | 55.2 | | 56.9 | |
| Sex | | | | |
| Male | 56.2 | 1.08 (0.99, 1.17) | 57.6 | 0.98 (0.90, 1.05) |
| Female | 54.5 | 1.00 | 58.1 | 1.00 |
| Age group | | | | |
| 18–24 years | 51.5 | 0.65 (0.57, 0.75) | 57.9 | 0.85 (0.74, 0.97) |
| 25–44 years | 50.9 | 0.64 (0.58, 0.72) | 56.3 | 0.87 (0.78, 0.97) |
| 45–64 years | 56.2 | 0.77 (0.69, 0.86) | 58.9 | 0.94 (0.84, 1.06) |
| ≥65 years | 63.0 | 1.00 | 60.4 | 1.00 |
| Race | | | | |
| White | 54.7 | 1.33 (0.93, 1.90) | 57.8 | 1.35 (0.97, 1.90) |
| Black | 63.4 | 2.09 (1.43, 3.06) | 63.9 | 1.92 (1.35, 2.73) |
| American-Indian | 54.2 | 1.34 (0.82, 2.21) | 63.6 | 1.82 (1.04, 3.19) |
| Asian | 47.8 | 1.14 (0.75, 1.74) | 49.2 | 1.03 (0.69, 1.54) |
| Native Hawaiian | 46.4 | 1.06 (0.41, 2.70) | 60.5 | 1.64 (0.64, 4.16) |
| Multiple races | 44.8 | 1.00 | 48.1 | 1.00 |
| Ethnicity | | | | |
| Hispanic | 57.5 | 1.36 (1.21, 1.52) | 59.0 | 1.23 (1.09, 1.39) |
| Not Hispanic | 55.0 | 1.00 | 57.8 | 1.00 |
| Family income | | | | |
| Poor | 56.4 | 0.91 (0.80, 1.04) | 56.9 | 0.84 (0.73, 0.97) |
| Near poor | 55.7 | 0.87 (0.71, 1.07) | 53.8 | 0.75 (0.62, 0.90) |
| Low income | 57.2 | 0.96 (0.83, 1.12) | 57.4 | 0.89 (0.77, 1.04) |
| Middle income | 54.2 | 0.92 (0.83, 1.01) | 57.9 | 0.94 (0.85, 1.05) |
| High income | 55.1 | 1.00 | 58.5 | 1.00 |
| Completed high school | | | | |
| Yes | 54.4 | 0.93 (0.83, 1.03) | 57.9 | 1.03 (0.93, 1.14) |
| No | 59.3 | 1.00 | 57.9 | 1.00 |
| Census region | | | | |
| North-east | 58.2 | 1.33 (1.16, 1.53) | 61.0 | 1.24 (1.07, 1.43) |
| Midwest | 57.5 | 1.32 (1.15, 1.51) | 59.4 | 1.18 (1.04, 1.33) |
| South | 55.0 | 1.13 (1.00, 1.27) | 56.9 | 1.03 (0.92, 1.14) |
| West | 50.3 | 1.00 | 55.0 | 1.00 |
| Urban/rural | | | | |
| MSA | 54.5 | | 57.5 | 0.91 (0.81, 1.02) |
| Non-MSA | 58.3 | 1.00 | 59.3 | 1.00 |
| Health insurance | | | | |
| Any private | 54.6 | 1.10 (0.94, 1.29) | 57.8 | 1.07 (0.92, 1.25) |
| Public | 61.0 | 1.22 (1.04, 1.42) | 60.5 | 1.21 (1.03, 1.42) |
| Uninsured | 50.4 | 1.00 | 53.8 | 1.00 |
| Usual source of care | | | | |
| Yes | 56.4 | 1.31 (1.16, 1.48) | 57.9 | 1.26 (1.13, 1.41) |
| No | 47.1 | 1.00 | 51.3 | 1.00 |

¹Weighted percentages pertain to the total civilian, non-institutionalized US adult population who reported having a USC in 2002. Using chi-squared analysis, P -values were <0.05 for overall differences between subcategories of each demographic characteristic for at least one of the outcomes.

²Odds ratio (95% confidence interval) adjusted for all characteristics listed in the far left column. Statistical significance indicated by bold highlights.

MSA, Metropolitan Statistical Area.

Table 3 Demographic differences in patient perceptions about interactions with healthcare providers among US adults who had visited a provider in year prior to the 2002 Medical Expenditure Panel Survey (MEPS)

| Demographic characteristics | Provider 'always' showed respect for what they had to say (unweighted <i>n</i> = 16 781) | | Provider 'always' spent enough time with them (unweighted <i>n</i> = 16 773) | |
|-----------------------------|--|---------------------------------------|--|---------------------------------------|
| | Weighted % ¹ | Multivariate OR ² (95% CI) | Weighted % ¹ | Multivariate OR ² (95% CI) |
| Total | 58.9 | | 45.7 | |
| Sex | | | | |
| Male | 59.6 | 1.05 (0.97, 1.13) | 46.9 | 1.08 (1.01, 1.16) |
| Female | 58.5 | 1.00 | 44.9 | 1.00 |
| Age group | | | | |
| 18–24 years | 54.9 | 0.65 (0.57, 0.74) | 40.4 | 0.61 (0.53, 0.71) |
| 25–44 years | 55.6 | 0.66 (0.59, 0.74) | 41.4 | 0.65 (0.58, 0.72) |
| 45–64 years | 59.6 | 0.76 (0.68, 0.86) | 47.0 | 0.79 (0.70, 0.89) |
| ≥65 years | 65.8 | 1.00 | 53.9 | 1.00 |
| Race | | | | |
| White | 58.4 | 1.20 (0.82, 1.77) | 45.1 | 1.25 (0.86, 1.80) |
| Black | 67.5 | 2.01 (1.33, 3.05) | 52.9 | 1.85 (1.26, 2.69) |
| American-Indian | 54.3 | 1.05 (0.65, 1.72) | 48.1 | 1.43 (0.87, 2.34) |
| Asian | 51.2 | 1.00 (0.62, 1.54) | 41.5 | 1.23 (0.80, 1.88) |
| Native Hawaiian | 48.0 | 0.87 (0.37, 2.07) | 45.5 | 1.45 (0.60, 3.50) |
| Multiple races | 50.6 | 1.00 | 37.2 | 1.00 |
| Ethnicity | | | | |
| Hispanic | 63.1 | 1.49 (1.33, 1.68) | 46.0 | 1.22 (1.08, 1.37) |
| Not Hispanic | 58.5 | 1.00 | 45.7 | 1.00 |
| Family income | | | | |
| Poor | 59.1 | 0.90 (0.78, 1.04) | 46.9 | 0.90 (0.78, 1.03) |
| Near poor | 59.5 | 0.90 (0.72, 1.12) | 46.3 | 0.86 (0.70, 1.05) |
| Low income | 59.7 | 0.93 (0.80, 1.07) | 46.0 | 0.90 (0.78, 1.03) |
| Middle income | 58.1 | 0.92 (0.83, 1.01) | 45.5 | 0.96 (0.86, 1.07) |
| High income | 59.2 | 1.00 | 45.5 | 1.00 |
| Completed high school | | | | |
| Yes | 58.4 | 0.96 (0.87, 1.06) | 44.9 | 0.91 (0.83, 1.01) |
| No | 61.7 | 1.00 | 49.7 | 1.00 |
| Census region | | | | |
| North-east | 62.9 | 1.34 (1.18, 1.51) | 49.4 | 1.36 (1.17, 1.58) |
| Midwest | 60.0 | 1.21 (1.06, 1.38) | 46.8 | 1.23 (1.08, 1.41) |
| South | 58.2 | 1.07 (0.96, 1.20) | 45.7 | 1.12 (1.00, 1.27) |
| West | 55.2 | 1.00 | 41.2 | 1.00 |
| Urban/rural | | | | |
| MSA | 58.7 | 0.92 (0.83, 1.01) | 44.8 | 0.83 (0.76, 0.91) |
| Non-MSA | 60.1 | 1.00 | 49.5 | 1.00 |
| Health insurance | | | | |
| Any private | 58.8 | 1.17 (1.00, 1.37) | 44.9 | 1.06 (0.91, 1.24) |
| Public | 62.5 | 1.17 (0.99, 1.38) | 52.4 | 1.25 (1.05, 1.50) |
| Uninsured | 53.5 | 1.00 | 41.1 | 1.00 |
| Usual source of care | | | | |
| Yes | 59.9 | 1.24 (1.10, 1.40) | 44.9 | 1.20 (1.07, 1.35) |
| No | 52.3 | 1.00 | 49.7 | 1.00 |

¹Weighted percentages pertain to the total civilian, non-institutionalized US adult population who reported having a USC in 2002. Using chi-squared analysis, *P*-values were < 0.05 for overall differences between subcategories of each demographic characteristic for at least one of the outcomes.

²Odds ratio (95% confidence interval) adjusted for all characteristics listed in the far left column. Statistical significance indicated by bold highlights.

MSA, Metropolitan Statistical Area.

age, and/or not Hispanic. Compared with the uninsured, a higher percentage of adults with health insurance had visited a provider. Moreover, adults with a usual source of care (USC), compared with those who did not identify a USC, were more likely to report a visit.

Bivariate analyses

Among the group of US adults who reported a visit to a healthcare provider ($n =$ approximately 16 700), several demographic variables were strongly related to positive perceptions about physician communication skills (Tables 2 and 3). In bivariate analyses of all four questions, respondents consistently more likely to report positive perceptions of communication with healthcare providers were older (≥ 65 years of age), Hispanic, and/or had public health insurance. Participants living in non-metropolitan statistical areas and those living in the north-east were also more likely to respond favourably to more than one of these questions.

Multivariate analyses

After controlling for the effects of all demographic and socioeconomic characteristics in the models, disparities in patient perceptions of healthcare communication persisted. Across all four measures of communication, older patients were more likely to report positively. Not surprisingly, health insurance and a usual source of care were also consistent predictors of positive perceptions of communication. Interestingly, public insurance was significantly associated with better communication experiences, rather than private insurance, in three of the four cases. While associations with race varied, patients of Hispanic origin reported better perceptions of communication across all four measures.

A closer examination of each of the remaining factors revealed that the poorest patients were less likely to report that providers always explained things so that they understood. Different levels of family income were not significantly associated with the other three outcomes. Male patients were more likely to report that

providers always spent enough time with them; otherwise, no significant gender differences were noted. When considering location of geographic residence, respondents living in a Metropolitan Statistical Area were less likely to report that their providers always listened to them and spent enough time with them. Patients from the West were also least likely to report positively about all four measures of communication. Surprisingly, different levels of educational attainment were not independently associated with any of the four communication measures.

Discussion

These findings confirm variations in patient perceptions of healthcare communication among US patients who had visited a healthcare provider in the year prior to the 2002 MEPS. Tables 2 and 3 highlight several characteristics associated with a greater likelihood that a patient reported positive communication when interacting with healthcare providers during the visit(s).

The explanation for variations in how patients perceive healthcare communication is unclear. There may, in fact, be multiple factors contributing to how patients perceive healthcare interaction. Although patients vary from each other in multiple ways, certain demographic characteristics are more likely to be influential in shaping some patients' expectations and/or perceptions of similar interactions compared with others. Similarly, patients with specific expectations may actually influence the dynamics of the patient-provider relationship and shape their experiences of the encounter. There are probably also some healthcare providers who simply communicate better with certain types of patients – perhaps those with backgrounds similar to their own – and in certain circumstances, such as when the provider has had a personal or family experience with the illness or experience being described by the patient.

Patient expectations, patient values and patient preferences are closely linked and certainly influence how patients perceive their

healthcare interactions. For example, older patients want a provider who takes a more paternalistic approach, while younger patients want control over their own healthcare decisions.³² These different expectations may explain, in part, the age disparities reported in this study.

Theoretical frameworks described in the literature about patient satisfaction can help to further elucidate the balance between patient expectations and their perceptions of healthcare communication.³³ If actual care closely matches expectations, the patient is fulfilled (*fulfillment theory*). In contrast, *discrepancy theory* describes a large mismatch between expectations and reality that drives patient discontent. On another level, *equity theorists* hypothesize that patients develop expectations and perceive their care based on how it measures up to the care of others. Some patients also have high regard for the personal characteristics of physicians, and sometimes value these qualities above technical skills or detailed explanations.³⁴

These theories about patient satisfaction are relevant to how patients perceive communication with healthcare providers and often directly relate to specific patient characteristics.³⁵ However, none fits perfectly as an explanation for these findings about communication. While patient preferences for care and unmet expectations clearly influence perceptions about healthcare interactions, other factors may influence the patient-provider encounter more directly. For example, older patients tend to have more complex medical problems and ethnic/racial minorities may experience language and cultural barriers, so physicians often spend more time with these patients, make more careful reviews of their medical problems, and/or give more thorough instructions about care. In this case, the demographics of the patient might suggest that they would give a lower satisfaction rating of their provider while these same demographics might bolster communication within the encounter or influence how certain providers might approach the interaction.

While the findings in this study contradict previous results that have found no differences

based on sociodemographic characteristics or have suggested that providers communicate less effectively with minorities and older patients,^{6,19,20,32} there are some clear and consistent associations that warrant further study and attention. Moreover, without knowing exactly why discrepancies exist in the literature, communication plays a crucial role in successful healthcare delivery, so even weak or inconsistent associations need to be taken seriously. One possible next step to investigate these fascinating associations might be to test the validity of these questions in other countries with different healthcare systems and to determine if similar disparities can be found. Furthermore, the four MEPS items could be combined to develop a single health communication index that could be tested in various settings to determine if these associations persist. A more qualitative approach might involve the use of standardized patients with different characteristics who present to the same providers with the same complaint to measure variation in physician response or communication style.

Limitations

There are important limiting factors to consider in the interpretation of this study analysis. First, this study only reports on the US population. Furthermore, although the MEPS is representative of the civilian, non-institutionalized US population, the cross-sectional format limits causal inferences. Second, as in all surveys, MEPS responses are subject to possible reporting error and response bias not accounted for by statistical adjustments. Third, this study uses secondary analysis of existing data; therefore, it is limited by the questions included on the MEPS. We were only able to control for the patient-related variables shown to influence healthcare interactions that were available in the MEPS. Fourth, the survey and our analysis did not take into account healthcare provider characteristics. The culture of medicine has behavioral norms all its own and the demographic characteristics of the provider influences his/her style of interaction within the medical encounter

itself. Finally, we were not able to determine the types of healthcare providers visited by each respondent. In many cases, a patient may have seen a variety of providers – one provider may have always listened and another may have never listened. In other cases, patient perceptions are based much more on their expectations and less relevant to provider type or style. We do recognize, however, that provider visits were not randomly distributed across all categories (as evidenced by Table 1).

Policy relevance and implications

Continued efforts to bolster patient–provider communication across the globe are essential to improving the delivery of healthcare services to everyone. This study adds further information to these worldwide discussions about optimizing patient–provider communication by identifying potential groups to target with improvement efforts. At the practice level, individual providers need help identifying patients at risk of reporting communication difficulties.^{36,37} Programmes to teach providers important communication skills must include how to assess patient health literacy skills, how to identify patients who fit into populations less likely to be given decision-making autonomy, and how to elicit patient communication preferences in order to improve shared decision making.^{4,38}

Educational efforts to improve communication at the point of care delivery can be targeted towards the training of future generations of healthcare providers but must also reach providers in current practice. One method to ensure these practice-level interventions is to offer rewards or incentives for fulfilling continued educational requirements and achieving certain measures of improved delivery. Increasingly, patient perceptions of and satisfaction with their care are being used to determine provider rating schemes and financial incentives.¹ Cheraghi-Sohi *et al.* have contributed to our collective knowledge about the most important patient preferences of care and have worked towards building sophisticated tools that accurately measure these key ‘attributes’. Our study findings are directly

relevant to the next step in this process, which involves setting policies based on the measurements we receive. If we intend to base financial (and other) incentives upon measurements of how patients perceive provider–physician communication and other key attributes of healthcare delivery, then do we need a process to ‘risk-adjust’ these patient reports?³⁵

In the US, Medicare and other large purchasers of healthcare services have complicated risk-adjustment processes to set different levels of compensation for services based on a patient’s demographics, health status and the presence of co-morbid conditions. We know from this study that there are consistent demographic disparities in how patients perceive communication with their healthcare providers, so it logically follows that specific characteristics represented in the patient panel of a provider (or group practice) should be taken into account when interpreting what their communication ‘scores’ mean. For example, providers with a geriatric population will probably have higher scores than those who care for young adults. In addition, persons providing care for a larger portion of the uninsured population in the United States could potentially be penalized for this service, thus creating huge disincentives for doing charity work and further jeopardizing the fragile safety net.^{39–44}

While specific problems related to health insurance are unique to the US, this charity care disincentive is still a policy relevant to other countries, such as the United Kingdom, who have developed policies to reward providers based on performance.^{45,46} This study is directly relevant to current policy discussions in two distinct ways. First, based on these findings, further work needs to focus on ways to improve patient/physician communication at both the individual practice level and in more global policy. Second, demographic and socioeconomic differences do matter in patient perceptions of communication and other aspects of healthcare delivery. It is essential to further study how to best incorporate these differences into the implementation of pay-for-performance policies.

Conclusions

This study suggests that patient perceptions of communication in healthcare settings vary widely by demographics and other individual patient characteristics. These demographic differences matter to improving service delivery at the point of care. Achieving a better understanding of these demographic disparities also matters to the design of fair policies that effectively drive change in national healthcare systems.

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