# Influence of Patients' Socioeconomic Status on Clinical Management Decisions: A Qualitative Study

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## ABSTRACT

**PURPOSE** Little is known about how patients' socioeconomic status (SES) influences physicians' clinical management decisions, although this information may have important implications for understanding inequities in health care quality. We investigated physician perspectives on how patients' SES influences care.

**METHODS** The study consisted of in-depth semistructured interviews with primary care physicians in Connecticut. Investigators coded interviews line by line and refined the coding structure and interview guide based on successive interviews. Recurrent themes emerged through iterative analysis of codes and tagged quotations.

**RESULTS** We interviewed 18 physicians from varied practice settings, 6 female, 9 from minority racial backgrounds, and 3 of Hispanic ethnicity. Four themes emerged from our interviews: (1) physicians held conflicting views about the effect of patient SES on clinical management, (2) physicians believed that changes in clinical management based on the patient's SES were made in the patient's interest, (3) physicians varied in the degree to which they thought changes in clinical management influenced patient outcomes, and (4) physicians faced personal and financial strains when caring for patients of low SES.

**CONCLUSIONS** Physicians indicated that patient SES did affect their clinical management decisions. As a result, physicians commonly undertook changes to their management plan in an effort to enhance patient outcomes, but they experienced numerous strains when trying to balance what they believed was feasible for the patient with what they perceived as established standards of care.

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## INTRODUCTION

Socioeconomic status (SES) influences health care quality and outcomes.[1-16] Patients of low SES receive fewer preventive services,[1,6,8,12] worse diabetes care,[1,2,15] and fewer indicated cardiac interventions.[7,16] Moreover, SES disparities exist even among fully insured patients.[4,5,8,13] Eliminating disparities in health and health care is a top priority of the National Institutes of Health and one of the overarching goals of Healthy People 2010.[17,18]

SES is a complex characteristic, generally understood to encompass not only income and education level, the measures most commonly used, but also a wide range of associated factors that may affect the quality of health care patients receive, including insurance status, access to care, patients' health beliefs, and many facets of the doctor-patient relationship, such as trust and communication.[10,19,20-22] Little is known, however, about how low SES ultimately influences physicians' decision making regarding clinical management of patients and thus how SES may contribute to measured disparities in quality of care.

In the current health care environment, there is increasing attention to individual physician performance on discrete measures. Many have raised concerns that those who provide care for vulnerable populations, such as low-SES populations, may be at a disadvantage in the context of public reporting of performance measurement and pay-for-performance.[23-26] Physicians' perspectives on how SES affects clinical management may offer some insight into the source of current quality disparities, as well as inform ongoing quality improvement efforts by highlighting specific challenges to providing high-quality care for low-SES populations. To understand better such perspectives, we conducted in-depth semistructured interviews with primary care physicians in Connecticut who care for patients of low SES. We chose qualitative methods to explore in rich detail recurrent themes regarding physicians' experiences caring for patients of low SES, particularly their views about how SES influences both the process of clinical care and patient outcomes.

## METHODS

### Study Design and Participants

We conducted a qualitative study, which uses methods best suited for eliciting broad themes and patterns when no previously described theoretical framework exists.[27,28] We undertook 18 semistructured interviews with primary care physicians in Connecticut to elicit their perceptions, beliefs, and experiences in caring for patients of low SES. We chose this method of research in the belief that physician participants were most likely to respond candidly in the context of one-on-one discussion with a physician interviewer.

To identify a sample of physicians who care for patients of low SES, the population of primary care physicians who provide care for Medicaid patients in the state was used as a sampling frame. First, physicians in this population were randomly identified and contacted for an interview. Fourteen physicians were initially contacted and 11 agreed to an interview. Second, physicians were purposefully selected from the Medicaid pool to maximize variation on those characteristics we believed might shape physicians' perceptions of caring for patients of low SES: race and ethnicity, practice type (private practice, community health center, academic practice), and practice setting (rural, urban, suburban). Four additional physicians were contacted, and all agreed to be interviewed. Last, we used a snowball technique to identify minority physicians and those caring for veterans who we believed were underrepresented in our emerging sample.[27] Three physicians were identified using this approach, and all agreed to participate.

We provided written information about the project to participants. Informed consent was completed verbally to avoid producing written materials that could be used to identify participants. Additionally, any potentially identifying information given during interviews was removed from transcripts. This project was approved by the Institutional Review Board at Yale University.

### Data Collection

All interviews were conducted by a physician investigator—a family physician (S.M.B.) or an internist (J.S.R.). The interviews were semistructured, using an interview guide composed of open-ended questions and additional prompts. The interview guide was pilot tested on 2 physicians from neighboring states before starting the study. Interviews began with a broad question asking how physicians thought patients' SES influences patient care.[29] Physicians were further prompted to give specific examples of changes in patient management and encouraged to think about a range of ways that SES influences care. We did not define socioeconomic status because we wanted to gain insight into physicians' own conception of SES and which factors associated with SES they believed influenced patient care management decisions. All participants completed a brief written form describing their demographic background, practice setting, and years of clinical experience. Interviews were recorded and professionally transcribed by an independent transcriptionist.

### Data Analysis

We used line-by-line open coding to develop the coding structure.[27,28] Three investigators (S.M.B., J.S.R., E.H.B.) independently coded each transcript, tagging sections of data with appropriate codes. After every 2 to 3 interviews, the researchers met to compare coding and resolved differences with negotiated consensus. As new concepts emerged, the code structure was refined and the interview guide was modified to reflect emerging themes, as is common in qualitative research.[27,30,31] Periodically a member of the research team (S.M.B.) reread previously coded transcripts and recoded using the enhanced code structure to ensure earlier data were fully analyzed. In addition, the research team reviewed data within codes several times to ensure consistency in their use and full understanding of their scope and meaning. This process is consistent with the constant comparative method[27] or editing analysis.[32] From this process, recurrent themes emerged that characterized the experiences of the participants. Additional interviews were conducted until no new concepts emerged with successive interviews, a process known as thematic saturation.[32] We selected verbatim quotations from the transcribed data to illustrate the recurrent themes using Atlas-ti software (Scientific Software Development, GmbH Berlin, version 5.0.67). Quotes were edited to improve readability. A physician identification number is included after each quotation. Participating physicians were contacted after the data analysis was complete and given an opportunity to comment on the final themes that emerged from interviews. No substantive changes were made during this process.

## RESULTS

Participants (N = 18) included 6 women, 9 physicians from minority racial backgrounds, and 3 of Hispanic ethnicity (Table 1). Physicians' clinical experience ranged from 5 to 23 years, and they practiced in a variety of settings: community clinic, private office, academic practice, and ambulatory care clinic within a Veterans Affairs medical center. Two physicians were family physicians, and the others were internists.

When asked to characterize their patients of low SES, most physicians used specific descriptors, although 2 physicians said that they could not generalize about these patients as a group. We categorized physicians' descriptions into broader sets of attributes (Table 2). These attributes included characterizations based on not only economic and social factors, but also on personality traits, life circumstances, and attitudes and knowledge about medicine. Many words that physicians used to describe their patients of low SES might be considered negative (eg, distrustful, noncompliant); others were more positive (eg, appreciative, interested in health). Some used a combination of both positive and negative descriptors. In addition to these characterizations, 4 recurrent themes emerged that together portrayed the experiences of physicians caring for patients of low SES: (1) they held conflicting views about the effect of patient SES on clinical management; (2) they believed that changes in clinical management due to patient SES were made in the patient's interest; (3) they varied in the degree to which they thought changes in clinical management influenced patient outcomes; and (4) they faced personal and financial strains caring for patients of low SES.

### Conflicting Views: SES and Clinical Management

Some physicians indicated that patient SES substantially influenced clinical management and that tailoring care to account for SES was central to providing high-quality care. As one said, "I need to understand where they are and how to fit their mold to help them come up with the best possible outcome [physician 4]." Most physicians' statements, however, divulged more conflicted views about the influence of patient SES on clinical management. A common tendency was for physicians to report their belief that the "standard of practice should not be [influenced] by low socioeconomic status [physician 2]." Nevertheless, during the course of the interviews, nearly all physicians recounted circumstances in which the patient's SES

**Table 1. Characteristics of the Physician Sample (N = 18)**

| Characteristic | Value |
|---|---|
| Male, No. (%) | 12 (67) |
| Age range, years | 31-54 |
| Race, No. (%) | |
| White | 9 (50) |
| Asian | 6 (33) |
| African American/black | 2 (11) |
| Other | 1 (6) |
| Ethnicity, Hispanic, No. (%) | 3 (17) |
| Patient practice, years | 5-23 |
| Patient composition, No. (%) | |
| Uninsured | 0-50 |
| Medicaid | 2-70 |
| Veterans Affairs physicians, No. (%) | 2 (11) |
| Practice setting, No. (%) | |
| Urban | 13 (72) |
| Suburban | 4 (22) |
| Rural | 1 (6) |
| Specialty, No. (%) | |
| Internists | 16 (88) |
| Family physicians | 2 (11) |

**Table 2. Physician Descriptions of Patients of Low Socioeconomic Status**

| Attributes | Examples of Descriptors Used by Physicians |
|---|---|
| Economic | Uninsured<br>Unemployed<br>On welfare |
| Sociocultural | Minority race or ethnicity<br>Low educational achievement<br>Poor social networks |
| Personality traits | Stoic<br>Guarded or distrustful<br>Appreciative |
| Life circumstances | Chaotic lives<br>Involvement with substance abuse<br>Difficulty with transportation |
| Attitude and knowledge about medicine | Poor health literacy<br>Noncompliant<br>Poor health behaviors<br>Sicker or more acute visits<br>Interested in health |
| Unable to characterize as a group | Everyone is different<br>No general statement about them |

did affect their clinical management decisions. Even physicians who initially asserted that all patients in their practice received identical care later described differences based on patient SES. For instance, 1 physician said at the beginning of an interview, "I see the full gamut. I see the CEOs and then I see the neighborhood, low-SES patients. And really, it is invisible to me. They get the exact same approach and treatment [physician 9]." Later in the same interview, however, this physician described changing prescriptions and reducing diagnostic testing because a patient had a lower SES.

The prevailing sense that SES should not but nonetheless does influence clinical management decisions was expressed by this physician:

> When we see a patient, we do not really think this patient is from the poorer strata and [so we are] going to give him a different medication. But when it actually comes to the practicality of it, we have to, because he is not going to buy the medication we have prescribed [physician 8].

### Clinical Management Changes Made in Patient's Interest

Most of the changes physicians described as based on a patient's SES were made to provide care that was more affordable, feasible, or comprehensible for a patient. To make care more affordable to patients as a result of income or insurance restrictions, for instance, physicians described using less-expensive medications, avoiding specialist referrals, trying to accomplish more in a single visit, and postponing testing. Below a physician describes treating a patient he thought had sleep apnea but who could not afford a sleep study or a visit to a sleep specialist:

> So I put him on oxygen.... Right now, he is saying that symptomatically he is feeling a little better. I still feel concerned that we are treating it half-heartedly. This is not the right treatment, but this is what we can do, and that is what we are trying to do [physician 2].

In other cases a physician's aim was to make care more feasible given a patient's lifestyle. Here a physician describes matching a diabetic patient's care to the patient's occupation and work schedule:

> He was a trucker … we really had to tailor the medication. He did not have any proper time to eat, and, you know, he did not have time to come to his appointments. We have to tailor his appointments according to his travel schedule. It is not optimal, but we do the best we can [physician 8].

Additionally, to make care more comprehensible, physicians described taking more time to communicate fewer pieces of information or incorporating family members into discussions because of concerns about patients' limited literacy. In another example a physician described changing his style of speech to mirror a patient's in hopes of improving adherence and outcomes:

> Sit with me during an interview with a 26-year-old factory worker. I don't speak the same. I listen to him, I watch him, I pace with him. I use his lingo, there is a lot of "dude," "buddy" kind of terminology.… Whatever I am trying to do is always trying to impact the outcomes, because that is my job [physician 11].

### Clinical Management Changes and Influence on Patient Outcomes

In some cases, physicians believed that, although they provided different care for patients of low SES when compared with patients of higher SES, patient outcomes did not differ. For instance, physicians intimated that prescribing a generic rather than a name brand medication, changing communication styles, or eliminating treatments of uncertain benefit did not compromise patient outcomes generally. One physician, in fact, described what he viewed as excessive care for more affluent patients:

> This patient comes in with pneumonia—patient A with good [insurance]. Here's your Lev-pack … nasal inhaler, especially Advair. Here's your guaifenesin with phenylephrine with hydroxy-blah-blah-blah. Then patient B with no insurance. Here's your penicillin. Take deep breaths, 3 times a day, cough hard, humidify at night, steam inhalation will help you as well. So SES changes things. Patient A probably will have all the unnecessary things that I give because I play defensive. Patient B does just as well [physician 3].

In other cases, however, physicians indicated the clinical management decisions made to accommodate a patient's low SES could compromise outcomes. One physician described patient finances as limiting medication choices and inevitably leading to worse outcomes for the patient:

> I'm a believer that with chronic pain you should use longer-acting narcotics, [but] our drug of choice is just too expensive for him.… As a result, we have been forced to use less-expensive medications, and I've had great difficulty getting his pain under good control [physician 1].

Finally, physicians described tailoring care based on a patient's SES as a way to mitigate the negative impact of SES on patient outcomes. The following physician describes being less aggressive with diabetes treatment as a means of enhancing outcomes for patients who "because of the combination of their lack of insurance, their understanding of the disease, and just what personal difficulties they are going through at the time" will often not show up for long periods of time. This physician contrasted his approach with that of his colleagues who were inflexible in their treatment plans, which he believed resulted in worse outcomes for patients of low SES:

> I think my care is affected because I know that at times if I'm too rigid, the patients won't come back …, [so we] try to reach an understanding with the patients, and this way perhaps there is a compromise of care, but the other side would be that the patients would just be lost [physician 18].

### Strains of Caring for Patients of Low SES

In changing their clinical management decisions to account for a patient's SES, physicians experienced tension between an ideal of maintaining a consistent standard of care for all patients and providing care that was not the standard of care but what they believed was appropriate given a patient's SES. One way this tension was conveyed was in physicians' concern that they may appear to be providing lower quality care to patients of low SES, even when they believed it was in a patient's best interest:

> I try to practice good medicine all the way through. But sometimes when I am limited, it would seem like it is less than good medicine. But it is still as appropriate as you can get within the limits that you have [physician 15].

For some physicians concerns about not maintaining standards of care and about worse patient outcomes were compounded by increased attention to performance measurement:

> You are graded as a doctor by everybody in the world. Used to be if you were a nice person and you practiced good medicine that was enough, now you have to have data. What do you do if the patient does not follow the game plan? There are ways to try to coax the patients back in, but how much time and energy do you have at the time [physician 11]?

In addition, physicians gave many examples of having to work harder in an effort to maintain a standard of care for patients of low SES. They spoke of putting extra time into obtaining free medications or seeking colleagues to accept specialty referrals and of adding staff members to help patients of low SES navigate the health care system. Furthermore, some physicians stated that they could no longer afford to accept new Medicaid or uninsured patients and questioned the sustainability of the current health care system. As one stated:

> Being able to find consultants, find people to take care of them, is very frustrating, and I think a lot of it comes down to dollars and cents. It is very frustrating because it puts a barrier right between you and the patient. And, you know, lights have to be paid for, the staff has to be paid—if you are not be able to do that, you are done. And so what do you do? It is hard [physician 10].

Finally, physicians described being burdened by fears about their level of responsibility for the influence of patient SES on health care quality and outcomes:

> If a patient comes in with adequate health care [coverage] [and a blood pressure of] 190/100 mm Hg, you say, "Here, I give you some medications to make sure that your blood pressure goes down." The patient with no money [and a blood pressure of] 190/100 mm Hg, I give him some samples, and then what? I give him a script. He does not have [the medication because of costs]. I wonder after these 30 days, after these pills, what is going to happen? Will I see him in the newspaper obituary from a stroke [physician 16]?

## DISCUSSION

Every physician within our diverse group described situations in which they changed their care because of a patient's SES. What was particularly salient in these physicians' responses was that, although the physicians described many of these changes as being in a patient's interest, physicians were nonetheless conflicted about the concept that the patient's SES influenced clinical management. Their discomfort was in part due to concerns that patients of low SES may experience worse outcomes, but also it was due to the tension they faced between tailoring care to make it more feasible and the ideal of maintaining a standard of consistent care for all patients. These findings are relevant to understanding health care disparities and the challenges of performance measurement.

Many of the changes that physicians described—less aggressive diabetes management, postponement of testing, or use of less than ideal or nonstandard treatments as a result of financial limitations—may contribute to observed disparities in health care quality. Although interviewed physicians described changes in clinical management as being made in a patient's interest, it is not clear whether these changes improve or worsen patient outcomes. Some physicians argued that they made changes to mitigate the impact of low SES, whereas others believed that limits on care owing to a patient's SES inevitably led to worse outcomes. Our findings highlight the need to explore the how tailoring patient care affects outcomes compared with care that is blind to SES. These results also suggest that observed disparities may in part result from physician actions made in what they believe to be a patient's interest.

Medical training and health policy are evolving toward a concept of health care that is more patient centered. Some changes made by physicians to accommodate low SES, such as adapting communication to improve understanding and adherence, align with the priorities of patient-centered care.[33-35] Importantly, many others do not. Physicians frequently describe changing management in response to the financial barriers patients face. Tailoring care based on financial limitations, such as providing a less effective but more affordable medication, may be appropriate, but it does not necessarily reflect the values or health beliefs of a patient, as is central to most definitions of patient-centered care. To conflate changes made by a physician to accommodate a patient's socioeconomic circumstances with those made in response to a patient's values and beliefs minimizes an important distinction, which is the constraint physicians experienced when a patient's SES limited feasible care plans. This constraint was a source of considerable stress to the physicians we interviewed.

Because physicians' reimbursement is increasingly based on standardized quality measures, the tension experienced by physicians to balance standards and feasibility is more poignant. Current quality measures do not provide guidance or adjustment for the tailoring of care that interviewed physicians believed best met the needs of their patients. Although financial limitations commonly influence clinical practice, physicians are without an evidence base to guide such decisions. Some authors have suggested provocative ways that SES might be appropriately incorporated into treatment decisions, including consideration of education level as a risk factor for cardiovascular disease and accounting for education when prescribing preventive medications, or changing cardiac intervention decisions based on patients' ability to afford medications.[36,37] How such changes ultimately influence patient outcomes needs further investigation.

Our interviews exposed the personal and financial strains that physicians experience when caring for populations of patients of low SES. Many of the physicians no longer accept Medicaid patients, a phenomenon recently documented on a national level[38]; they frequently spoke of burnout by those who provide care to patients of low SES in the current health care environment; and they fear the impact of payment linked to performance measurement on their practice. As national trends indicate, maintaining a physician workforce willing to care for poor and vulnerable patient groups is becoming more difficult,[39] and our study suggests a range of challenges that may be contributing.

There are several limitations to our study that should be considered in its interpretation. First, we did not use theoretical iterative sampling, in which earlier interviews influence the subsequent selection of participants,[30] and we limited our sampling frame to physicians from a single state caring for adult patients only. We did include, however, a diverse sample of Connecticut physicians caring for patients of low SES so we could obtain a broad range of perspectives. Second, we interviewed only physicians; patients' perspectives on how SES influences clinical management may be different. Although the scope of our findings is limited to the perspective of physicians, the purpose of our work was to explore these perspectives as an initial contribution to understanding the relationship between SES and clinical management. Third, the interviewers were primary care physicians with considerable experience in caring for low-SES populations; their parallel education and experience may have contributed to their ability to establish rapport with the physicians interviewed but may also have influenced both their approach to the interviews and their interpretation of the data. For this reason, all interviews were additionally coded by a third investigator, a health services researcher with substantial qualitative research experience and expertise in quality of care.

Our findings identify a number of ways that physicians change care based on their patients' SES. These changes may contribute to measured socioeconomic disparities in health care; however, many changes are made to enhance patient outcomes given the constraints associated with low SES. Explicit recognition of the role of socioeconomic factors in clinical decision making may be an important contribution in the development of quality standards to ensure high-quality care and a physician workforce willing to care for vulnerable populations.

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