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"Factors Influencing the Effectiveness of Interventions to Reduce Racial and Ethnic Disparities in Health care"

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Abstract

Reducing racial and ethnic disparities in health care has become an important policy goal in the United States and other countries, but evidence to inform interventions to address disparities is limited. The objective of this study was to identify important dimensions of interventions to reduce health care disparities. We used qualitative research methods to examine interventions aimed at improving diabetes and/or cardiovascular care for patients from racial and ethnic minority groups within five health care organizations. We interviewed 36 key informants and conducted a thematic analysis to identify important features of these interventions. Key elements of interventions included two contextual factors (external accountability and alignment of incentives to reduce disparities) and four factors related to the organization or intervention itself (organizational commitment, population health focus, use of data to inform solutions, and a comprehensive approach to quality). Consideration of these elements could improve the design, implementation, and evaluation of future interventions to address racial and ethnic disparities in health care.

Keywords

USA; health care disparities; quality improvement; chronic disease care; organizational case studies; race; ethnicity; interventions

INTRODUCTION

Racial and ethnic disparities in health care in the United States have been extensively documented, with minority patients receiving poorer quality care across a broad range of clinical settings and conditions (Smedley, Stith, & Nelson, 2002). Policy momentum is growing to move beyond describing racial and ethnic disparities to developing interventions to reduce and eliminate these disparities (Lurie, 2005; US Department of Health and Human Services, 2000). In the U.S., policy-makers and researchers have begun to frame healthcare

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disparities as a quality issue and to align efforts to reduce disparities with the quality improvement agenda (Fiscella, Franks, Gold, & Clancy, 2000).

Systematic reviews have identified some effective interventions to improve the quality of health care for minorities and reduce inequalities in care (Arblaster, Lambert, Entwistle, Forster, Fullerton, Sheldon et al., 1996; Beach, Cooper, Robinson, Price, Gary, Jenckes et al., 2004). However, these interventions have varied widely in the ways they have been conceived, structured and implemented, and little is known about the important determinants of effectiveness.

In this qualitative study we examined interventions to improve the quality of cardiovascular and diabetes care in five health care organizations serving substantial minority populations. We focused on the care of cardiovascular disease and diabetes because these conditions have widely accepted, evidence-based standards of care (American Diabetes Association, 2005; National Committee for Quality Assurance [NCQA], 2006), have extensive evidence of racial and ethnic disparities in quality of care (Agency for Healthcare Research and Quality [AHRQ], 2006), and are leading contributors to racial disparities in life expectancy (Wong, Shapiro, Boscardin, & Ettner, 2002). Our primary objective was to evaluate important dimensions of the effectiveness of interventions to reduce racial and ethnic disparities in the quality of care, thereby guiding ongoing and future interventions to achieve this goal by policymakers and other health care organizations.

METHODS

Selection of organizations

Using a case-study approach, we conducted a qualitative analysis of five U.S. health care organizations that implemented specific interventions to reduce disparities or improve health care for minority populations. The Human Studies Committee of Harvard Medical School approved the study protocol.

We first identified candidate organizations through a focused review of the literature, examination of selected national, regional and state-level programs and initiatives, and consultation with health services researchers, policymakers and health care professionals with expertise in health care disparities or minority health. We considered organizations that had implemented one or more interventions to reduce racial and ethnic disparities or improve the quality of care for cardiovascular disease and/or diabetes for specific minority racial/ethnic groups. From a list of organizations that met the above criteria, we selected five organizations in three categories of community health centers, Indian health programs and Medicare managed care plans. Four of the five case studies are examples of two prominent national efforts sponsored by the federal government to improve care for minority Americans (HRSA Health Disparities Collaboratives and the Special Diabetes Program for Indians). The other (a Medicare managed care plan) was chosen so that voluntary private-sector interventions by a health insurance plan could be included in the analysis.

HRSA Health Disparities Collaboratives—The Health Resources and Services Administration (HRSA) Health Disparities Collaboratives are a national effort to improve the delivery of primary health care in federally-qualified community health centers. Since 1998, over 600 community health centers have participated in collaboratives focusing on quality improvement in diabetes, cardiovascular disease, asthma, cancer screening, and depression (Landon, Hicks, O'Malley, Lieu, Keegan, McNeil et al., 2007). We selected two sites in the diabetes collaborative (Whittier Street Health Center in Boston, Massachusetts and Open Door Family Medical Center in Ossining, New York) based on advice from

program evaluators indicating that these centers had demonstrated success in improving quality using diverse approaches. Both centers serve predominantly minority populations.

Special Diabetes Program for Indians—The Indian Health Service (IHS) provides \$150 million annually to prevent and treat diabetes through the Special Diabetes Program for Indians (Wilson, Gilliland, Cullen, Moore, Roubideaux, Valdez et al., 2005). Two centers that received diabetes grants were included in the study, including a rural service unit (Whiteriver, Arizona) that serves approximately 17,000 White Mountain Apache tribal members and other nearby Native American communities and an urban Indian health program (Seattle Indian Health Board, Washington State) that serves members of numerous tribes. We selected these two centers based on advice from IHS program leaders who identified these centers as demonstrating innovative approaches to diabetes care in rural and urban settings, respectively (Moore, 2005).

Medicare managed care plan—The fifth case study examined interventions in a Medicare managed care plan (Capital Health Plan in Tallahassee, Florida). The health plan was selected from a national sample of Medicare managed care plans based on having a substantial number of African American enrollees and its relatively high quality on performance measures for cardiovascular disease and diabetes (Trivedi et al., 2006) included in the Health Plan Employer Data and Information Set (HEDIS) (NCQA, 2006).

Data Collection

For each case study, we collected information about the organization and interventions using documentary evidence and key informant interviews. Semi-structured key informant interviews were conducted with 36 individuals, including one program consultant, six senior management, six clinical and/or quality leaders, six project leaders, twelve project staff, two other health care providers, and three patient or consumer representatives. Between four and eleven key informant interviews averaging 45 minutes were conducted at each site. The lead author (R.G.J.) conducted 32 interviews in person and four by telephone between March and June, 2006. Interviews were recorded and transcribed.

We developed the interview guide from a thorough literature review and then pilot-tested the guide with key informants at two health-care organizations in Boston. The interview guide incorporated the following 12 broad domains: organizational context, key improvement activities, impetus for the interventions, rationale, history of intervention development, engagement of consumers and communities, funding, measures of success, challenges, implications for the organization, subsequent plans, and lessons for other organizations.

Data analysis

We coded the data into both *a priori* and emergent themes through an iterative process of reading and re-reading the interview transcripts. We conducted a thematic analysis to identify the aspects of interventions that key informants believed to be important determinants of success, paying particular attention to the relative importance and functions of different components of the intervention.

RESULTS

The organizations we studied implemented a range of interventions to improve the quality of care for patients with cardiovascular disease or diabetes (Table 1). With few exceptions they were broadly-focused quality improvement interventions without explicit emphasis on particular subpopulations. While many interventions had been associated with improvement in outcomes for minority populations, none had been systematically evaluated for their

impact on health care disparities, usually due to lack of race/ethnicity data or relevant comparison groups.

Table 2 displays aspects of interventions that respondents viewed as important determinants of success and a summary of how these varied by organization type. Narrative quotes are presented below to exemplify the common variations and functions of these elements.

External accountability

External expectations were recognized as important drivers of progress by respondents from all organizations. For the two centers participating in the IHS Special Diabetes Programs, external requirements were set by the central administration of the IHS. For the community health centers participating in the Health Disparities Collaboratives, external expectations were a component of ongoing comparisons with peer institutions coordinated by HRSA.

“If you don’t have some type of external expectations it’s very easy to get lost in the daily chaos of what you’re doing. There’s more than enough work here to take up your time.”

Physician leader, Community health center

Study subjects indicated that the extent to which an organization was accountable to its enrolled population or community, and not just to financial interests and regulatory bodies, was also an important determinant of effectiveness and a critical motivator of quality.

“We’re a local community non-profit health plan... Our membership is right here – it’s us, basically. And so that’s really been the focus from the very beginning, that the member’s the... person in the center. And you know, you just can’t say that you’re trying to do your best for the member unless you’re striving to have the highest quality health care delivered through your system.”

Physician leader, Health plan

Alignment of incentives to improve quality/reduce disparities

Financial incentives for quality were a relatively minor feature of the interventions studied, but respondents commonly recognized that incentives needed to be aligned toward improving quality and reducing disparities. There was broad agreement that the existing health care system provided few incentives for improving quality or reducing disparities.

“You get paid for your volume of the easy stuff, and you get dinged for taking your time working with those who really need your care. That’s American health care.”

Physician leader, Community health center

Some of the interventions implemented non-financial approaches, such as reporting of quality data by provider within a health center to provide effective feedback and promote provider competition.

Organizational commitment

Respondents indicated that the commitment of organizational leaders to improving quality and reducing disparities was fundamental to the success of any program. Allocating resources to address these issues explicitly was essential to ensure that interventions did not get lost among competing priorities.

“There’s got to be a commitment from the health center, to say this is important, and we’re going to use some of our resources... to pay for this person’s job, to really get this moving.”

Physician leader, Community health center

Where organizations had assigned responsibility to specific staff members for interventions to reduce disparities (for example by hiring a dedicated program leader), respondents observed better progress than in those organizations where providers were expected to undertake these initiatives without additional support. Respondents from one community health center in particular referred to the importance of making disparity reduction central to the organization's mission, policies and processes. For example, all staff at this center were required to report on their contributions to reducing disparities as part of their routine performance evaluation.

Population health focus

Respondents from all organizational types noted that minority populations commonly face numerous barriers to accessing health care and that traditional approaches to delivering care were insufficient to address disparities effectively. By identifying and responding to health problems at a community level, they suggested that a focus on population health could have greater potential to improve care for those currently most disadvantaged.

“You're never really going to change a big problem, like diabetes or hypertension or depression, something that affects lots of people, unless you look at the big picture... If you're looking at the one person at a time, you're not going to make the impact that you need to.”

Physician leader, Community health center

A focus on population health included chronic disease registries to monitor quality of care and health outcomes in broader cohorts and to reach out to people who may not be regularly seeking medical care. In some organizations this was augmented by intensive case management which sought to mitigate common barriers and extend care into the community. In other cases, the emphasis was on locating key services or outreach efforts, such as a mammography facility or health screening fair, in neighborhoods with predominantly minority populations.

Use of data to inform solutions

Some respondents noted that interventions that systematically tackled a quality problem by using an organization's own data had greater potential to address the root causes of disparities.

“It's kind of hard to say, how does a measurement create improvement? ... But I kind of think it does. You know, if you start measuring how you're doing on your [hemoglobin] A1cs... over time, you start realizing, well, we're not making any improvement. What do we need to do to make those improvements? So we ... focus our program planning for the diabetes clinical care team around the standards of care.”

Physician leader, Indian health program

An important component of this approach was the ability to track outcomes by race and ethnicity. Respondents from one organization explained that their efforts to reduce disparities were largely constrained by a lack of race and ethnicity data for their population, due to perceived legal barriers to collecting this information.

“We can't track our interventions, in terms of saying that the African American population has an HbA1c of x and now it's y. We can't do that – we don't have the data source to do it.”

Physician, Health plan

Comprehensive approach to quality

While the introduction of quality measures and quality improvement techniques had brought about a more systematic approach to the delivery of chronic disease care and substantial improvements in process measures of quality, respondents warned about over-reliance on technical indicators of quality.

“I do believe that as a community our [hemoglobin] A1cs have gone down over the past four or five years. But I do worry that it is going to come back to haunt us in certain ways. Because the labor and energy that I hear people expending in making sure that these benchmarks are met has to distract from some of the other things they’re doing.”

Physician, Health plan network

Patient-centeredness was recognized by the majority of respondents as an important dimension of quality. Factors such as poor health literacy and lack of patient empowerment in health care encounters were commonly identified as major contributors to disparities in care. Although respondents indicated that interventions aimed at redesigning health care delivery systems or influencing physician behavior could lead to substantial improvements, they had a strong sense that patients should be active participants in quality improvement processes.

“Our whole focus was to educate our patients, empower them, so that they can become informed and activated and participate in self management”

CEO, Community health center

In one of the community health centers, for example, patient group visits were used to empower patients to be more active participants in their own care. Education by health professionals and peer education and support were used to improve health literacy and address other barriers to achieving optimal health outcomes.

DISCUSSION

Conceptual frameworks and empirical evidence about effective interventions to reduce racial and ethnic disparities in health care quality are limited. In this qualitative study of five organizational efforts to reduce disparities in cardiovascular and diabetes care, we identified six key elements that may influence the success of such efforts. These elements can be used by program leaders and researchers to more systematically describe and evaluate the design, implementation and impact of interventions to reduce health care disparities, consistent with calls to examine the relationships between processes and outcomes in quality improvement programs (Gold, Doreian, & Taylor, 2008; Mittman, 2004).

The interventions examined in the study were generally broadly focused quality improvement approaches based on the Chronic Care Model (Bodenheimer, Wagner, & Grumbach, 2002), albeit in settings with substantial racial and ethnic minority populations. However, because broadly-focused approaches may fail to reduce disparities and may even increase existing disparities (Casalino, Elster, Eisenberg, Lewis, Montgomery, & Ramos, 2007), the design of quality improvement efforts needs to explicitly consider the impact on equity.

The interventions emphasized the health care delivery system and certain patient-level factors, but did not address other challenging issues such as social determinants or health care provider attitudes and bias (Smedley et al., 2002; van Ryn & Fu, 2003). Health care

organizations could achieve a more comprehensive approach by using empirical evidence about the causes of racial and ethnic disparities in their own setting, guided by conceptual models which identify potential sources of disparities along the continuum of care (Cooper, Hill, & Powe, 2002; van Ryn & Fu, 2003).

A system-wide approach to designing interventions is required (Sequist, Fitzmaurice, Marshall, Shaykevich, Safran, & Ayanian, 2008), incorporating relevant evidence as well as consumer and community input. Interventions must address critical dimensions of quality such as patient-centeredness in addition to the more technical aspects. Physicians' encounters with minority patients can be affected by communication difficulties that result in poorer quality of care for these patients (Street, Gordon, & Haidet, 2007). This could explain why quality improvement interventions that effectively reduce disparities in process measures may still fail to reduce disparities in health care outcomes (Sequist et al., 2006; Trivedi et al., 2005; Trivedi et al., 2006).

The importance of external accountability suggests that health care organizations should be required to report on their progress towards elimination of disparities. The ability to measure quality stratified by race and ethnicity is an essential starting point for reducing disparities (Ayanian & Williams, 2007), yet major shortcomings exist in the collection of race and ethnicity data in federal health programs and hospitals (Hasnain-Wynia, Pierce, & Pittman, 2004; Perot & Youdelman, 2001). Without access to this information, one organization in our study was unable to identify where disparities existed, determine what the mechanisms were, or to monitor the impact of interventions on disparities. To remedy such constraints, a recent report by the Institute of Medicine has recommended that the federal government adopt standards for health care organizations to collect data on their patients' race, ethnicity and language so these data are consistently available to monitor and improve disparities in the quality and outcomes of care (Ulmer, McFadden, & Nerenz, 2009). This report also recommended that the federal government provide incentives for organizations to adopt these standards.

As a qualitative assessment of a relatively small number of health care organizations, our study had several limitations. Our analysis cannot provide inferences about causal associations between particular aspects of interventions and any observed outcomes. Availability of data about the interventions' effectiveness in improving quality was scant, particularly with regard to reductions in disparities. The case studies we selected were not necessarily representative of all U.S. efforts to reduce health care disparities, and the interventions studied were limited to cardiovascular disease and diabetes care, which may limit the generalizability of our findings.

Health services research can contribute significantly to the policy goal of reducing and eliminating disparities by documenting and evaluating relevant interventions in health care organizations. Consideration of the key elements we identified in this study could improve the design, implementation, and evaluation of future interventions to address racial and ethnic health care disparities.

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Table 1**Examples of Interventions to Improve Cardiovascular and Diabetes Care of Racial and Ethnic Minority Patients in Case Study Organizations**

Population-based registries
Quality data monitoring
Systems improvements to enhance standardization of care (e.g. integration of clinical guidelines in the electronic medical record)
Provider-level quality reporting (with or without explicit incentives)
Team-based care
Intensive case management
Group visits for patients

Table 2**Factors Identified as Likely Determinants of Success**

	Variation by Organization Type
Contextual factors	
External accountability	Accountability to third-party payers and insurers was identified as critical in the community health centers and Indian health programs, where the influence of peer organizations was also stressed. The Indian health programs and health plan put particular emphasis on accountability to communities.
Alignment of incentives to improve quality and reduce disparities	The community health centers and Indian health programs were particularly concerned with changing systemic financial incentives which emphasize productivity to reward improved quality and equity. In all organizations there was recognition of the benefit of non-financial incentives.
Factors related to the organization or intervention	
Organizational commitment	For the community health centers and health plan, political commitment from the leadership was identified as critical. In the Indian health programs this was less evident, possibly as commitment to reducing disparities was seen as implicit. The need for allocation of resources to specifically address quality and disparities was identified across all organizations.
Population health focus	Among the community health centers and Indian health programs there was a strong sense that the model of care needed to be changed to engage better with patients. In the health plan setting the emphasis was more on health education to encourage members to utilize available services.
Use of data to inform solutions	The importance of using data from their own setting was noted by all organizations. The health plan identified the lack of race/ethnicity data as a major obstacle to addressing disparities.
Comprehensive approach to quality	Concern about undue emphasis on technical indicators of quality was expressed in the community health centers and health plan, particularly by providers. Patient-centeredness was universally identified as important, but was also regarded as difficult to achieve.