



Creating Equity Reports: A Guide for Hospitals

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Introduction

The 2002 Institute of Medicine report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare* definitively demonstrated that racial and ethnic inequalities exist in the utilization of health care, quality of care, health outcomes, and patients' experiences with care, even among patients with similar health insurance coverage and access to care.¹ Despite gaining significant attention since the report's publication, inequalities persist, and are found for many population groups in a wide range of health care arenas. The annual 2006 *National Healthcare Disparities Report* produced by the federal Agency for Healthcare Research and Quality pointedly notes that "disparities are observed in almost all aspects of health care."² Related bodies of research have demonstrated similar types of health care inequalities for patients who do not speak English and for those with lower socioeconomic status.³⁻⁷

With no doubt left about whether there really are inequalities in the United States health care system, attention is increasingly focusing on action steps that may help to reduce these problems. For example, the Robert Wood Johnson Foundation has funded efforts to reduce inequalities in hospital-based cardiac care (*Expecting Success*), improve language access services for patients with limited English proficiency (*Speaking Together*), and evaluate the effectiveness of various approaches to reducing inequalities (*Finding Answers*). A recent series of reports funded by the Finding Answers program summarizes the research to date on what works to reduce racial and ethnic inequalities in cardiovascular health care, diabetes, breast cancer screening and treatment, depressive disorders, and what is known about using cultural interventions to narrow inequalities.⁸⁻¹⁴

With this knowledge base established, we focus here on one of the first action steps for any hospital seeking to address potential inequalities in the care it provides: looking at its data. Equity reports, as described in this guide, serve a key role in efforts to reduce racial and ethnic inequalities in health care by helping individual institutions identify inequalities in the care they provide and monitor changes over time. The fundamental idea builds on existing quality reporting efforts and is straightforward – to examine inequalities in utilization, care processes, and patients' experiences with care. Equity reports inform hospitals about where to focus their resources and efforts to reduce inequalities, improve quality, and increase patient satisfaction. Nonetheless, very few hospitals to date have developed

equity reports, and recent research has shown that while more than three-quarters of hospitals nationally collect data on patients' race and ethnicity, fewer than one in five use the data to assess inequalities in quality of care, health outcomes, or patient satisfaction.^{15,16}

From our discussions with hospitals across the country, it is clear that there is a significant interest in developing equity reports, but also a need for assistance. This guide is designed to meet this need by providing a framework for equity reporting and sharing lessons learned from experiences to date with creating and using such reports. The following chapters are included:

- **Chapter 1** provides an introduction to equity reports, and the rationale for having them.
- **Chapter 2** offers suggestions for leading the process of equity reporting.
- **Chapter 3** gives an overview of collecting race, ethnicity, language, and socioeconomic status data, including recommendations for how to train staff to ensure high-quality data collection.
- **Chapter 4** describes quality measures that can be included in an equity report.
- **Chapter 5** provides examples and guidance for how to present data in an equity report.
- **Chapter 6** includes strategies for using the report to support hospitals' efforts to reduce inequalities.
- **Appendix I** displays the information included in the first Massachusetts General Hospital Disparities Dashboard (the title of the hospital's equity report).
- **Appendix II** provides information on measures that have been used in hospital-based research studies of inequalities in health care.

Throughout the guide, we discuss the experiences of several hospitals throughout the United States in collecting race and ethnicity data from patients and using them to examine the quality of care they provide. In particular, we draw on the experiences of Massachusetts General Hospital in preparing its first Disparities Dashboard, and of a Massachusetts-wide initiative that requires all hospitals to collect race and ethnicity data from patients. It is our hope that this guide will help hospitals across the United States improve health care for minority patients and reduce inequalities in care.

Chapter 1: Why Create a Hospital Equity Report?

Overview: What is an Equity Report?

An equity report is a tool that allows a hospital's executives, physicians, and staff to examine inequalities in the care provided to patients from different racial, ethnic, language, and socioeconomic groups. In much the same way as a quality report, it can help identify areas where things are going well and those where there are opportunities for improvement, whether across the hospital, within a specific department, or for a specific patient group. The report can also help with monitoring progress over time toward eliminating inequalities and providing the highest quality of care to all patients, regardless of their race, ethnicity, language, or socioeconomic status.

Racial and Ethnic Inequalities are a Significant Problem

Inequalities in health care exist for many racial, ethnic, and language groups, for patients with a wide variety of health conditions, and across a number of health care settings. These inequalities are sometimes attributed to inequities in health insurance coverage, access to care, or socioeconomic status. However, research has shown that only a small portion of inequalities can be explained by these access-related factors, and the Institute of Medicine's *Unequal Treatment* report definitively demonstrated that inequalities exist even among those with insurance coverage.^{1,17}

Perhaps the best summary of the current state of inequalities comes from the 2006 *National Healthcare Disparities Report*, which states that inequalities are observed

- “Across all dimensions of quality of health care including: effectiveness, patient safety, timeliness, and patient centeredness;
- Across all dimensions of access to care including: facilitators and barriers to care and health care utilization;
- Across many levels and types of care including: preventive care, treatment of acute conditions, and management of chronic disease;
- Across many clinical conditions including: cancer, diabetes, end stage renal disease (ESRD), heart disease, HIV disease, mental health and substance abuse, and respiratory diseases;
- Across many care settings including: primary care, home health care, hospice care, emergency departments, hospitals, and nursing homes.”²²

A large body of research documents these findings. Some specific examples for inpatient hospital services include the following.

Utilization and process of care

- Black patients with acute myocardial infarction were as likely as white patients to receive beta-blockers, more likely to receive aspirin, and marginally more likely to receive ACE-inhibitors. However, black patients were less likely than whites to receive thrombolytic therapy upon arrival at the hospital. There were no significant racial differences in patient refusal of cardiac procedures, but black patients were less likely than whites to have CABG surgery.¹⁸
- Native American women with breast cancer had longer intervals between diagnosis and surgery than non-Latino white women.¹⁹
- Physicians were less likely to prescribe opioid analgesics to black patients than to white patients. Inequalities were greatest for those health conditions with fewer objective findings, such as migraines.²⁰
- Language barriers between the physician and patients' families resulted in a \$38 increase in charges for testing and a 20 minute longer emergency department stay.²¹

Health outcomes

- There are racial and ethnic inequalities for some patient safety indicators, but not for others. For example, African Americans, Latinos, and Asians had higher rates of postoperative sepsis and respiratory failure, but lower rates of postoperative hip fractures than whites. Many inequalities for African Americans remained after adjusting for income, while those for Latinos and Asians tended to disappear.²²
- Black men, black women, and Asian women were at increased risk of recurrence of acute myocardial infarction compared to white men. Black men and black women had higher all-cause mortality following an acute myocardial infarction. However, these effects were largely eliminated when the authors adjusted for sociodemographic and health factors.²³
- Approximately half of adverse patient safety events occurring to patients with limited English proficiency resulted in physical harm, compared with only 30 percent of adverse events for patients who speak English.²⁴

Patient experiences with care

- African American patients provided higher ratings of their care and their personal clinician than white patients, despite reports that their experiences were more problematic, including having worse communication and less responsive providers.²⁵⁻²⁸
- Latinos provided lower ratings of their doctors; they were also more likely than whites to report problems getting needed care.^{26,28,29}
- When parents were asked to assess their children's health care, Asians who do not speak English reported the worst ratings of care, while English-speaking Asians reported experiences that are similar to those of whites; the same was true for adults' ratings of their own care.²⁹⁻³¹

These examples represent only a very small proportion of the total research base in this field, but reflect the wide variety of areas in which inequalities have been found, including utilization of services, processes of care, and patient outcomes.

Definitions

A shared understanding of the basic terminology used in developing an equity report can help avoid confusion. Having working definitions of the terms “race,” “ethnicity,” and “equity” can be particularly helpful.

What are race and ethnicity?

Frequently, race is assumed to be based on physical characteristics such as the color of someone's skin, while ethnicity is assumed to be based on where his or her family came from. However, ethnicity is sometimes used to focus on families that have immigrated to the United States fairly recently, while those whose families arrived some time ago may be thought of as not having an ethnicity or as being “American.” Ethnicity may also be thought of as an individual having a set of customs, beliefs, or a language related to a particular country outside the United States that he or she thinks of as contributing to the culture of his or her identity and family, including traditions, food, family relationships, and how holidays are celebrated. In reality, however, many people use these terms interchangeably, or have their own personal definitions, and the concepts are frequently referred to by the joint term “race/ethnicity.”

What is equity?

Equity occurs when all individuals receive the same quality of health care within a hospital, regardless of individual characteristics such as race, ethnicity, language spoken, or

socioeconomic status. More often, researchers and the federal government refer to a lack of equity as inequalities or disparities, which can be defined in a number of ways.

- Disparities are “racial or ethnic differences in the quality of healthcare that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention.”³¹
- Health inequalities are differences in health that are “avoidable,” “unjust, and unfair.”^{32,33}
- “Health disparities/inequalities are potentially avoidable differences in health (or in health risks that policy can influence) between groups of people who are more and less advantaged socially; these differences systematically place socially disadvantaged groups at further disadvantage on health.”³⁴

For many years, the term “disparities” has dominated conversations about racial, ethnic, and socioeconomic differences in health care in the United States, while similar conversations in international settings centered on “inequalities” or “inequities.” Recently, the use of the term “equity” has been growing in the United States, likely in part because the concept of equity is less sensitive. While disparities implies that something is wrong, equity is a positive concept that is easier for many people in large organizations to support, and provides a positive goal to work toward.

Equity in health care does not necessarily mean that every group receives the same amount and type of services, but rather that their needs are equally well met and that health care factors that could potentially contribute to differential patient outcomes have been minimized.

What about cultural competence?

In its simplest sense, cultural competence refers to health care services that are respectful of and responsive to the health beliefs, health practices, culture, and linguistic needs of diverse patient populations.³⁵ Cultural competence training programs for clinicians are common, and aim to increase their ability to successfully care for patients from a wide variety of backgrounds.

The U.S. Department of Health and Human Services' Office of Minority Health has issued a set of standards designed to inform the provision of culturally competent care, known as the National Standards on Culturally and Linguistically Appropriate Services, or CLAS standards.³⁶ The CLAS standards state that health care organizations:

1. Should ensure that patients/consumers receive from all staff members effective, understandable, and respectful care that is provided in a manner compatible with their cultural health beliefs and practices and preferred language.
 2. Should implement strategies to recruit, retain, and promote at all levels of the organization a diverse staff and leadership that are representative of the demographic characteristics of the service area.
 3. Should ensure that staff at all levels and across all disciplines receive ongoing education and training in culturally and linguistically appropriate service delivery.
 4. Must offer and provide language assistance services, including bilingual staff and interpreter services, at no cost to each patient/consumer with limited English proficiency at all points of contact, in a timely manner during all hours of operation.
 5. Must provide to patients/consumers in their preferred language both verbal offers and written notices informing them of their right to receive language assistance services.
 6. Must assure the competence of language assistance provided to limited English proficient patients/consumers by interpreters and bilingual staff. Family and friends should not be used to provide interpretation services (except on request by the patient/consumer).
 7. Must make available easily understood patient-related materials and post signage in the languages of the commonly encountered groups and/or groups represented in the service area.
 8. Should develop, implement, and promote a written strategic plan that outlines clear goals, policies, operational plans, and management accountability/oversight mechanisms to provide culturally and linguistically appropriate services.
 9. Should conduct initial and ongoing organizational self-assessments of CLAS-related activities and are encouraged to integrate cultural and linguistic competence-related measures into their internal audits, performance improvement programs, patient satisfaction assessments, and outcomes-based evaluations.
 10. Should ensure that data on the individual patient's/ consumer's race, ethnicity, and spoken and written language are collected in health records, integrated into the organization's management information systems, and periodically updated.
 11. Should maintain a current demographic, cultural, and epidemiological profile of the community as well as a needs assessment to accurately plan for and implement services that respond to the cultural and linguistic characteristics of the service area.
 12. Should develop participatory, collaborative partnerships with communities and utilize a variety of formal and informal mechanisms to facilitate community and patient/consumer involvement in designing and implementing CLAS-related activities.
 13. Should ensure that conflict and grievance resolution processes are culturally and linguistically sensitive and capable of identifying, preventing, and resolving cross-cultural conflicts or complaints by patients/consumers.
 14. Are encouraged to regularly make available to the public information about their progress and successful innovations in implementing the CLAS standards and to provide public notice in their communities about the availability of this information.
- Standards 4 through 7 are current requirements for all recipients of Federal funds. Standard 14 is suggested by the Office of Minority Health for voluntary adoption by health care organizations. The remaining standards are activities recommended by the Office of Minority Health for adoption as mandates by Federal, State, and national accrediting agencies. For more information on the CLAS standards, see www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=15.

The Importance of Measuring Equity

Making national progress toward ensuring equal quality of health care for everyone requires broad efforts and the participation of many health care organizations. The Institute of Medicine has defined equity as one key pillar of health care quality, and improving equity fits well within the same framework as other quality improvement activities.³⁷ At the same time, many hospitals – particularly public and not-for-profit institutions – are mission-driven organizations with either explicit or implicit goals of ensuring that traditionally underserved populations receive the highest-quality of care possible. An equity report can serve as a core tool for helping hospitals ensure that they act on this part of their mission.

In many ways, efforts to reduce inequalities may parallel early efforts to measure and improve the quality of care provided in hospitals. When hospitals first started measuring

quality, many made some unexpected discoveries, as performance in some areas was better than expected, while other areas were worse. Such measurement is now considered a benchmark for performance, and individual hospitals routinely compare themselves against their past performance and that of similar hospitals. Simply “knowing” that a physician or a hospital has a good reputation is no longer accepted as a mechanism for ensuring quality, and standard measures are now used to judge improvements in performance.

While measuring the quality of hospital care is now expected, measuring inequalities has not yet gained significant national attention and is not an activity most hospitals routinely engage in. Just as many people assumed that they “knew” a hospital provided good quality care before quality measurement became common, many now assume that their hospital provides equal quality of care to all of its patients, regardless of their race, ethnicity, language, or socioeconomic status. Looking at measures of these inequalities may yield some surprising results: some hospitals may find many inequalities in the care they provide, while others may find few inequalities, or may find them in populations where problems were not anticipated. Without ongoing, systematic measurement efforts, there is no way to be sure that an individual hospital’s care is equitable. Developing an equity report can help hospitals identify areas of potential concern, design and implement programs to address them, and monitor progress toward improvement.

It is not unreasonable to expect that hospitals may be asked to compare inequalities in the care they provide against the performance of other hospitals in the future. A decade ago, even within a single hospital system, quality measures were typically presented without naming individual hospitals in order to maintain confidentiality regarding performance. Now, Hospital Compare (www.hospitalcompare.hhs.gov), sponsored by the Centers for Medicare & Medicaid Services and the Hospital Quality Alliance, posts core measures of the quality of processes of care for individually identified hospitals on a publicly-available website. In 2008, Hospital Compare added data on patient experiences with care for each hospital. At the same time, quality and equity are increasingly being linked together: the Institute of Medicine includes equity in its core definition of quality (www.nap.edu/catalog.php?record_id=10027) and the federal Agency for Healthcare Research and Quality now releases a pair of quality and equity reports together each year (www.ahrq.gov/qual/measurix.htm). The combination of

progress toward publicly-available, identifiable quality data and the linkage between quality and equity suggests that data on inequalities may become publicly available in the not-distant future.

“As a physician, I am committed to the elimination of health disparities, ... [and] I feel that any collecting and reporting of data should be stratified by race and by gender. I recognize the importance of having standards of care [and] reporting how well hospitals and other health institutions are meeting their goals. In my practice, I endeavor to treat all patients the same with regard to important health indicators. However, I am reminded by the literature that even the best-intentioned professional may have variances in their care despite the notion of professionalism. I can see from the research that we don’t treat people the same across the board - whether it’s in the area of osteoarthritis, hip replacement, cardiac catheterization, or pain management. It becomes imperative as practitioners and hospitals that we must recognize that we have an institutionalized problem. And the only way an institution can address the issue is to look at the data. Failure to do so will only perpetuate the problem.”

*Cedric Bright, MD
Member, Board of Trustees,
Durham County Hospital Corporation
Speaker of the House of Delegates,
National Medical Association*

Benefits of a Hospital Equity Report

Hospitals may realize many potential benefits from developing an equity report, including:

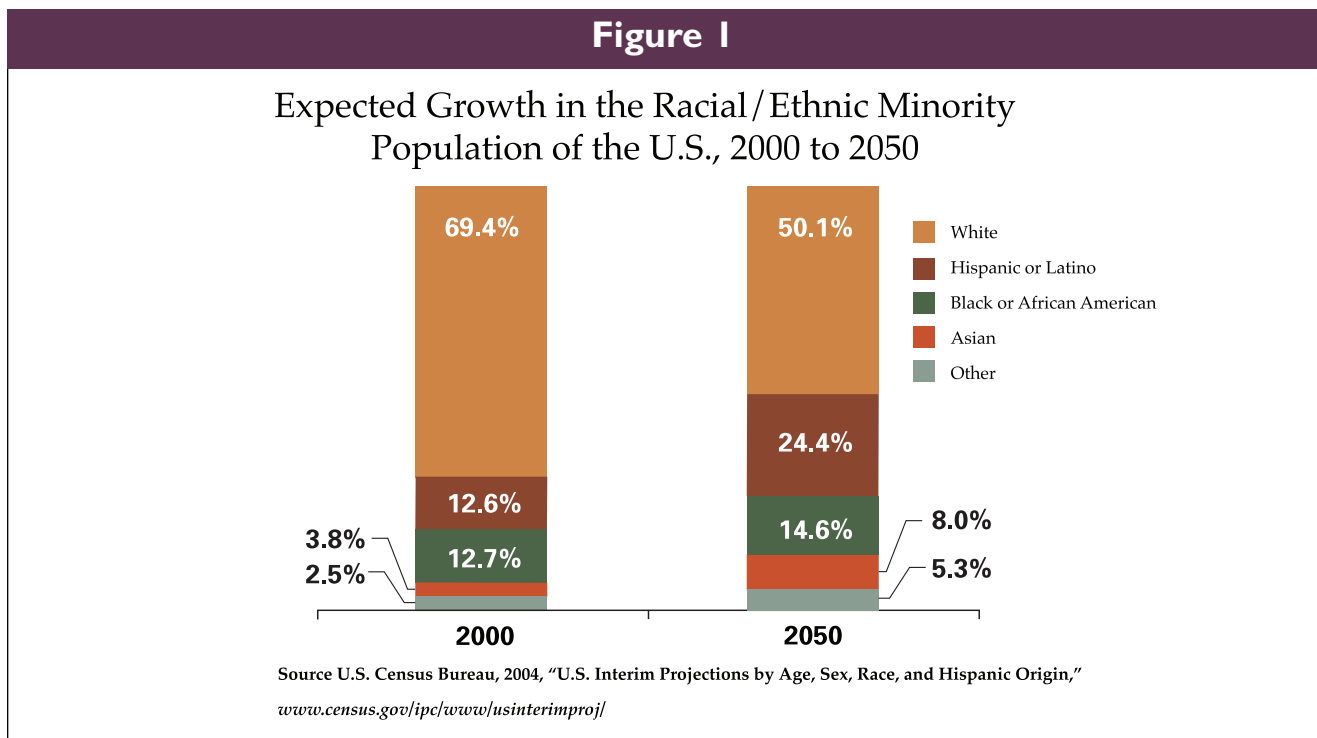
- Gaining knowledge about the patient population served by your hospital and how it compares with the surrounding community;
- Understanding where in your hospital patients from different racial, ethnic, language, and socioeconomic groups are served, and the extent to which their needs are being met;
- Identifying populations that may be at increased risk of adverse outcomes and fundamental patient safety “never” events;

- Strengthening your hospital’s ability to develop culturally-appropriate interventions to improve care for minority patient groups; and
- Tracking progress toward providing equitable care over time.

If the report shows that your hospital is doing well, with few inequalities, it can potentially serve as a marketing tool for reaching out to racial or ethnic groups who may choose to seek services there. In addition, if major area employers are asking health plans to demonstrate that they have in-network providers who can meet the needs of their diverse employees,

your hospital may benefit from sharing the equity report with payers. Regardless of what the report shows, it can be used to increase transparency regarding quality of care for racial and ethnic minority patients and as a tool for collaboration with community groups.

Finally, the United States population is diversifying considerably, as shown in Figure 1. If hospitals are to continue to meet their patients’ needs as we move toward a population that includes a larger proportion of racial and ethnic minorities, it is essential to begin tracking the quality of care provided to different groups and how it changes over time.



Resources

The Institute of Medicine’s reports provide an overview of issues related to racial and ethnic inequalities and quality of health care:

Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Smedley, Brian D., Adrienne Y. Stith, and Alan R. Nelson, Editors. The National Academies Press, Washington, DC, 2003. www.nap.edu/catalog.php?record_id=10260.

Committee on Quality Health Care in America, Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. National Academy Press, Washington, DC, 2001. www.nap.edu/catalog.php?record_id=10027.

The United States Department of Health and Human Services’ Agency for Health Care Research and Quality releases a pair of reports annually. The *National Healthcare Disparities Report* tracks changes health care by in race, ethnicity, and socioeconomic status over time, while the *National Healthcare Quality Report* tracks changes in the quality of care provided. Both are available at www.ahrq.gov/qual/measurix.htm.

Chapter 2: Leading the Effort

Overview

Getting started is likely the biggest challenge for any hospital in creating an equity report, and leadership support is key to success. This chapter discusses some of the common concerns raised when starting an equity reporting process and a model for leading the process.

“Not in My Hospital”

When the idea of producing an equity report is first introduced, hospital executives, physicians, or staff may raise objections. Perhaps the most common concern focuses on the assumed lack of inequalities in the hospital, with the comment that “we treat everyone the same here,” or that inequalities may exist, but “not in my hospital.” This may be true, but until a hospital looks at data on its performance, there is no way to tell. Many studies have shown that treatment decisions vary by race and ethnicity, and that these decisions may be affected in very subtle ways by unconscious biases.^{38,39} Patients may have more difficulty accessing some services than others; some providers or hospital services may do a better job at meeting the needs of culturally diverse patients than others. Given the pervasiveness of racial and ethnic inequalities nationwide, hospitals cannot assume that they provide equitable care without first examining their data.

Despite considerable evidence about inequalities nationally, at the state level, or within a given community, some hospital personnel may believe that inequalities are not a problem in their institution, though they may believe such problems exist at other area hospitals. In some areas of clinical care, and for some populations, this may be true. For example, in three studies of pain medication administered in the emergency department following long bone fractures, two hospitals showed significant racial or ethnic inequalities (one for African Americans and one for Latinos), while a third showed none.⁴⁰⁻⁴² Other studies have shown that a large proportion of inequalities in health care are driven by where patients get their care, with minority patients being more likely to receive care at lower-quality hospitals.⁴³

Some hospitals may treat very few patients from minority racial, ethnic, or language groups. As a result, hospital executives, physicians, and staff may not have a great sense of urgency around the issue of inequalities. Nonetheless, if a hospital’s mission is to provide the highest-quality care possible to all of its patients, an equity report can help identify areas that may be in need of attention even if they affect comparatively few patients. Not every hospital is likely to have inequalities in every area, and some hospitals may have concerns in very few areas. Developing an equity report can help address the question of whether there are any inequalities in the care provided in your hospital.

Addressing Objections to Preparing an Equity Report

Objection

Response

“We treat everyone the same”

Until the data are examined, there is no way to know whether or not this is true.

“It’s not really about race, it’s just about income”

Research has shown that even if inequalities in income and health insurance coverage were eliminated, approximately one-half to three-quarters of racial and ethnic inequalities in health care would remain.¹⁷

“This is a social problem – it’s too big, and our efforts won’t help much”

While there are many social and economic factors that contribute to inequalities in care, all patients have the right to be treated equally well when they get care in your hospital.

“It’s racist to look at the data this way”

When asked why Aetna had begun to collect race and ethnicity data on its members, Dr. John Rowe, its chairman and CEO, commented that “We can’t provide interventions for people at risk if we don’t know who they are. We came to the view that not doing this was the racist approach.”⁴⁴

Getting the Board on Board

Following the release of the Institute of Medicine's *Crossing the Quality Chasm* report and the subsequent increase in quality measurement in hospitals across the country, some institutions invested significant staff time in educating their Board of Trustees about quality measurement.³⁷ The process of developing an equity report provides an opportunity for sharing information about inequalities in health care with your hospital's Board, and for involving them in efforts to improve the quality of care for patients from minority racial and ethnic groups at your hospital.

Early work on an equity report, such as examining inequalities using readily-available data, can galvanize action within a hospital. Seeing even a small amount of data showing an area for concern can incline hospital leadership – including administrators and Board members – to take action. The equity report formalizes the process of investigating the hospital's data, but a “peek” at some early data may result in leadership action and support for developing a full report.

Leading Change

Developing the report creates additional work and uses resources that are likely already devoted to other activities, and the results have the potential to create discomfort if they show significant inequalities. Much like other evolving quality reporting efforts, there may be initial resistance, and support for these efforts may grow over time.

In *Leading Change*, John Kotter outlines eight main steps toward guiding an organization through any change:⁴⁵

1. Establishing a sense of urgency;
2. Forming a powerful guiding coalition;
3. Creating a vision;
4. Communicating the vision;
5. Empowering others to act on the vision;
6. Planning for and creating short-term wins;
7. Consolidating improvements and producing still more change; and
8. Institutionalizing new approaches.

The relevance of each step to developing an equity report is described below.

1. Establishing a sense of urgency

Without a sense of urgency about inequities in health care, there is no getting past the “not in my hospital” mentality discussed above. People involved in creating the equity report must understand that inequalities in health care exist nationally, locally, and potentially within their own hospital. They must have a sense that monitoring and improving inequities is an imperative for their hospital, and that inequalities in care are unacceptable. A sense of urgency communicated by senior hospital leadership and/or the hospital's board can be a crucial tool for motivating change in this area.

2. Forming a powerful guiding coalition

Having the hospital's executive leadership team on board and actively participating in the early development of the equity report is crucial. Without strong, visible leadership from top hospital executives, it can often be difficult for other team members to carve out time and resources from existing responsibilities to develop the report, and the resulting report may be “written off” as being of little consequence. A hospital's Chief Quality Officer (CQO) may be in the best position to lead the development of the equity report and to be its visible “face” in the organization, given his or her existing responsibilities for quality reporting. In the absence of a CQO, the Chief Medical Officer or another senior leader can fill this key role.

Other departments that may play a crucial role in the guiding coalition include those responsible for race and ethnicity data collection (see *Chapter 3*), interpreter services, social work, community health programs, and quality measurement. Involving these departments in the guiding coalition can be helpful throughout the process of preparing and releasing the report, and this group can provide oversight, feedback on content and presentation, and advice on messaging when the report is released.

3. Creating a vision

A vision for a hospital equity report should articulate three basic concepts: what will be included in the report, how the report will be issued, and how it will be used.

What will be included in the report

This section should describe the general types of measures that will be included in the report (see *Chapter 4 for guidance on measures*). It is also helpful to describe the level of detail that will be included in the report – will it address hospital-wide care only, or will it include service-specific

The Experience of Massachusetts General Hospital

In late 2006, Massachusetts General Hospital (MGH) released its first Disparities Dashboard for use within the hospital.

The hospital's Committee on Racial and Ethnic Disparities, which was appointed by the president of the hospital, Peter Slavin, MD, was crucial in leading the way.

Dr. Slavin describes the process by which the Dashboard came to be:

"I directed the MGH Committee on Racial and Ethnic Disparities to assume that since disparities are well documented in the literature, we should focus more on trying to lessen disparities at MGH than simply to redocument them. I did not want this Committee to spend its first few years reproducing studies, but rather to identify where the disparities exist and start addressing them. Developing a Disparities Dashboard was essential to this process, as it has allowed us to monitor how we are doing on one of the six key domains of quality – providing equitable care."

In addition, Joseph Betancourt, MD, MPH, Director of the Disparities Solutions Center at Massachusetts General Hospital, notes that "Dr. Slavin's leadership on the issue of disparities has been the single most important factor contributing to our progress. He set the tone, kept it in front of the hospital leadership on a consistent basis, and set the expectation that as an organization we needed to make sure we deliver high quality care to all who enter our doors. The Disparities Dashboard was just a logical next step and met with minimal resistance."

Edward Lawrence, JD, the Chairman of the Massachusetts General Hospital Board of Trustees comments that

"... the Board of Trustees has chosen to take an active role in monitoring quality and safety both at its monthly meetings as well as through its Committee on Quality and Safety comprised of Trustees and key physician leaders. As one of the IOM's six goals in measuring quality, providing equitable care has been included in the Hospital's quality dashboard. It is the Board's belief that regular review of statistics in this area will not only educate leading administrators and physicians as to the continued existence and the extent of these disparities, it will also result in practical steps to reduce these inequities. In essence, the dashboard serves as an ongoing objective, albeit sometimes uncomfortable, reminder of these disparities but also as a catalyst for change in this important, but frequently overlooked, arena."

Appendix I displays the information included in the first Massachusetts General Hospital Disparities Dashboard. Subsequent reports reflect not only updated data, but information on additional quality measures.

care? Will the report include patient and staff stories that help make the data come alive for the reader? Will it provide commentary and interpretations of the data, or will the report focus primarily on presenting tables and charts?

How the report will be issued

This section addresses basic questions that executives and staff may have about the report, such as how frequently it will be prepared, who it will be distributed to, whether it will be distributed on paper or electronically, and whether it will be released in conjunction with any standing quality reports.

How the report will be used

Perhaps the most important part of the report's vision statement is a description of how the report will be used. Is this an initial exploration of areas where the hospital is doing well and others where it may need to invest additional resources? Is the goal to take action to reduce inequalities, or at this point is it simply to measure and monitor the current state of affairs? It can be helpful to clarify that the report is intended to be used non-punitively – that individuals will not be blamed for any problems found in the report, but rather that the hospital will seek to change systems of care to address them.

Getting Started: Key Questions

When starting work on an equity report for the first time, it may be helpful to ask the following questions.

- What is already known about racial and ethnic inequalities in your hospital?
- Are there any current programs designed to reduce racial and ethnic inequalities in care in your hospital?
- What has your hospital tried in the past to make care more equitable? Has it been successful?
- What concerns and sensitivities could an equity report raise in your hospital?

4. Communicating the vision

It is very helpful for this vision to be summarized in a one-page document that can be shared widely with all interested parties. In particular, any department whose performance will be directly or indirectly measured by the contents of the report should know about it before work begins and should have the opportunity to provide input on the detailed content of the report. Communicating the vision

of the report can help to allay a wide variety of concerns, particularly if people fear retribution based on the results, are concerned about potential loss of hospital market share if the results are made public, or if clinicians are concerned that the report will accuse them of being racist. The more widely the vision is communicated, the more the message that equity is an issue that matters to the hospital will be reinforced. It is particularly helpful to share this message not only with hospital leadership and service chiefs, but also with mid-level managers and other key staff.

Coordinating and Communicating UW Health, Madison, WI

One of the challenges in developing an equity report for the UW Health system in Madison, Wisconsin is its complexity. The system includes one general acute hospital; one children's hospital; 1,100 primary and specialty care physicians; and over 50 urban and rural clinics. UW Health specialty physicians also provide regional services at nearly 40 sites. This begs the question of where to start and how to prioritize sites, as there are undoubtedly unique issues in producing reports for each of them.

UW Health has taken a unique approach in creating visibility for efforts related to inequalities within the hospital system, and to coordinating these efforts internally and externally with a variety of different racial and ethnic groups in the community. Shiva Bidar-Sielaff, the Director of Community Partnerships, is responsible for interpreter services, cultural competence, and implementation of strategies to reduce inequalities, and reports directly to the Senior Vice President for Quality & Information. Ms. Bidar-Sielaff also serves as a liaison between the hospital and community groups, and works to ensure that initiatives and programs are developed with community input.

5. Empowering others to act on the vision

Beyond the initial guiding coalition, a variety of other individuals and departments will likely be involved in preparing the report – ranging from information systems and the departments that collect race and ethnicity data to staff involved in quality measurement and interpreter services. Without a clear

statement about the importance of the report to senior hospital leadership, it can be difficult for many of these individuals to make this type of project a priority given their existing responsibilities. In addition, they may need to leverage additional resources that are beyond the team's control – such as access to particular data systems for which a non-team member is the gatekeeper. Being publicly empowered by the guiding coalition – for example, via an introduction of the team when the vision statement for the report is circulated – can go a long way toward enabling the team to accomplish its goals.

6. Planning for and creating short-term wins

Short-term wins can be focused on data collection, preparing the initial report, or both. If race and ethnicity data collection is something new in the hospital, establishing a process for collecting these data can be a key milestone, as can sharing early data on the racial and ethnic distribution of the hospital's patient population. The same is true if the hospital is revising the race and ethnicity data that are collected, or how they are collected. Sharing an initial equity report – even if it has only a few early measures and is not fully polished – can also help create momentum.

7. Consolidating improvements and producing still more change

While the initial report may be brief, it can grow to include more measures over time. Ultimately, the report should have a wide range of measures that help the hospital's executives and staff understand how different patient populations are treated and how they view the hospital, and should track changes in those measures over time. In addition, the report may evolve to include new levels of information, expanding beyond whole hospital measures to focus on individual services or departments, specific groups or teams, or additional locations affiliated with the hospital, such as group practices. As new measures are added to the report, its format may change, and it may become important to provide a brief summary or overview of the findings and how they differ from past reports. There also may be cause to celebrate success or to discuss opportunities for improvement.

8. Institutionalizing new approaches

Over time, an equity report can become part of the fabric of how the hospital measures its performance. It may be released together with other quality reports, it may move from being the responsibility of a special projects team to having a formal institutional home, or individual departments

Policy Changes

Formal policy changes can help to institutionalize new approaches. For example, in conjunction with its first Disparities Report, Massachusetts General Hospital adopted a new policy on examining quality measures by patients' race and ethnicity that reads "In order to assess and address racial and ethnic disparities on an ongoing basis, all relevant performance improvement data should be collected and stratified by race and ethnicity."

In essence, this places a requirement on each department and program to examine its own data. Each department's strategy for meeting this requirement is now discussed at annual meetings between senior hospital leadership and department chairs. Joseph R. Betancourt, MD, MPH, Director of the Disparities Solutions Center at Massachusetts General Hospital, notes that "as with any new policy there is significant ramp-up time to generate awareness and provide guidance on how to implement it; this process has resulted in significantly greater attention being paid to disparities at the departmental level."

may take on responsibility for preparing equity reports related to their services.

Elizabeth Mort, MD, MPH, Vice President for Quality and Safety and Associate Chief Medical Officer at Massachusetts General Hospital notes, "I would strongly recommend that hospitals routinize the reporting of disparities when feasible. Special reports have their place, but reporting by race and ethnicity should become a core capability."

Hospitals may choose to release some data from their equity report on a public website. Deciding whether or not to do so can be a complicated choice, and factors such as community perceptions of the hospital and how they may change if an equity report is made public must be considered.

Massachusetts General Hospital has released data from its Disparities Dashboard on its new publicly-accessible quality reporting website. Gregg Meyer, MD, MSc, Senior Vice President, Center for Quality and Safety at Massachusetts General Hospital and the Massachusetts General Physicians Organization, remarks that "The Institute of Medicine correctly noted that focusing on equity as an aim of our healthcare system is essential to 'crossing the quality chasm.' As a result, it makes great sense that we are transparent with information about equity, just as we are gaining more comfort with sharing data on the other five aims of effectiveness, efficiency, patient centeredness, timeliness, and safety. If information on equity is not included, the picture is incomplete."

Other ways to institutionalize new approaches may involve forming a new office or creating an executive-level position focusing specifically on inequalities in care. This approach has been used by Baylor Health Care System in Dallas, Texas, which has an Office of Health Equity led by the hospital's Chief Equity Officer and Vice President of Health Equity, and by Children's Hospital & Regional Medical Center, Seattle, whose Center for Diversity reports directly to the hospital's Chief Operating Officer.

Summary

While an equity report is in many ways a fairly straightforward presentation of the hospital's data, issues concerning inequalities by race, ethnicity, language, and socioeconomic status tend to raise significant concerns. Highly visible project leadership from among the hospital's top executives can be helpful in allaying many of these concerns.

Resources

More information regarding the leadership model presented in this chapter is available in:

John P. Kotter. *Leading Change*. Harvard Business School Press, Boston, MA, 1996.

Chapter 3: Collecting the Data: Race, Ethnicity, Language, and Socioeconomic Status

Overview

The Institute of Medicine report, *Unequal Treatment*, recommended that information on patients' race, ethnicity, language, and socioeconomic status be collected and used for reporting.¹ Race and ethnicity data are obvious components of an equity report that is focused on reducing racial and ethnic inequalities in care, but language plays a considerable role as well. There is significant evidence demonstrating that language affects the quality of health care, outcomes, and patient satisfaction.^{3,4,30,31}

Given the strong evidence that socioeconomic status influences health status, access to care, and utilization of services, it is also important to include a measure of socioeconomic status in equity reports.⁵⁻⁷ While information on socioeconomic status can be helpful in understanding racial and ethnic inequalities in care, the common assertion that racial and ethnic inequalities are "just" due to socioeconomic differences has been proven untrue in many studies.⁴⁶ For example, differences in insurance status and income account for no more than one-quarter to one-half of inequalities in access to and utilization of health care.¹⁷ It may be helpful to look at racial and ethnic inequalities in health care outcomes, processes of care, utilization, or satisfaction within different socioeconomic groups served by your hospital.

An equity report is only as good as the data on which it is based. We refer to data on patients' race, ethnicity, language, and socioeconomic status as "equity data." These equity data are paired with quality data and other measures to form the equity report, and are ideally collected along with other patient registration information at the time of first contact with your hospital. If your hospital offers outpatient services, it is helpful to capture this information at both your inpatient and outpatient sites. There are many recommended ways to collect these data, and what may seem like comparatively small changes or additions to data collection may in fact be resource-intensive activities. Those hospitals that currently collect some or all of these data may wish to review their current efforts and consider changes or enhancements to their current systems.

Hospital systems that include multiple hospitals, group practices, and health centers also need to determine whether data collection will span all of these entities. We recommend that data collection efforts be as inclusive as possible, recognizing that efforts may need to be phased in across different sites, particularly in large systems.

Two fundamental principles of data collection guide this chapter. First, standardization in how data are collected is crucial to ensuring their accuracy and usability. Second, information that patients provide about themselves is preferable to information that is assumed to be true by someone else.

Planning

It is important to recognize from the onset that knowledge about how to collect equity data is still evolving. Race and ethnicity data collection, in particular, is an area that an increasing number of hospitals have begun to focus on, and the experiences of these hospitals as they collect and use data in reporting may lead to changes in recommendations regarding how to collect such data. That said, however, changing the way these data are collected and stored is often complex and time-consuming, and requires staffing and financial resources. Therefore, any changes must be well-informed and thoughtfully planned.

Three steps are useful for planning and implementation of equity data collection efforts:

- Securing organizational buy-in and a commitment from the hospital leadership specific to the data collection efforts;
- Designating a project team, including a project manager; and
- Assessing existing data collection efforts.

Organizational buy-in and leadership

Organizational buy-in and a commitment from the hospital leadership specific to the data collection efforts are key to success. Implementing new data collection systems or revising current ones will take time and resources, and will include staff from departments across the hospital. Leadership must allocate staff and other resources necessary to implement the data collection efforts. Beyond this, the hospital's leadership must communicate a message about the importance of these data collection efforts and support them as the hospital simultaneously addresses multiple priorities. Consistent with Kotter's model of leading change (see *Chapter 2*) by creating and communicating a vision, the success of data collection efforts requires that leadership clearly articulate the need for collecting equity data to address health inequalities.

Designating a project manager and team

Designating a project manager who is specifically responsible for the data collection and a team drawn from departments from across the hospital to be involved in this effort is critical.

The project manager will oversee the project, and will coordinate project activities across the hospital. Membership of the team should be determined by how the hospital currently collects or wants to collect equity data. Staff from areas such as registration, information systems, quality measurement, and interpreter services should be included from the beginning, and it may be helpful to include a representative from finance on the team if resources will be needed to upgrade existing information systems. As with Kotter's guiding coalition (see *Chapter 2*), membership should include staff with the credibility, skills, and authority to implement the new or changed system, as well as other staff who will have direct responsibility for implementation of the data system.

As the project moves forward, new members may be identified and added to the team. Beyond the project team, it is also expected that both ongoing and *ad hoc* consultations with other hospital staff will be needed, and that other identified staff should be kept informed about the progress of the project.

It is important to recognize that data collection efforts are not a zero-cost activity. Allocation of staff and funds is required for both the initial planning and implementation of the new or revised data collection system and for ongoing work to ensure that the system is maintained and high-quality data are being collected over time. The project manager and team members will need access to these resources. Information systems resources, in particular, are critical to the process as data systems will need to be updated if changes are made to equity data collection processes.

Assessing Current Data Collection Efforts

Before making any changes, it is important to assess the status of the hospital's current equity data collection efforts. The assessment should determine:

- What data are collected;
- How and when the data are collected;
- Who collects the data;
- Where in the hospital the data are collected;
- How and where the data are stored;
- What data quality assurance plans are in place; and
- What data collection implementation issues have been identified.

The assessment should identify both staff and patient understanding and comfort level in asking for and providing this information. The Health Research and Educational Trust has developed a toolkit to assist hospitals in collecting race, ethnicity, and language data that may be helpful throughout the process. The toolkit contains an assessment tool that can help in gaining insight into the current status of data collection efforts and how they might be revised.⁴⁷

Key Questions

- What is the hospital currently doing to collect race and ethnicity data?
- What racial, ethnic, and language groups are served by the hospital?
- What hospital staff need to be involved in the data collection process?
- What resources are needed, and what is a realistic timeline to set up a new or revised data collection system?
- What are the barriers to collecting this information?

What Data to Collect

Each of the three types of equity data – race/ethnicity, language, and socioeconomic status – has its own complexities. Collecting these data in a manner that is valid and reliable will greatly increase the utility of an equity report. This section describes the collection of each of these types of data.

Race and ethnicity data

Legal issues

Some hospitals have been hesitant to collect information about patients' race and ethnicity due to a belief that it is illegal to do so. However, this concern is unfounded, according to a policy analysis released by the Robert Wood Johnson Foundation and George Washington University in 2006. This analysis showed that not only does the collection of these data as part of a program for quality improvement pose no legal liability for health care providers, it in fact shows evidence of adhering to, not violating, Title VI of the 1964 Civil Rights Act.⁴⁸ Title VI prohibits discrimination on the basis of race, color, and national origin in activities receiving federal financial assistance.⁴⁹ Hospitals may wish to consult the Health Insurance Portability and Accountability

Act of 1996 for information on the collection and disclosure of Protected Health Information.⁵⁰

No research has specifically examined the impact of state laws on the legality of hospitals collecting race and ethnicity data. However, the National Health Law Program found that state laws generally do not prohibit the collection of racial, ethnic, and primary language data by health insurers and managed care plans. One state requires the collection of such data by managed care plans, and only four states have prohibitions on insurers collecting such data, but only during certain transactions with their enrollees; the remaining states neither prohibit or require the collection of such data by health plans.⁵¹

The question of Latino ethnicity

One of the unresolved questions in the collection of race and ethnicity data is how to collect information on Latino ethnicity. Research conducted by the federal government in the mid-1990's showed that a separate question on Hispanic or Latino ethnicity yielded a higher count of Latinos in the United States than a single question that included Hispanic or Latino ethnicity as an option.⁵² Several reports since then, however, have shown that many Latinos do not see themselves as having a race separate from their ethnicity.⁵³ In addition, one pilot study testing different models of race and ethnicity data collection in a group of Massachusetts hospitals in 2004 found that up to 60 percent of patients who identified themselves as Hispanic or Latino would not answer a separate race question.⁵⁴ This pilot study recommended a single race and ethnicity question that includes a Hispanic or Latino option. Other hospitals have similarly included the Hispanic or Latino option among the race categories because patients have had difficulty distinguishing between race and ethnicity.¹⁵

What categories to collect

The fundamental issue in deciding how to ask about race and ethnicity is how many categories of answers should be available. On the one hand, collecting only a few broad categories can mask inequalities that may occur within those groups. For example, the group of individuals who identify as Asian varies tremendously, including individuals from Japan, India, Laos, and other countries with vastly differing cultures and experiences in the United States. Similarly, the Latino category includes many different ethnic groups that have been found to have very different experiences with health care utilization, such as Puerto

Ricans, Mexicans, and Central Americans.⁵⁵ On the other hand, including every possible racial and ethnic category in a data collection tool can be problematic unless sophisticated information technology is available to support this approach. Even in an alphabetized list, it can be quite difficult to quickly locate a particular racial or ethnic group in a very large set of categories.

One approach to determining the specific categories to be collected at your hospital is to use or adapt a data collection model recommended by other organizations. Here we discuss five methods that have been previously used. All of these methods support the categories of race and ethnicity data required by the federal Office of Management and Budget. While these requirements apply only to federal government data collection efforts, a number of hospitals and other organizations have adopted them as well, and using these categories allows a hospital to compare itself against national race and ethnicity data. Because it does provide a minimum standard set of categories, your hospital may wish to consider using the Office of Management and Budget standards with additional ethnicity data collection categories. These additional categories can be particularly helpful for those groups that are not well represented by the Office of Management and Budget categories, such as people of Middle Eastern descent.

The first two models come directly from the Office of Management and Budget data collection guidelines, and respectively use a two-question and single-question format for asking about Latino ethnicity and race, as discussed above. As noted above, of these two models, we prefer the single-question format for capturing information about the Latino population.

For both of these models, a “check all that apply” approach that allows patients to select as many categories as needed to fully describe themselves should be used. By allowing individual patients to provide as many answers as apply to them, patients who identify with more than one racial or ethnic group can clearly describe themselves. This has gained relevance as the United States has become an increasingly diverse population, and the United States Census has allowed respondents to self-designate more than one race category since 2000. However, there are 126 possible combinations of answers using the two-question format, which is likely to result in many combinations with no or very few patients.⁵⁶ As a practical matter, it is not unusual

to combine all individuals providing more than one answer into a single “multiracial” group when looking at the data.

Some patient registration software does not allow for the “check all that apply” approach, instead requiring that only one answer be selected. In response, the third,

combined-format model was developed by the Health Research and Educational Trust, and is specifically designed to allow a single-question format to capture information on both Latino ethnicity and race for hospitals with information systems that will only allow the storage of one answer per patient. More information is available in their toolkit.

Data collection model	Organization	What categories are included?
Two Question Format	U.S. Office of Management and Budget	Question 1, Ethnicity (<i>asked before the race question</i>): Hispanic or Latino Not Hispanic or Latino Question 2, Race: American Indian or Alaska Native Asian Black or African American Native Hawaiian or Other Pacific Islander White <i>Allow each person to give as many answers as needed.</i>
Single Question Format	U.S. Office of Management and Budget	American Indian or Alaska Native Asian Black or African American Hispanic or Latino Native Hawaiian or Other Pacific Islander White <i>Allow each person to give as many answers as needed.</i>
Combined Format	Health Research and Educational Trust	African American/ Black Asian Caucasian/White Hispanic/Latino/White Hispanic/Latino/Black Hispanic/Latino/Declined Native American Native Hawaiian/Pacific Islander Multiracial Declined Unavailable/Unknown <i>This format is helpful if a hospital’s data system will only allow for the collection of one race/ethnicity category per person.</i>

The fourth data collection model is drawn from a new Massachusetts requirement that mandates that all state hospitals collect race and ethnicity data from all inpatients, observation unit patients, and emergency department patients.^{57,58} This model is based on the Office of Management and Budget two-question format, and adds a third question that asks each patient “What is your ethnicity?” The answers include 31 countries or geographic areas of origin:

African	Guatemalan
African American	Haitian
American	Honduran
Asian	Japanese
Asian Indian	Korean
Brazilian	Laotian
Cambodian	Mexican, Mexican American,
Cape Verdean	Chicano
Caribbean Island	Middle Eastern
Central American	Portuguese
(not otherwise specified)	Puerto Rican
Chinese	Russian
Colombian	Salvadoran
Cuban	South American
Dominican	(not otherwise specified)
Eastern European	Vietnamese
European	Other ethnicity
Filipino	Unknown/not specified

As with the race question, patients can select as many ethnicity categories as apply to them. These categories were determined by the Massachusetts Department of Public Health based on the racial and ethnic composition of the state population. While this ethnicity question captures rich detail, it has posed some problems in practice.⁵⁹ One particular challenge is that hospital registrars, working under time pressure, need to classify patients into one of these categories. So, for example, if a patient says he or she is from Belize, Benin, or Bosnia, the registrar must quickly classify that patient as South American, African, or European.

An alternative, the fifth data collection model, is to allow patients to use their own words to describe their race and ethnicity, rather than presenting them with a list of categories to choose from. One study using this approach found that it was feasible, took 37 seconds on average (compared with 20 seconds on average for the two-question format), and resulted in answers that had excellent agreement with the Office of Management and Budget questions.⁵³

Data collected this way produced more accurate and complete data, especially for Latino and multiracial or multiethnic patients. The extra time this approach takes may be a reasonable trade-off for the collection of more accurate and complete data.

Computer-supported solutions can make the fourth and fifth approaches usable on a large scale while helping registrars quickly enter the data. One approach is to create a very comprehensive drop-down list of categories, if your hospital uses an information system that can support this. When the registrar types in “Be,” he or she is then presented with a list of countries including Belarus, Belgium, Belize, Benin, and Bermuda – and then can select the appropriate category. The more characters the registrar enters, the narrower the list of choices becomes. This data collection model can also add a free text field in which registrars can enter more detailed information for patients in the “other” ethnicity category. Alternatively, the computer system could be designed to capture the verbatim descriptions that patients give of themselves, with organization into larger categories done at a later time when the data are cleaned. One set of categories that can support this approach is provided by the Centers for Disease Control and Prevention’s very detailed set of ethnicity categories, which is available at www.cdc.gov/phn/library/documents/xls/CDC%20Race%20and%20Ethnicity%20Code%20Set%20Version%201.0.XLS

Practical considerations

In deciding on your hospital’s data collection model, it is worth considering other requirements from federal, state, and local governments, as well as any requirements built into contracts with health insurers. Given the increasing national attention to inequalities, more public and private entities are likely to be addressing racial and ethnic inequalities in health care, and consequently requesting race and ethnicity data from hospitals.

It may also be helpful to conduct a pretest using several different data collection models at your hospital to see which best meets your needs. In addition to testing the categories to be collected, a pretest could present an opportunity to assess the data collection process, including the ordering of the questions and the time needed to collect the data.

Language

According to the 2006 U.S. Census Bureau American Community Survey, more than 54 million people in the

Massachusetts' Statewide Race and Ethnicity Data Collection Effort

In January, 2007, all Massachusetts hospitals were required to begin collecting race and ethnicity data from every patient with an inpatient stay, an observation unit stay, or an emergency department visit. These data are included in the electronic discharge data each hospital is required to submit to the state's Division of Health Care Finance and Policy. As part of this effort, a standardized set of reporting categories was created (see the fourth data collection model described in this chapter), and train-the-trainer sessions were held across the state.

A recent report on this initiative notes that

*“The new efforts in Massachusetts are unique in the constellation of requirements and approaches being implemented in the state today. First, all acute care hospitals are required to collect these data, and a recommended data collection tool has been developed jointly by the city [Boston] and Commonwealth to standardize efforts across hospitals. Second, the tool and the required categories in which hospitals must provide patient-level discharge data to the [state] include an exceptionally detailed list of ethnicities, with 31 categories that include 144 ethnicities or countries of origin. Third, the collaboration between the City of Boston, the Commonwealth of Massachusetts, and hospitals has been crucial to turning policy attention to reducing disparities in the quality of health care.”*⁵⁹

More information on the Massachusetts effort is available: Robin M. Weinick, Jacquelyn M. Caglia, Elisa Friedman, and Katherine Flaherty. *Measuring Racial and Ethnic Disparities in Health Care in Massachusetts: Lessons from Implementing a Publicly-Mandated Data Collection Program*. 2007. *Health Affairs* 26(5): 1293-1302.

United States speak a language other than English at home, and more than 24 million speak English less than “very well.”⁶⁰ Additionally, a survey showed that 63 percent of United States hospitals encounter patients with limited English proficiency daily, and an additional 17 percent care for such patients at least monthly.⁶¹ Identifying these patients and documenting their language needs is critical in

adhering to laws and regulations that require linguistic access to health care services, and can also help to identify and address inequalities related to language issues. Since 2006, the Joint Commission has had a standard requiring primary language data collection from patients, although the standard only stipulates that information is collected, not what information is collected or how.⁶²

Title VI of the Civil Rights Act of 1964 requires that all entities receiving federal funds ensure that patients are not subject to discrimination based on national origin, which has been interpreted to include limited English proficiency patients.⁶³ In addition, there is evidence that language barriers affect access to health care, quality of care, and satisfaction with care.⁶⁴ Numerous studies have shown that limited English proficiency patients are less likely than English-speaking patients to become or stay insured, to receive preventive care, and to have a regular source of primary care. Patients with limited English proficiency also are less likely to follow treatment plans, are more likely to be admitted to the hospital, have longer inpatient stays, and generally are less satisfied with their care.⁶⁴

Limited English proficiency patients need to be able to communicate with their health care providers. Collecting information about language is necessary to determine the resources the hospital needs to allocate to ensure adequate access to interpreter services. Hospitals need to determine the specific languages of their patients and the volume of limited English proficiency patients receiving care from different hospital services. Because language is so directly tied to patient care, communications, and the need for interpreter services, very specific information on the patient's preferred language is needed. Since there are potentially hundreds of languages spoken by patients in an area, your hospital will need to decide what categories of answers to include and how this information is stored to ensure that the interpreter services department has access to it for planning and service delivery. Hospitals should collect these data from individual patients, but also should consider looking at community-level information such as Census data if they are considering expanding or opening new services that might draw more patients from the region.

Language information will assist the hospital internally in planning for recruitment of bilingual clinicians, administrative staff, and interpreters, and can also be used to arrange for telephonic interpreter services. These data can also be

Health Research and Educational Trust Recommended Language Questions

Question	Response categories
1. What language do you feel most comfortable speaking with your doctor or nurse?	Include the most commonly spoken languages in your hospital and region. Allow a way to capture information on languages not included in the list.
2. How would you rate your ability to speak and understand English?	Excellent, good, fair, poor, not at all.
3. Would you like an interpreter?	Yes, no.
4. In what language would you feel most comfortable reading medical or health care instructions?	Include the same options as in Question 1.
5. How satisfied are you with your ability to read English?	Very satisfied, somewhat satisfied, satisfied, somewhat dissatisfied, very dissatisfied.
All response categories allow the registrar to indicate that the patient did not answer the question.	

used to determine the languages into which written materials for patients should be translated.

We recommend using the language questions that have been developed by the Health Research and Educational Trust and are included in their Disparities Toolkit.⁴⁷ These questions provide information about the patient's preferred language for speaking with his or her providers, literacy level, and need for interpreter services.

If asking all five questions is not feasible, questions 1 and 3 will provide usable information for your interpreter services department.

Instructions for collecting these data should explicitly address what to do in the case of children and adolescents, who may prefer to speak a different language than their parents. It is worth considering asking these questions of both children and their parents or guardians for those children who are old enough to be involved in communicating with their clinicians.

When deciding on data collection related to language, it also is important to consider patients who are hearing impaired. The American with Disabilities Act of 1990, as well as Section 504 of the Rehabilitation Act of 1973, stipulates that health care organizations provide aids and services needed for effective communication with hearing impaired patients.^{65,66} American

State Requirements for Collecting Language Information

New York State Department of Health's Language Assistance Program

Beginning September 13, 2006, all New York hospitals were required to have policies and procedures that identify the language assistance needs of the hospital's patient population. This regulation, passed by the New York State Department of Health, aims to ensure meaningful access to the hospital's services and reasonable accommodation for all patients who require language assistance, including limited English proficiency, hearing impaired, and vision impaired patients. Language preference and whether a patient refused or accepted language assistance services in the past must be identified and documented in all patient medical records upon their initial visit to the hospital. Hospitals are required to identify language groups that comprise at least 1 percent of the population in the hospital's service area, and hospital forms and instructions must be translated into these languages.

Hospitals are also required to provide free interpretation and translation services by skilled interpreters to



patients in inpatient and outpatient settings within 20 minutes of a request for translation services, and to patients in emergency settings within 10 minutes. Alternatives are available for rural hospitals that are unable to meet the requirements, provided they furnish evidence of taking steps towards compliance.

New York City Comptroller William C. Thompson Jr. stated, "The new regulation requiring communication assistance for patients with limited English proficiency will ensure that all New Yorkers are better served regardless of the language they speak. This is a tremendous victory for our diverse state."⁶⁷

A 2006 report by the New York Immigration Coalition describes the development of this law as a response to "mounting evidence from immigrant community groups that communication barriers at hospitals were driving down quality of care and reducing overall access to health care. The regulations were also spurred by civil rights complaints filed with the state attorney general against four New York hospitals in 2005, after communication barriers had directly led to serious medical harm in a number of cases."⁶⁷

The full text of the regulation under Title 10, Sections 405.7 and 751.9 is available at: <http://w3.health.state.ny.us/dbspace/propregs.nsf/4ac9558781006774852569bd00512fda160f99b394af481788525715d004c93f5?OpenDocument>

California's Senate Bill 853: Health Care Language Assistance

On October 8, 2003, California's Governor Grey Davis signed into law Senate Bill 853. The legislation ensures that California health plans provide limited English proficiency enrollees with appropriate language assistance services, and that they collect demographic profile information, including enrollees' race and ethnicity. The program requires all health care plans to have standards for enrollee assessment, providing language assistance services, staff training, and compliance monitoring.

All plans must complete a language needs assessment to identify how many enrollees require language assistance, the languages spoken by their enrollees, and each member's necessary level of assistance, and must provide written documentation outlining their data collection methods within one year of the effective date. Plans may choose from a variety of survey methods to complete the needs assessment, including the use of existing enrollment and renewal processes, mailings, and subscriber newsletters.

Under the regulation, interpreter services need to be provided to enrollees in a timely manner. The number of languages that all vital documents must be translated into depends on plan demographics. For example, a plan that services over one million enrollees must translate vital documents into the two top languages other than English and any additional languages where the enrollee population is equal to 0.75 percent or 15,000 of the enrollee population, whichever is less. It also requires health plans to report annually to the Legislature on numerous cultural competency measures. The health plan's language needs assessment, plan demographic profile (including its enrollees' race and ethnicity), and language translation requirements must be updated at least once every three years. Beginning in 2008, plans must report biennially to the Legislature and the Advisory Committee on Managed Health Care regarding compliance with the legislation's standards, including the results of compliance audits and reviews.

For more in-depth information concerning SB 853, the full text of the regulation is available at: www.leginfo.ca.gov/pub/03-04/bill/sen/sb_0851-0900/sb_853_bill_20031009_chaptered.html

Sign Language may be a primary language for some of these patients, but others may not use it, and may need other aids or services, such as assisted listening devices. A 2006 national hospital survey found that 11 percent of hospitals frequently encountered patients using American Sign Language, so for some hospitals these populations are not insignificant in number.⁶¹

Socioeconomic status

When developing equity reports, it can be helpful to include a measure of socioeconomic status. As discussed above, socioeconomic status is independently associated with health care outcomes, and is also related to racial and ethnic inequalities.

There are several indicators of socioeconomic status that your hospital could consider. Insurance coverage is commonly used because the information is readily available, and patients are usually grouped into those who are uninsured, those who have Medicaid coverage, or those who are privately insured or have Medicare. This indicator, however, is of limited usefulness as a proxy for socioeconomic status, in part because many low-income patients can be privately insured. Medicare patients can also have a wide range of income levels.

Another common indicator is the patient's income or the income of his or her family. Although income provides the most direct measure of socioeconomic status, it can be very difficult to ask patients for this information for any reason other than financial counseling and determining public program eligibility, and we do not recommend doing so. Some researchers have used Census data on the mean or median income of the ZIP code in which the patient lives as a proxy for the patient's income.⁶⁸ While this can provide helpful information for comparing groups of patients, it is frequently inaccurate for individuals.

Finally, the patient's highest level of education achieved (or educational level of the parent, if the patient is a child) is a useful measure of socioeconomic status. When this was tested with patients in Boston, Massachusetts, they were generally receptive to answering this question.⁵⁴ The Boston Public Health Commission now requires hospitals to ask all patients seen in the inpatient setting, an observation unit, or an emergency department two questions on education:

1. What is the highest grade you completed so far in school? (With children, hospitals should collect information on the mother or guardian.) If you reached your highest level of education outside of

the U.S., please select the category that is the closest to your highest level of education so far.

Response categories:

- I did not attend school
- 8th grade or less
- Some high school
- Graduated from high school or obtained my GED
- Some college/vocational/technical program
- Graduated from college, graduate or postgraduate school
- Other Education (Please Specify)
- Declined/Unavailable

2. Where did you reach your highest level of education so far?

Response categories:

- In the U.S.
- Not in the U.S.
- Declined/Unavailable

Other equity data

Immigration

If your hospital serves immigrant populations, concerns may arise about collecting information about patients' country of origin, length of time in the United States, and citizenship status. This information can be used to better understand and explain any racial and ethnic inequalities that may be found, and may be appropriate to include in your equity report. There is some evidence that health outcomes for new immigrants worsen the longer they reside in the United States, and that groups of patients that have been in the United States for different lengths of time use the health care system differently.^{55,69}

Citizenship status may be important because it is directly tied to eligibility for federal programs such as Medicaid, which has required proof of citizenship for all applicants since 2006. However, asking for this information at patient registration – specifically for patients who are undocumented – may be problematic, and may scare patients away from your hospital, even if they are not applying for Medicaid or other public programs requiring documentation. We do not recommend collecting information on citizenship solely for the purposes of equity reporting. If your hospital does decide to collect citizenship information as part of routine patient registration, do so with caution. Explaining the reasons for collecting this information will be critical

for reassuring patients. Patients' country of origin and length of time lived in the United States are likely to give patients less cause for concern than citizenship information.

Gender and age

Gender and age (or date of birth) are already part of general patient information collected at registration. Since there are known inequalities in health care by gender and age, it may be helpful to include these data in your equity report.⁷⁰⁻⁷²

How to Collect the Data

Introducing the topic

Research has shown that most patients think that health care providers *should* collect race and ethnicity data and use these data to monitor the quality of care:

- Nearly 80 percent of patients strongly agree or somewhat agree that “it is important for hospitals and clinics to collect information from patients about their race or ethnic background;” and
- Nearly 97 percent of patients feel that “it is important for hospitals and clinics to conduct studies to make sure all patients get the same high-quality care regardless of their race or ethnic background.”⁷³

In general, most patients are willing to provide information on their race and ethnicity, but patients do have concerns about how information about them will be used. Therefore, before asking patients about their race, ethnicity, language, and socioeconomic status, it is important to let them know why these data are being collected. One study tested patients' comfort level with providing hospital personnel with race and ethnicity information after having the topic introduced to them in four different ways. By far the most successful introduction was:

“We want to make sure all our patients get the best possible care, regardless of their race or ethnic background. We would like you to tell us your race and ethnic background so that we can review the treatment that all patients receive and make sure that everyone gets the highest quality care.”⁷³

When this introduction was tested with individuals who rated their comfort level with providing race and ethnicity data as less than an 8 on a 10-point scale, it resulted in substantial increases in patients' comfort level with reporting their information to hospital personnel. As a result, we recommend its use

with all patients. A slightly adapted version of this introduction, continuing to emphasize the best possible care for *all* patients has also been used successfully in the Massachusetts-wide hospital data collection effort. If hospital personnel are questioned by patients, it may be helpful to add that this information is confidential and in no way affects the care the patient receives.

Self identification

Race must be self-reported by the patient. The practice of staff “eyeballing” a patient and/or looking at his or her surname in an attempt to assign the patient to a racial or ethnic category is no longer acceptable, and the increasing diversity of the United States population and the growing number of patients with multiple ancestries makes it even less accurate than in the past. Although more accurate for white and black patients than for other groups, staff impressions of patients' race and ethnicity are often inaccurate and generate more missing data and more patients classified as “other.”^{74,75} Unfortunately, a 2004 study found that half of hospitals that collect race and ethnicity data do so based on admitting staff's observations of the patient's appearance or last name.¹⁶

As with other patient registration information, written protocols can be helpful for providing guidance on obtaining information from the parents or guardians of children. The protocols should clearly specify that information on race and ethnicity is being requested about the child, not the parent or guardian. For language, your hospital may choose to specify that the language of both the child and his or her parent or guardian be collected.

When the data are collected

When implementing a new or revised data collection system, your hospital will need to decide whether to collect these data as patients present or are scheduled to present in the hospital as inpatients or outpatients; through a call or mailing to patients with scheduled admissions or outpatient appointments; or through calls or a mass mailing to all patients. If the data are collected only for patients presenting or scheduled, it can take considerable time before data are available for all patients, so an equity report may not be feasible for several years. A mass mailing or calling of all patients would first require a definition of who the hospital's patients are (for example, patients seen in the past three years), and resources to carry out the data collection activities. Alternatively, if the hospital has a process for routinely updating patient registration information, these questions could be asked at that time.

Hospitals also should consider re-asking these questions at regular intervals. Re-asking the questions (by different staff members than those who originally collected the data) can provide a quality check on the data, but can also provide information about whether patients change the way they identify themselves over time.

A related decision is how the data are collected if they are not obtained at registration – whether they will be obtained in person, over the telephone, through the mail, or using any combination of these approaches. The benefit of collecting the information in person or on the phone is that any questions or confusion that the patient may have may be addressed. If your hospital collects these data through the mail, it may be necessary to provide written documentation to address any anticipated questions or confusion. The success of different data collection modes will depend on a variety of factors, including the availability of staff time, patients' literacy levels, and the accuracy of existing patient addresses and/or phone numbers. If your hospital conducts any pilot testing of your data collection efforts, it can be helpful to include an assessment of different modes of data collection in your testing.

Who collects the data

Your hospital may have a centralized model where the data are collected in one or two departments only, such as registration and admitting, or a decentralized model where the data are collected at multiple sites by many staff across the hospital (including clinical practice sites). One of the major benefits of a centralized model is that the data collection may be more easily implemented and monitored, and training will include a smaller number of staff. For those hospitals with affiliated private clinical practices, consideration might also be given to coordinating the data collection with the practices. As with other patient registration information, interpreter services can be very helpful in obtaining race, ethnicity, language, and socioeconomic status data from patients who do not speak English.

Training Staff to Collect the Data

Whether your hospital is introducing a new data collection system or updating an existing one, developing a staff training program is essential. Investments in data collection must be supported by staff training to ensure that the data are accurate and consistently collected. Staff training should be done prior to the implementation of the new

or revised system, and refreshers should be conducted on a periodic basis.

Developing the training program

Developing a training program should be part of the overall data collection initiative. The program should be developed collaboratively across hospital departments with those involved in the overall planning effort, as well as other key staff. It is helpful to involve some of the staff who will be collecting the data in the process of developing the training program, to establish them early on as partners in the data collection process.

As the training program and data collection are implemented, it is important to get feedback from the staff being trained and to adjust the training program as needed. The training program should be used initially for all staff who will be collecting the data and for new staff as they are hired.

Two resources may be helpful in developing your hospital's training program. The toolkit prepared by the Health Research and Educational Trust is one useful source for training materials.⁴⁷ In addition, the training materials used for the Massachusetts state-wide race and ethnicity data collection effort may be of use.⁵⁸

Who should take the training program?

All hospital staff who will be collecting the data should participate in the training. If data will be collected at multiple sites across your hospital, staff from all sites should be trained. In addition to those directly involved in the data collection, their supervisors and managers need to be informed about the data collection, and should participate in at least some parts of the training. They should also have copies of the training materials used.

If your hospital is large or is part of a larger health care system and will need to train many people to collect the data, one helpful approach is a train-the-trainer program. Those who attend this program can then go back to their own organizations and provide the training to other staff. Prior to Massachusetts implementing its new statewide data collection effort, a collaborative effort between the state, the city of Boston, the state hospital association, and two hospitals resulted in a train-the-trainer model that hospital representatives then used to train staff at each of their institutions.^{58,59}

Content of the training program

A training program should be tailored to the specific method of data collection being implemented in your

hospital. Ideally, it should include information on:

- Why the data are being collected and how they will be used;
- What specific data will be collected;
- How and when to collect the data;
- How to address patients' questions and concerns about the data; and
- Information about the quality assurance program.

It is helpful for several training modalities to be used, including didactic presentations, review of written materials, role playing, and hands-on work with computer screens that show the actual format of the questions.

Why the data are being collected and how they will be used

In the same way that it is necessary to inform patients about why the data are being collected, it is also important for staff to understand the rationale for collecting the data. This information can improve the staff's comfort level in asking patients these questions which should, in turn, improve patients' comfort level with answering them. Experiences from hospitals that have already implemented data collection have shown that the more comfortable staff members are, the less resistant patients are in providing this information.⁵⁴

In addition to general statements about the uses of these data to identify inequalities, target interventions, and improve the quality of care for patients, the training should include specific information about known health inequalities among different racial and ethnic groups. To the extent feasible, some of the data presented should focus on racial and ethnic groups found in your hospital or geographic area.

It also is important to address legal, confidentiality, and data use issues with staff. Since there are common misunderstandings about the issue, it is important to ensure that the staff understand that data collection is legal. Whatever decisions or protocols your hospital develops related to HIPAA and other confidentiality concerns, as well as use of and access to these data, should be communicated to staff in the training.

What specific data will be collected

As staff are presented with information on the specific data that will be collected, it may be helpful to provide them with information about the different data collection options that are available and the process that led your

hospital's choice. Because data collection is an evolving field, and one in which there is little consensus, this background information could be helpful to staff in understanding what they are being asked to collect, and in addressing some of their potential concerns. If your hospital collects both race and ethnicity data as is done in Massachusetts (data collection model No. 4 above), it is important to have the training program explicitly address the issue of what is race versus what is ethnicity, as this issue is likely to arise with some patients.

A website from the Massachusetts training provides some specific guidance about how to respond to questions from patients on this issue.⁵⁸

How and when to collect the data

Written protocols should be established prior to the training that spell out how and when staff should ask patients about their race, ethnicity, language, and socioeconomic status. The training also should provide direct guidance to staff on what to do when patients refuse to respond to questions. Consistent with the recommendation in the Health Research and Educational Trust toolkit, we recommend that your hospital provide a "refused" or "declined to answer" option for staff, and then only ask the question again later at a pre-determined interval. While these data are very important for understanding the care that your hospital provides, it is not worth insisting on an answer and risking the anger of the very small number of patients who would prefer not to provide this information.

Written protocols, scripts, and role playing exercises can be helpful tools in training staff to ask questions they have not asked before. The role playing exercises used in the Massachusetts training are available for use; they include role plays related to both train-the-trainer sessions and to the direct staff training sessions.⁵⁸ It can also be helpful to shown screen shots of your hospital's registration system to illustrate how the data should be entered.

To emphasize the importance of asking every patient about his or her race and ethnicity rather than assigning him/her a category based on assumptions, it can be helpful to present photos of individuals whose race or ethnicity is not "obvious" based on their appearance. Having staff guess the race and ethnicity of these individuals and then having a discussion about the accuracy of the guesses can help to further engage them. Jacquelyn Caglia, MPH, who has conducted extensive staff training programs for the Cambridge Health Alliance,

recommends taking advantage of the diversity of the staff attending the training sessions as well by having the participants ask the questions of one another.

How to address patients' questions and concerns about the data

The training should provide staff with guidance on how to respond to questions and concerns that arise when speaking with patients. While few patients are likely to challenge staff when being asked about their race and ethnicity, a goal of the training is to provide staff with a comfort level in answering questions about why the information is being collected, how it will be used, and who will have access to it. For example, if patients have concerns about how the data will be used or who will see them, the staff needs to be comfortable discussing these topics. Staff should also receive training on how to address any difficulties patients may have in answering specific questions. The Health Research and Educational Trust toolkit includes examples of patients' concerns and questions and some suggested responses.⁴⁷

Information about the quality assurance program

Information about how data quality will be evaluated should be part of the training. Staff need to understand the importance of collecting high-quality data, how data quality will be monitored, and what types of data quality reports will be produced.

Key Questions

- Do we have the right staff involved in developing our training and quality assurance programs?
- What are the contents of our training and quality assurance programs?
- Has everyone who should be trained receive training?
- What are the plans for ongoing training and quality assurance?

Where the Data Are Stored, How They Are Accessed, and By Whom

Hospitals often have many computer systems, and decisions must be made about where equity data are stored, and whether they can be linked to other hospital systems. Should the information, for example, be stored in the patient registration system? Should it be linkable to the electronic medical record, if the hospital has one?

How will the information be linked to quality measures for preparation of the equity report? And who should have access to it? Your hospital should consider allowing clinicians, administrators, and researchers to have access to these data as part of ongoing quality reporting efforts. Uses of these data should be clearly spelled out in writing, and appropriate HIPAA and other confidentiality provisions should be followed.

Data Quality Assurance

In order to ensure that high-quality data are being collected and to identify early concerns, a quality assurance plan should be developed before data collection begins and should be implemented as soon as the new data system is ready. The plan should address the completeness and accuracy of the data, and should also include information on the processes in place to collect the data.

The completeness of the data can be assessed through review of the missing and “unknown” data. These should be analyzed by site if the data are being collected at multiple sites, and by staff member to determine where there may be a need for additional training. For those hospitals collecting data using multiple modes – phone, mail, and in person – these data should also be assessed by mode, as quality issues may vary by data collection mode.

Ensuring and/or assessing the accuracy of the data is more difficult, but several strategies can be helpful. A first approach would be to identify values that fall outside the scope of “acceptable” values. This could include, for example, free text fields that include answers for which categories are available or which include information that is not related to the question being asked. It would then be possible to incorporate mechanisms into your hospital's computer system that do not allow such out-of-range values to be entered. It can also be helpful to generate regular reports that identify data that do not fall within the scope of acceptable values.

Hospitals also can have supervisors listen to staff interactions with patients when these questions are asked. Patients can also be randomly selected for additional interviews where someone other than the original interviewer re-asks the questions. Other issues to be considered in evaluating both the data quality and the data collection process include the extent to which patients seem to understand the questions being asked and the amount of staff time required.

Any data problems that are identified should be reviewed with the staff involved, and a corrective action plan should be developed if needed. General reports on the quality of the data should also be shared and discussed with the entire staff involved in the data collection. Problems can also be addressed in regular or ad hoc written staff communications such as e-mails or training bulletins.

Especially in the initial implementation phase, it is helpful to schedule early sessions to review experiences and to discuss the issues that have been encountered in the data collection process. These sessions can help to determine whether adjustments to the data collection protocols or additional training are needed.

Developing a Plan for Informing Staff, Patients and the Public about these Efforts

In addition to training the staff directly involved in the data collection as well as their supervisors and managers, it also is important to more broadly inform other hospital staff about the equity reporting effort and any new data collection. This will let staff know that new information may be included in medical records or other systems or reports, and will help them to respond to any questions or concerns that patients may bring to them about these changes.

It also is important to let patients and the broader public know about the new data collection. This can be done by placing posters throughout the hospital, having brochures given to patients as they come into the hospital or mailed to them in advance of a scheduled visit, or through public service announcements or other media outlets. Patient posters and frequently asked question documents are available from the Massachusetts' training efforts.⁵⁸

Summary

The quality of your hospital's equity report depends on the integrity of the data collection process. Successful data collection requires the buy-in and support of hospital leadership and strong project management, with a clearly defined process and the involvement of needed staff from across the hospital. The planning process should determine which data your hospital will collect, and how they will be collected, used and stored. Patients and the public should be informed about these efforts, and the development of staff training and quality assurance programs are crucial to success.

Resources

The Health Research and Educational Trust toolkit provides extensive information on how to collect race, ethnicity, and language data from patients. It is available free of charge:

Romana Hasnain-Wynia, Debbie Pierce, Ahmed Haque, Cynthia Hedges Greising, Vera Prince, and Jennifer Reiter. Health Research and Educational Trust Disparities Toolkit. 2007. www.hretdisparities.org.

The educational materials used for the Massachusetts statewide race and ethnicity data collection effort are available free of charge on the website of the Massachusetts Hospital Association. www.mhalink.org/public/news/2006/2006-11-09.cfm.

Additional information on the Massachusetts effort is available in:

Robin M. Weinick, Jacquelyn M. Caglia, Elisa Friedman, and Katherine Flaherty. Measuring Racial and Ethnic Disparities in Health Care in Massachusetts: Lessons from Implementing a Publicly-Mandated Data Collection Program. 2007. *Health Affairs* 26(5): 1293-1302.

The Boston Public Health Commission's Disparities Project provides information on collecting race, ethnicity, language, and education information from patients, as well as additional tools. www.bphc.org/programs/program.asp?b=7&d=0&p=202

The U.S. Department of Health and Human Services' Centers for Disease Control provides a detailed code set for ethnicity data. www.cdc.gov/phn/library/documents/xls/CDC%20Race%20and%20Ethnicity%20Code%20Set%20Version%201.0.XLS

The U.S. Office of Management and Budget race and ethnicity data collection requirements are available as well:

Federal Register Notice: Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, 30 October 1997, www.whitehouse.gov/omb/fedreg/1997standards.html

Chapter 4: Measures

Overview

One major task in developing your hospital's equity report is deciding what quality measures to include. Since the Institute of Medicine report on health care quality was released, considerable work has been done in the area of measure development. In this chapter, we offer suggestions on measures to consider including in the report, resources to consult, and approaches to measure selection.

Your hospital may choose to start small in order to get an equity reporting process launched. While measures can be added or changed for later reports, we recommend that even the first equity report include a variety of measures. Additionally, we recommend that your hospital consider including some organizational measures. To the extent possible, the report should focus on both inpatient and outpatient care (if your hospital provides such services), and should examine care across the hospital in many departments, including any hospital-affiliated physician practices.

Types of Measures

When possible, we recommend using measures that are widely accepted. However, quality measurement in health care is an evolving area, and there may be specific concerns that your hospital would like to explore for which there are no standard measures, so some untested measures may also be called for. In this section, we describe the general types of measures to consider for the report, including distribution measures, utilization and process of care measures, health outcomes, patient experiences with care/satisfaction measures, and organizational measures.

Distribution Measures

Distribution measures describe where patients from different groups (race, ethnicity, language, and socioeconomic status) are seen in the hospital, and what conditions or diseases are found among them. For example, are there particular inpatient services that see large numbers of a patients from a specific racial or ethnic group? On the outpatient side, are there particular primary care or specialty practices that have high volumes of patients with limited English proficiency? Does the emergency department see high volumes of patients from any particular socioeconomic status group? Regarding conditions or diseases, are there significant volumes of patients from certain groups with a high incidence of diabetes or asthma? While such information on the distribution of patients does not automatically indicate

areas of concern, it can turn up some interesting findings, such as services that see disproportionately large numbers of Chinese-speaking patients, or those that see a significant number of Medicaid-covered patients. The relative distribution of patients by service can indicate areas of the hospital where care may not be accessible or where additional resources to care for certain populations may be needed.

The distribution measures may also include information about the population distribution in your hospital's catchment area by race, ethnicity, language, and socioeconomic status, drawn from U.S. Census Bureau data. Comparing this distribution to your hospital's can help identify access issues that may be stopping patients from coming to your hospital. For example, are there any population groups that are not coming to your hospital because public transportation is not available? Are there cultural or linguistic barriers that may be keeping certain groups from using your hospital's services?

Getting Started

UW Health, Madison, WI

UW Health, an academic health system comprised of the University of Wisconsin Hospital and Clinics, the University of Wisconsin Medical Foundation, and the University of Wisconsin School of Medicine and Public Health, has collected race and ethnicity data for about 2 years, and language data for about 10 years.

In looking at inequalities, UW Health has taken an incremental approach. Working with the group that focuses on quality of care, the system decided to first look at where patients get their care by race, ethnicity, and language. They examined both inpatient and outpatient care, including primary and specialty care visits, emergency department visits, and inpatient services. They plan to analyze utilization of care next, including the total number of visits and the average number of visits per patient in different racial and ethnic groups. The hospital has also considered stratifying some of its National Hospital Quality Measures (see below), but small sample sizes are a concern.

Utilization and Process of Care Measures

Utilization and process of care measures provide information about how much care a patient receives, when the patient receives care, and the content of his or her care. Much of the work in health care quality measurement to date has been in this area. Examples of such measures include the amount of primary and specialty care received; hospital admissions and length of stay; preventive screening tests conducted; and measures of other types of testing and treatment. Some of the questions these types of measures can answer include:

- Are children receiving the recommended number of well-child visits?
- How often and for how long are asthmatic patients hospitalized?
- Are patients who meet the criteria for different preventive screening tests receiving those tests?
- Are hospitalized pneumonia patients receiving the recommended course of treatment?

Observed differences in utilization may reflect differential need, if, for example, one racial or ethnic group has a younger patient population than another, or they may demonstrate significant inequalities in how the hospital meets the needs of different patient groups. Process of care measures provide information on which groups of patients receive recommended services, and when these services are received.

Outcome Measures

Outcomes include measures of mortality and morbidity. Typical mortality measures may include deaths in the hospital or within 30 days after discharge. Morbidity measures cover a broad range of outcomes, including the status of a disease or condition, or the result of a treatment or procedure. Examples of morbidity measures include:

- Birth trauma rate for neonates
- Central venous catheter-related bloodstream infections per 1,000 patient days
- Postsurgical infection rates
- Hemoglobin A1c levels for diabetic patients

Additionally, measures related to patient safety and to sentinel safety events, such as wrong surgeries or foreign objects retained after surgery, can be considered as potential outcome measures for your hospital's report.

Using Established Measures

Baylor Health Care System, Dallas, TX

In July, 2006, Baylor Health Care System in Dallas, Texas created an Office of Health Equity with a mission to reduce or eliminate inequalities in health care access, care delivery, and outcomes among the populations served by the system. Jim Walton, DO, serves as Chief Equity Officer and Vice President of Health Equity for Baylor, and the Office of Health Equity includes five additional staff.

In its first year, the office conducted a Health Equity Performance Analysis and created a Health Equity Community Advisory Council. The Health Equity Performance Analysis evaluates hospital-level performance for the National Hospital Quality Measures (*see below*) by patients' race, ethnicity, gender, age, payer, and income (estimated from the average income of patient's recorded ZIP code). The initial analysis revealed an inequality in care delivery among patients with different payers (commercial insurance compared to self-pay patients) for surgical infection prevention process of care measures. These measures include patients receiving the correct prophylactic antibiotics one hour before surgery and having their antibiotics stopped 24 hours after surgery.

To further this work, Dr. Walton and his team have been participating in a national leadership forum designed to reduce inequalities in the way health care is provided to minority groups. Through this participation, Dr. Walton will continue analyzing Baylor's inpatient and ambulatory care data, while implementing strategies to reduce any inequalities that are found.

If a hospital's equity report shows that health outcomes differ for groups of patients from different racial, ethnic, language, or socioeconomic groups, more investigation may be needed to determine the causes and what to do about them. When such inequalities in outcomes are discovered, they should automatically trigger close attention to address any problems that are identified.

Patient Experience and Satisfaction Measures

Measures of patients' experiences with care can help the hospital understand how patients view and understand

what happens to them during their care. National data have shown that Latinos and Asians tend to report poorer experiences than whites, while Blacks report better experiences despite having more problematic care.^{25-30,76} While it is not yet clear whether this is related to having different experiences with care as opposed to differences in how survey questions about patient experiences and satisfaction are interpreted, such measures can still be helpful in understanding how different groups of patients view their care.

Organizational Measures

There are two primary types of organizational measures that your hospital may wish to include in its equity report. The first includes measures related to interpreter services. These may include the volume of interpreter services provided to patients with limited English proficiency, the distribution of the languages in which interpreter services are provided, how many are provided in person vs. via telephone, how many in inpatient vs. outpatient settings, and how interpreter services sessions are distributed across different clinical departments. Related measures include the proportion of interpreters who have passed a certification test, if that is not required as a condition of employment. In addition, it may be helpful to measure the translation of written documents, such as the proportion of patient education materials that are translated for non-English speaking patients, or work

that is being done to increase the availability of follow-up care resources and referrals in languages other than English.

Another set of organizational measures relates to staffing. Here, it may be useful to examine a number of measures broken down by race and ethnicity, including turnover, recruitment, retention, advancement, and staff satisfaction (if assessed regularly). In addition, if your hospital offers cultural competence or other relevant training programs for staff, including measures related to the number of staff completing the training by department can help to both track progress and raise visibility. While such measures are often considered the province of human resources or diversity initiatives, including them in an equity report can send a powerful signal regarding the importance of providing a welcoming, equitable environment at all levels.

Specific Quality Measures to Consider

Inpatient Measures

We include below some of the measures to consider including in your hospital's equity report, drawn from nationally-recognized organizations. All of these measures can be stratified by patients' race, ethnicity, language, and socioeconomic status to contribute to an equity report. In addition, Appendix II shows examples of measures that have been used in research projects that investigate inequalities in health care.

Table 1	Hospital Quality Alliance Measures
Acute Myocardial Infarction	Aspirin at arrival Aspirin at discharge Beta-blocker at arrival Beta-blocker at discharge Angiotensin converting enzyme inhibitor or angiotensin receptor blocker for left ventricular systolic dysfunction Smoking cessation advice/counseling Thrombolytic medication received within 30 minutes of arrival Percutaneous coronary intervention received within 90 minutes of arrival 30-day mortality rate
Heart Failure	Left ventricular systolic dysfunction evaluation Angiotensin converting enzyme inhibitor or angiotensin receptor blocker for left ventricular systolic dysfunction Discharge instructions received Smoking cessation advice/counseling 30-day mortality rate



Table 1**Hospital Quality Alliance Measures (Continued)**

Pneumonia	Initial antibiotic received within 6 hours of arrival Oxygenation assessment Pneumococcal vaccination Blood culture performed prior to administration of first antibiotic(s) Smoking cessation advice/counseling Received most appropriate antibiotic Influenza vaccination
Surgical Care Improvement	Prophylactic antibiotic(s) one hour before incision Prophylactic antibiotic(s) stopped within 24 hours after surgery Selection of antibiotics given to surgical patients Prophylaxis to prevent venous thromboembolism ordered Prophylaxis to prevent venous thromboembolism received
Patient Experiences with Care	Hospital CAHPS® survey results on patient interactions with doctors, nurses, and staff; cleanliness of the hospital; pain control; communication about medications; and discharge information (see Table 3)

The primary set of quality measures used by hospitals is the Hospital Quality Alliance measure set (www.hospitalqualityalliance.org/hospitalqualityalliance/qualitymeasures/qualitymeasures.html). These measures, known as the National Hospital Quality Measures or Core Measures, are shown in Table 1. They are available on the Hospital Compare website (www.hospitalcompare.hhs.gov), which makes these measures available to the public, individually identifying each hospital in the United States. Hospital Compare was created through the efforts of the Centers for Medicare & Medicaid Services of the U.S. Department of Health and Human Services and other members of the Hospital Quality Alliance. These measures are also used by The Joint Commission (www.jointcommission.org) as part of its hospital accreditation program.

These Hospital Quality Alliance measures are a subset of measures endorsed by the National Quality Forum. The full list of the *NQF-Endorsed™ Standards for Acute Care Hospital Performance* is available at www.qualityforum.org/projects/ongoing/hosp-priorities2007/. The measures endorsed by the National Quality Forum cover eight clinical areas (acute coronary syndrome, asthma, cancer, cardiac surgery, heart failure, pneumonia, obstetrics/newborn care and venous thromboembolism), and also includes several cross-cutting areas. The criteria by which the NQF-Endorsed™ measures are assessed by the Hospital Quality Alliance for

determining adoption is available at www.hospitalqualityalliance.org/hospitalqualityalliance/content/2007/PDF/071212-HQAMeetingMaterials.pdf

As part of its endorsed standards, the National Quality Forum also includes measures of serious reportable events and recommended practices to improve patient safety. Table 2 shows examples of some of the serious reportable events. A full list of these measures is available at www.qualityforum.org/projects/ongoing/hosp-priorities2007/

One important dimension of quality relates to patient experiences with health care. The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) family of surveys (www.cahps.ahrq.gov) was developed by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality through a rigorous scientific process. One key survey is the Hospital CAHPS® (also known as HCAHPS®) instrument. The National Quality Forum has endorsed this survey and includes HCAHPS® measures in its *NQF-Endorsed™ Standards for Acute Care Hospital Performance*. In addition, HCAHPS® measures are included in the Hospital Quality Alliance measure set, and the Centers for Medicare & Medicaid Services now requires HCAHPS® data in order for general acute hospitals to maintain their eligibility for full reimbursement updates. HCAHPS® measures are also included in the public reporting efforts on Hospital Compare (www.hospitalcompare.hhs.gov).

**Table 2 NQF-Endorsed™ Standards for Acute Care Hospital Performance
Examples of Serious Reportable Events**

Type of Event	Example
Surgical	Surgery on wrong patient or wrong body part
Product or Devices	Patient death or serious disability associated with contaminated drugs, devices, or biologics
Patient Protection	Patient death or serious disability associated with patient elopement (disappearance)
Care Management	Maternal death or serious disability associated with labor and delivery in a low risk pregnancy while in a healthcare facility
Environmental	Patient death or serious disability associated with the use of restraints or bedrails while being cared for in a healthcare facility
Criminal	Abduction of a patient of any age

The CAHPS® instruments ask patients about their race and ethnicity, creating the potential for the hospital or its survey vendors to stratify responses for different racial and ethnic groups. A summary of the HCAHPS® measures is shown in Table 3. Those hospitals that use other surveys to assess patient satisfaction (such as Press Ganey) might consider including these data in their equity reports as well.

Another resource worth considering as a source of measures for your hospital's equity report is the Agency for Healthcare Research and Quality (AHRQ). AHRQ has developed a number of hospital quality measures covering four categories: inpatient, patient safety, pediatrics, and prevention. The inpatient quality indicators include inpatient mortality for medical conditions and in-hospital surgical procedures. The patient safety measures focus on potentially avoidable complications and iatrogenic events. The pediatric indicators identify potentially avoidable hospitalizations among children and the prevention indicators identify such admissions among adults; these measures are best interpreted as indicators of admissions that could be prevented, at least partially, through high-quality outpatient care. Information on these measures can be found at www.qualityindicators.ahrq.org.

The Agency for Healthcare Research and Quality also produces two annual reports – the *National Healthcare Quality Report* and the *National Healthcare Disparities Report*; both are available on the Agency's website (www.ahrq.gov/qual/measurix.htm). The *National Healthcare Quality Report* provides a

comprehensive national overview of four dimensions of the quality of health care – effectiveness, patient safety, timeliness, and patient-centeredness. The 2007 report includes 218 measures and 41 core measures related to both inpatient and outpatient care, including many of the well-accepted, National Quality Forum-endorsed measures. The 2007 *National Healthcare Disparities Report* emphasizes differences by race/ethnicity and income for 42 quality measures and eight access to care measures.

Outpatient Measures

One source to consider for outpatient measures is the *NQF-Endorsed™ Standards For Ambulatory Care*. They cover several clinical areas, including asthma, diabetes, heart disease, hypertension, medication management, mental health and substance abuse management, obesity, patient experiences with care, prenatal care, screening and immunization, and evidence-based practices for substance use. Many of these measures are also included in the National Committee for Quality Assurance's HEDIS (Healthcare Effectiveness Data and Information Set) measures, which cover 90 percent of enrollees in managed care plans in the United States. Information on the 2008 HEDIS measures may be found at http://web.ncqa.org/Portals/0/HEDISQM/HEDIS2008/2008_Measures.pdf

If your hospital conducts patient experiences with care or patient satisfaction surveys for ambulatory care practices, these measures can be stratified by race, ethnicity, language,

Table 3 Hospital CAHPS® Survey Core Measures

Survey Core Composites and Items		Response Format
<i>Communications with Nurses</i>		
Question 1	During this hospital stay, how often did nurses treat you with courtesy and respect?	Never/Sometimes/ Usually/Always
Question 2	During this hospital stay, how often did nurses listen carefully to you?	
Question 3	During this hospital stay, how often did nurses explain things in a way you could understand?	
<i>Communications with Doctors</i>		
Question 5	During this hospital stay, how often did doctors treat you with courtesy and respect?	Never/Sometimes/ Usually/Always
Question 6	During this hospital stay, how often did doctors listen carefully to you?	
Question 7	During this hospital stay, how often did doctors explain things in a way you could understand?	
<i>Communication about Medication</i>		
Question 16	Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?	Never/Sometimes/ Usually/Always
Question 17	Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?	
<i>Responsiveness of Hospital Staff</i>		
Question 4	During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?	Never/Sometimes/ Usually/Always/ Never pressed call button
Question 11	How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?	
<i>Physical Environment</i>		
Question 8	During this hospital stay, how often were your room and bathroom kept clean?	Never/Sometimes/ Usually/Always
Question 9	During this hospital stay, how often was the area around your room quiet at night?	
<i>Pain Control</i>		
Question 13	During this hospital stay, how often was your pain well controlled?	Never/Sometimes/ Usually/Always
Question 14	During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?	
<i>Discharge Information</i>		
Question 19	During this hospital stay, did doctors, nurses or other staff talk with you about whether you have the help you needed when you left the hospital?	Yes/No
Question 20	During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?	



Table 3 Hospital CAHPS® Survey Core Measures (Continued)

Survey Core Composites and Items		Response Format
<i>Global Ratings</i>		
Question 21	Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital?	0 (Worst) to 10 (Best)
Question 22	Would you recommend this hospital to your friends and family?	Definitely no/Possibly no/ Possibly yes/Definitely yes

or socioeconomic status (depending on the patient information that is available) and included in an equity report as well.

Considerations in Selecting Measures

There are several approaches for selecting measures to be included in your hospital's equity report, some of which are described in this section. None of these approaches are mutually exclusive, and your hospital's equity report will likely combine a number of them. Your hospital may also consider an incremental approach to developing your equity report, as was the case for the University of Wisconsin Health System. Their first report examined the racial/ethnic distribution of their patients in inpatient units, primary care and specialty departments, and the emergency department. The next iteration of the report will look at patient utilization within these departments.⁷⁷

In selecting measures, your hospital should consider the following:

- The volume of patients at your hospital that are affected by the measure;
- How significant an impact the measure has on patients' wellbeing;
- Whether the measure is actionable and can be used to motivate change if any inequalities are found;
- Whether the measure has been validated and the extent to which it is widely accepted; and
- How feasible it is to use the measure, and the reasonableness of administrative burden in collecting and reporting the data.

As more hospitals move toward electronic health records and these systems are improved, the burden of data collection

for measurement should lessen. Currently, however, many measures that require chart review pose a significant time and cost burden even in hospitals using advanced electronic health records, and it may be best to limit chart review to measures that can be based on a sample of patients or those that are already included in other quality reporting efforts.

Using Patient Distribution Data

In addition to providing useful information in their own right, measures of the distribution of patients by race, ethnicity, language, and socioeconomic status can help guide which specific utilization, process of care, and outcome measures are included in your hospital's equity report. For example, if these data show that the obstetrical service has a high volume of Latino patients or those who are covered by Medicaid, then obstetrical measures may receive additional attention in the report. If your hospital sees a high volume of African American patients with diabetes or asthma, then these may be measurement areas on which to focus.

Key Questions

- What quality measures are already used at the hospital and may be ready for stratification by race, ethnicity, language, or socioeconomic status?
- Can your hospital's patient experiences with care/patient satisfaction data be stratified by race, ethnicity, and socioeconomic status? Are the surveys administered in languages other than English?
- Are there any particular clinical areas the hospital is concerned about because of the patient population they serve? What clinical areas should be emphasized in the report?

Stratifying Your Current Quality Measures

Perhaps the simplest approach to selecting measures for your hospital's initial equity report is to stratify measures that the hospital currently uses for quality reporting by race, ethnicity, language, and socioeconomic status. Both Baylor Health Care System in Texas and Mount Sinai Medical Center in Chicago have used this approach.^{78,79} It is worth noting, however, that despite the considerable number of research studies demonstrating the existence of racial and ethnic inequalities in hospital care (see *Appendix II*), standard quality measures such as the National Hospital Quality Measures may not show significant inequalities within hospitals.⁴³ As a result, we recommend that considering the use of additional measures in your hospital's equity report.

One of the issues to consider when using this approach is the sample size of different groups of patients who are eligible for each quality measure. Depending upon the racial, ethnic, language, and socioeconomic composition of the population receiving care at your hospital, there may not be adequate sample size to detect statistical significance for some of the measures. Nonetheless, it is worth considering examining

these data, as they can provide some sense of differences between different groups of patients.

Beyond stratifying the quality measures that are currently in use at your hospital, it may be helpful to review the additional measures described in this chapter, as well as reports such as the National Health Care Quality Report, to identify additional measures that may be relevant to the populations your hospital serves.

Other Considerations

Other measurement considerations include whether the data in the report will be risk-adjusted. Some well-accepted measures include risk adjustments, but others do not, and there are complex methodological issues that must be considered before deciding on a risk adjustment approach, including whether any inequalities that may be of concern will be "adjusted away" in the process.^{80,81}

Another consideration is whether to report only single measures or whether to include composite scores for groups of related measures. Composite measures may be particularly helpful for understanding the results of survey

Selecting Alternative Measures

Beth Israel Deaconess Medical Center, Boston, MA

In 2006, the Beth Israel Deaconess Medical Center (BIDMC) formed a Board of Trustees-level subcommittee of the Community Benefits Committee to focus on issues related to inequalities in care. The Equitable Care and Cultural Competence Subcommittee is charged with ensuring that all patients receive equitable care that is respectful and culturally competent, and that the BIDMC is welcoming and inclusive for patients, families, and employees of all racial and ethnic backgrounds. The subcommittee is staffed by the Offices of Community Benefits and Health Care Quality and Safety.

The BIDMC was the first hospital in the nation to publish a Patient Bill of Rights, assuring equal access to care, but it had no system to measure its success in fulfilling this ideal and goal. Over the past decade, the hospital analyzed the activities in different departments to understand equitability of access to and quality of care. For example, they looked at the timeliness of new appointments for patients who required an interpreter vs. those who spoke English; analyzed differences among patient satisfaction surveys by race, ethnicity, and language; and studied access to appointments by insurance status. With improvements in their collection of patient demographic information and the hospital's intensive focus on quality improvement and patient safety, the Subcommittee challenged the clinical and administrative senior leadership to develop a more comprehensive evaluation of both service delivery measures and health outcomes for patients from diverse backgrounds.

In deciding how to look at quality and equity, the BIDMC decided not to stratify its standard measures, such as the National Hospital Quality Measures, because their scores were very high and they did not expect to find opportunities for improvement. Instead, they decided to first conduct focus groups with frontline staff, including interpreters, patient advocates, and community resource specialists in primary care, cancer, and infectious disease



to identify areas to study that were thought to have potential opportunity for improvement. The focus groups identified three areas: 1) access to primary care and specialty care appointments among the uninsured; 2) elopement from the emergency department among different racial, ethnic, and language groups; and 3) pneumonia readmissions for patients with limited English proficiency (those for whom English was not their first language). The hospital subsequently added additional studies examining sentinel events (including both adverse outcomes and near misses) and has stratified its Press Ganey patient satisfaction data by race, ethnicity, and language.

Ediss Gandelman, Director of Community Benefits, notes that BIDMC is expecting to issue its first annual Equitable Care Report in the summer of 2008. The purposes of the report are to:

- Advance the knowledge base about inequalities in care at BIDMC and to identify the source of inequalities while improving care for all patients;
- Provide demographic information for the hospital-wide community;
- Educate hospital administrators, physicians, and staff about health inequalities;
- Set an agenda going forward that stimulates quality improvement projects, research, and educational training efforts;
- Inventory existing efforts to reduce inequalities in order to be able to report to outside agencies, to connect researchers and interested clinicians, and to serve as a resource for others in the BIDMC community; and
- Describe the limitations of the hospital's existing data.

The report will include information about racial and ethnic health inequalities and why each of the hospital's key constituencies (the Board of Trustees, clinicians, and administrators) must be concerned and invested in these matters. The report will summarize BIDMC's Community Benefits philosophy and efforts, as well as ongoing work on Equitable Care at BIDMC. An important chapter will detail patient demographics for the institution as a whole and then at the division/department level. Finally, the report will conclude with recommendations for moving forward, and a section on the Dashboard for the Future, which will outline what future reports should look like.

data. For example, the CAHPS[®] survey instruments have suggested composite measures, shown in Table 3, that can help in understanding different topic areas, such as communication with nurses and pain management. Each of these composite measures includes multiple survey questions.

In addition, your hospital may wish to consider the use of "all-or-none" quality measures. An all-or-none approach would provide "credit" only if all of the recommended care is provided for a particular condition. For example, Hospital Compare lists the 7 core National Hospital Quality Measures for pneumonia. In an all-or-none approach, each pneumonia patient receives full credit if he or she received all of the processes of care for which he or she is eligible, and receives no credit if even one of the processes of care for which he or she is eligible is not received. This approach has been recommended because it more closely reflects the interests of patients in receiving all of the care they

need, provides a system-level perspective on care delivery, and offers a more sensitive scale for assessing improvement than using single measures alone.⁸²

Finally, because your hospital's equity report should emphasize measures that are actionable if inequalities are found, it is worth considering focusing at least part of your report on measures where there may be an interest or willingness to develop an intervention to address an identified inequality. If there is a particular clinical department chair who has an interest in racial and ethnic inequalities, he or she may be a willing partner.

Changing Measures in Subsequent Reports

Changes to your report can be made for a number of reasons, and as a new area of work for your hospital, change should be expected as the report evolves over time to meet a variety of needs. As the report is disseminated and

the findings are discussed with hospital leadership and staff, decisions may be made to enhance the equity report by including additional information and measures. Your hospital may also consider adding new measures as new clinical areas of interest arise, or as the state of the art in quality measurement changes. In addition, the equity report may change if your hospital begins to see new or growing patient populations from different racial, ethnic, language, or socioeconomic status groups.

Dropping measures from later versions of the equity report should be done with care, since demonstrating that there are no inequalities at one point in time does not ensure that new concerns will not develop. Including replacement measures that represent more of a “stretch” for the organization may be helpful. For example, in early 2007, the National Committee for Quality Assurance retired one measure that had been in use since 1996 – the percentage of patients with acute myocardial infarction who receive a prescription for beta-blockers within seven days of hospital discharge. The measure was no longer needed, as nearly all health plans, including those originally at the low-performing end of the spectrum, now achieve universally high scores, and there is little variation left among health plans. Newer measures, such as the percentage of patients remaining on beta-blockers at least six months after being discharged for acute myocardial infarction, have replaced it and pose more challenging goals for improvement.⁸³

Summary

There are many resources to consult when selecting measures for your equity report, including national organizations that have developed and endorsed specific sets of measures. We suggest starting in the easiest way, which most likely means beginning by stratifying your hospital's existing quality measures. Your hospital can expect to modify its equity report over time as findings are discussed and new areas of interest develop.

Resources

There are a considerable number of resources that may be helpful in selecting measures to include in your hospital's equity report, including the following:

The Agency for Healthcare Research and Quality

- Quality Indicators (www.qualityindicators.ahrq.gov)
- National Healthcare Quality Report and National Healthcare Disparities Report (www.ahrq.gov/qual/measurix.htm)
- Consumer Assessment of Healthcare Providers and Systems (CAHPS®) surveys (www.cahps.ahrq.gov)

Hospital Quality Alliance

- www.hospitalqualityalliance.org/hospitalqualityalliance/index.html

U.S. Department of Health and Human Services

- Hospital Compare (www.hospitalcompare.hhs.gov)

National Committee for Quality Assurance

- HEDIS (Healthcare Effectiveness Data and Information Set) (<http://web.ncqa.org/tabid/59/Default.aspx>)

The Joint Commission

- www.jointcommission.org

National Quality Forum

- www.qualityforum.org
- NQF-Endorsed™ Standards for Acute Care Hospital Performance (www.qualityforum.org/projects/ongoing/hosp-priorities2007/)

Chapter 5: Presenting the Data

Overview: Telling the Story

To be most useful to executives, physicians, and staff, an equity report needs to tell the story about the state of care for diverse patient populations in your hospital. It is helpful for the report to answer a variety of questions, including:

- What is the current state of inequalities in the hospital? Are they large or small? Are they pervasive or do they exist only in certain areas? If your system has more than one hospital, or data exist for multiple parts of the hospital, how do these organizations or departments compare to one another?
- How have inequalities changed over time? Are things getting better or worse? Are all groups changing equally?
- What do the hospital's inequalities look like compared to a stated goal? Is progress being made toward reaching that goal?
- What is being done to address any problems that have been identified in the report? What is being done to understand existing success stories and what strategies led to success?

These questions are quite similar to those used in many quality reports, but with the added challenge of presenting data that compare multiple racial, ethnic, language, and socioeconomic status groups. This chapter discusses some of the challenges in presenting data in hospital equity reports, and shows some examples that may be useful in your hospital's work. All of the data included in the examples shown in this chapter are hypothetical.

Advice for Presenting the Data

The key challenge for displaying data in an equity report lies in the complexity of showing comparisons between multiple groups, including comparisons of how the relationships between groups change over time. This section describes some basic recommendations that may be helpful in preparing the report.

Recommendations on sample size and combining groups

Follow the sample size guidance for the measure being used. Many measures come with some sample size guidance. The measures included on Hospital Compare (www.hospitalcompare.hhs.gov), for example, are not displayed for any hospital that has fewer than 25 patients eligible for a

particular measure. Whenever widely-used measures are included in the equity report, we recommend adhering to the minimum sample size suggested for use with those measures.

Present the lowest level of aggregation for which there is adequate sample size to make estimates. “Hmong” and “Thai” provide more useful, actionable information than “Southeast Asian,” which is in turn more helpful than “Asian.” If there are not enough patients to provide separate estimates for each group, give careful consideration and combine the groups that are most alike. In some hospitals that treat a largely white, English-speaking population, the lowest level of aggregation for which estimates are possible may be white/nonwhite and English speaking/non-English speaking. However, a significant amount of information is obscured by this approach – such as differences between African Americans and Latinos – so we recommend avoiding it if possible. An alternative approach is to increase the time period covered by the measures – for example, from six months to one year. However, this may limit your hospital's ability to examine trends over time. Even where sample sizes are too small to allow for tests of statistical significance, it may be worth looking at the numbers to see if they suggest any areas of concern.

Recommendations on what numbers to compare
Display actual values for each group rather than numbers that show differences between groups. It is easier to understand what is happening in your hospital if the readers of the report can see that white patients are getting care according to a recommended measure 75 percent of the time, African Americans 60 percent of the time, and Asians 80 percent of the time than if the report only displays that African Americans get recommended care 15 percentage points less than whites, and Asians get recommended care 5 percentage points more. In particular, displaying actual values can help highlight areas where all groups may be approximately equal, but quality is low overall.

When describing comparisons between groups, use the best-performing group as the standard against which to compare. This provides a benchmark against which all other groups in your hospital can be compared, and illustrates the current best performance in your hospital. More typically, reports tend to compare all minority racial and ethnic groups against white patients. While this can be helpful, performance may not be the best among white

patients. Comparing against the highest-performing group can help highlight additional opportunities for improvement, and is an approach recommended by a report from the U.S. Department of Health and Human Services' National Center for Health Statistics.⁸⁴

Decide what constitutes an inequality. It can be useful to decide in advance what magnitude of difference between groups is meaningful, cause for concern, or should trigger action. While it is unlikely that your hospital leadership would be willing to invest resources to close gaps of one or two percentage points, how large does a difference need to be before it becomes an inequality of concern? This decision needs to be driven by your organization's values and goals, and is independent of statistical concerns.

When possible, compare your hospital's performance against a target. Comparison against a target can assist in understanding how your hospital's performance compares against a national benchmark, top performers in the field, a group of hospitals with similar characteristics, or a desired goal. Such comparisons can help highlight areas where your hospital may benefit from additional attention. In cases where there is no external benchmark, it can be helpful to articulate your hospital's desired target performance.

Show change over time whenever it is possible to do so. Though it may not be possible to do so in the first equity report your hospital prepares, showing trends over time can be helpful for understanding progress toward eliminating inequalities.

What information to include about the measures and data

Including some detail about each measure can help address many of the questions readers may have about the report – particularly some of the challenges that they may raise if they believe that the data or measures are not “good enough” to correctly measure inequalities between groups. We recommend including the following information for each measure:

- A plain-language definition of the measure with a basic description of how it is calculated, including a description of its numerator and denominator, if applicable;
- A note on where the measure comes from, describing whether it is used in national reporting, has been endorsed by any major organizations, etc;
- Information on which direction is desirable, indicating whether lower or higher is better for a given measure;

- A description of what data the measure is based on, including where the data come from (chart review, administrative data, etc.), and whether the measure is based on a sample of patients or on all patients eligible for the measure;
- The “n” or sample size, indicating how many patients the measure is based on; and
- The time period captured by the data included in the measure.

It is also helpful to include somewhere in the report information about how the data on race, ethnicity, language, and socioeconomic status are collected. This can help alleviate concerns about the source of these data, and can help disseminate information about any new or updated data collection procedures.

How to interpret the data

It can also be helpful to provide readers with some guidance in interpreting the data, with a description of what is going well, where there are opportunities for improvement, and what information is provided as background. Related to this, if the hospital has any ongoing or planned programs or targeted efforts designed to reduce inequalities, they should be described. This can help provide context for interpreting both positive findings of areas with few inequalities and areas with greater inequalities that are more of a concern.

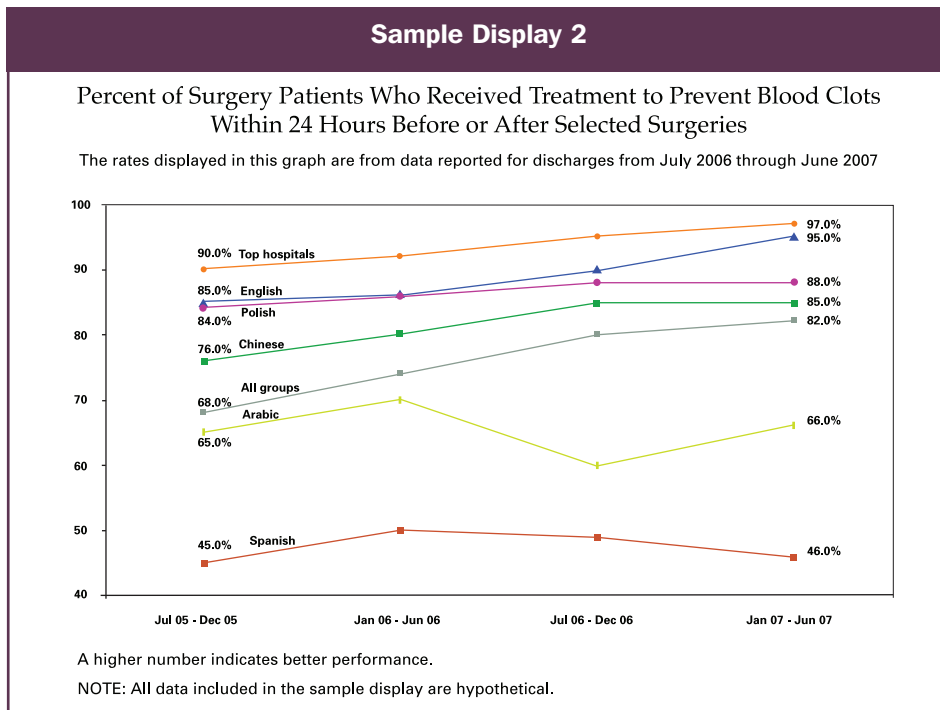
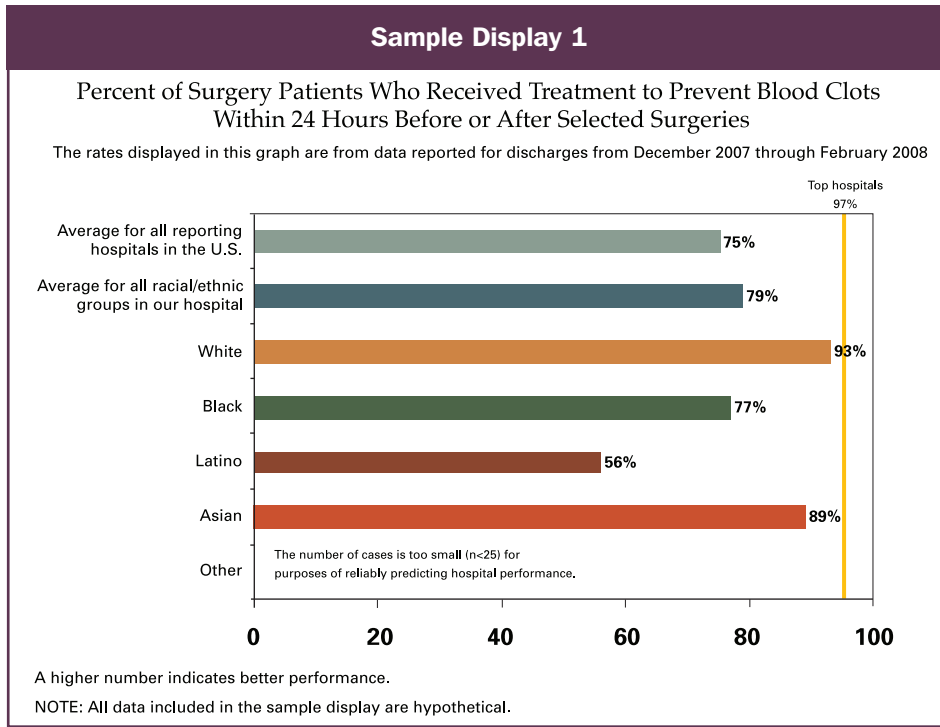
Sample Data Displays

As with any report, it can be helpful to include text, tables, and graphs in an equity report. Attention to basic design issues can be very helpful, such as keeping the colors that represent each group and the order in which the groups are presented in the report constant, and always indicating the data point values in graphs and charts. It is important to strike a balance between providing adequate detail on the one hand and not including too much information in a single chart or table on the other, and it is crucial to keep the audience's perspective in mind throughout the preparation of the report.

The five sample displays below all focus on Surgical Care Improvement/Surgical Infection Prevention Measures, with a particular emphasis on the percent of surgery patients who received treatment to prevent blood clots within 24 hours before or after selected surgeries. Sample display #1 shows a basic bar chart, which is helpful for showing a single measure

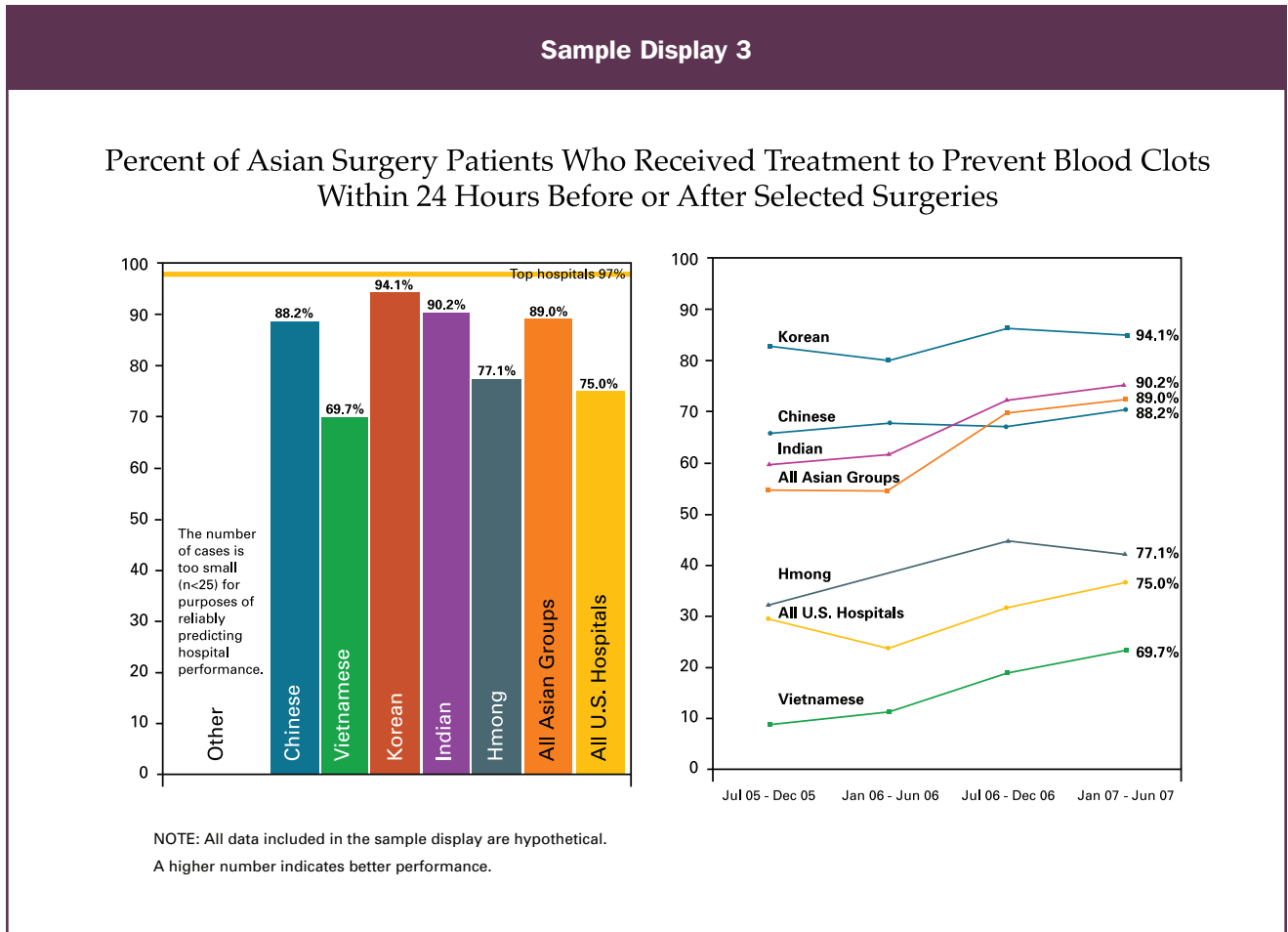
without any trend data. This chart compares five large racial and ethnic groups: white, black, Latino, Asian, and other. Each group is compared against the average for all racial and ethnic groups in the hospital as well as the average for all United States hospitals that report data to the Centers for Medicare & Medicaid Services and a benchmark of top-performing hospitals.

Sample display #2 shows trend data for the same measure. While #2 allows for comparisons of trends over time, it can be difficult to identify the actual value for a given group at a particular time. This chart shows data for the top 5 most commonly-spoken languages in a hypothetical hospital, comparing against all language groups in the hospital as well as national top performers.



Sample display #3 combines #1 and #2, and features both of its strengths. It includes the most recent data as a bar graph displaying actual values, with trend data over the last

four half-year periods. This chart also demonstrates how racial and ethnic subgroups – in this case, Asian subgroups – can be included in an equity report.



Sample display #4 is the most sophisticated shown here, adding to the information shown in #3. While it shows only one measure, it includes current data with sample sizes, recent trends, comparisons to targets, and considerable information about the measure and the data used. This data display was developed to show quality data for the Partners

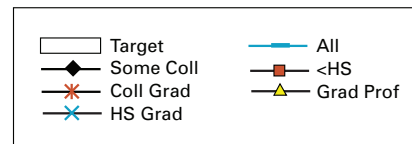
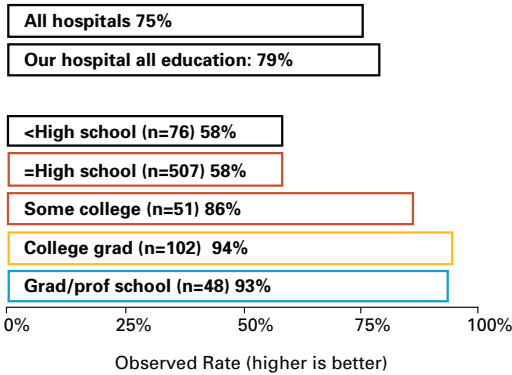
HealthCare Quality Report, which is prepared regularly for Partners HealthCare System, Inc. While no data on inequalities is included in the Partners HealthCare Quality report, the sample display shows education as one measure of socioeconomic status that may be included in an equity report. This display is less effective if it is printed in black and white.

Sample Display 4

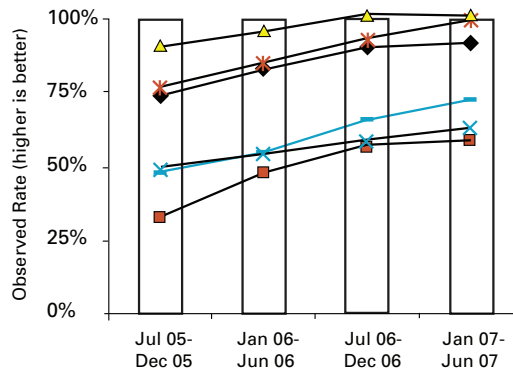
Percent of Asian Surgery Patients Who Received Treatment to Prevent Blood Clots Within 24 Hours Before or After Selected Surgeries

Definition: Percent of eligible surgical patients documented as having received venous thromboembolism prophylaxis. **Measure Source:** National Hospital Quality Measure. **Target:** 90th percentile of accredited hospitals. **Numerator:** Eligible surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 Hours prior to Surgical Incision Time to 24 Hours after Surgery End Time. **Denominator:** Eligible surgical patients. **Data Source:** Hospital administrative data and chart review; data are finalized through 03/31/2008; CY 08 Q3 data are preliminary.

Annual Results (Jul 2006 - Jun 2007)



Trends by Half Year



VTE Measures Compared to Target Performance (Jul 2006 - Jun 2007)

Measure	All educational levels	Less than high school	High school graduate	Some college	College graduate	Graduate or professional degree
VTE prevention received	79%	58%	58%	86%	94%	93%*
VTE prevention ordered by MD	75%	93%	64%	100%	100%	66%*

Key: Compared to national benchmarks

≥ Better than 90th percentile
≥ National average
< National average

*Small n (n<25 cases)

NOTE: All data included in the sample display are hypothetical.

Sample display #5 takes a different approach, showing a simple table with multiple measures and no time trends.

Sample sizes (“n”) can be shown on any of the displays, and are included in sample display #4; however, it can be

difficult to include sample size data on a trend chart such as #2, as the chart can quickly become crowded. All of the displays can be altered to include information on the definition of the measure and the data source used.

Sample Display 5							
Surgical Care Improvement/Surgical Infection Prevention Measures*							
The rates displayed in this table are from data reported for discharges April 2007 through March 2008.							
	Average		By Race/Ethnicity				
	All reporting hospitals in the U.S.	All racial/ethnic groups in our hospital	White	Black	Latino	Asian	Other
Percent of surgery patients who received preventative antibiotic(s) one hour before incision	81%	87%	89%	85%	74%	98%	87%
Percent of surgery patients who received the appropriate preventative antibiotic(s) for their surgery	90%	92%	97%	84%	86%	96%	96%
Percent of surgery patients who received treatment to prevent blood clots within 24 hours before or after selected surgeries	75%	79%	93%	77%	56%	89%	82%
Percent of surgery patients whose doctors ordered treatments to prevent blood clots (venous thromboembolism) for certain types of surgeries	79%	82%	96%	79%	59%	89%	87%
Percent of surgery patients whose preventative antibiotic(s) are stopped within 24 hours after surgery	76%	82%	90%	72%	79%	79%	79%

*Higher is better for all measures. NOTE: All data presented in the sample display are hypothetical.

Outline of an Equity Report

As a practical consideration, it is likely most helpful to start by stratifying all of the relevant measures that your hospital already uses for its quality measurement program by race, ethnicity, language, and socioeconomic status. A reasonable first equity report for a hospital might include the following sections.

Overview

This section provides a brief description of the purpose of the equity report in the context of overall quality monitoring and improving care for diverse patient populations.

What we know about inequalities in this hospital

This section provides an overview of what was learned from the equity report, and functions as an executive summary.

It may be helpful to divide it into several parts, including background, areas where care is equitable, areas with room for improvement, and next steps.

Collection of equity data at this hospital

This section provides a brief overview of how data on race, ethnicity, language, and socioeconomic status are obtained.

Data used in this report

This section describes in brief the data sources used for the report. It is also helpful to note the data sources specific to each measure throughout the report.

Tables and graphs

This section includes distribution measures, utilization and process of care measures, outcome measures, patient experience and satisfaction measures, and organizational measures, as

discussed in Chapter 4. As described above, it is helpful to include as many racial/ethnic, language, and socioeconomic status groups as there is adequate sample size to report.

Next steps

Finally, this section describes the hospital's concerns and plans: which identified problems are the most concerning, which areas are cause for optimism, what options may be explored, what programs may be expanded, when the next report will be prepared, etc. This section helps identify action steps and encourage readers to consider activities in their departments that may improve equity.

What Else to Include in the Report

The power of anecdotes

The strength of an equity report lies in presenting clear, objective data that compares the experiences of patients from different racial, ethnic, language, and socioeconomic status groups. At the same time, including anecdotes in the report can bring it to life. Telling a story – whether it is about a problem that a patient had, a challenge faced by a staff member in working with a patient from another culture, or the efforts that a particular unit has made to improve care for a certain group of patients – can make issues related to inequalities in health care more meaningful for hospital executives, physicians, and staff. As Stephen Denning notes in *The Leader's Guide to Storytelling*, “Analysis might excite the mind but it hardly offers a route to the heart. And that’s where you must go if you are to motivate people not only to take action but to do so with energy and enthusiasm.”¹⁸⁵

Current activities

An equity report is also an excellent way to share information about activities the hospital is undertaking to reduce inequalities or encourage a more diverse environment. Information can include:

- Descriptions of projects or programs that are underway to address specific inequalities;
- Information on signage installation in languages other than English;
- Descriptions of where and how clinical staff can access translated documents;
- A discussion of objectives related to reducing inequalities or promoting diversity that are included in the hospital's strategic plan;
- An overview of the hospital's diversity policies, including those related to staff recruitment, retention, and advancement; and
- Information on cultural competence training programs that the hospital may offer.

Including such information in the report can help inform readers about the breadth of activities that your hospital may have in this area.

Summary

A good equity report requires considerable attention to how the data are presented, as well as additional information such as anecdotes or descriptions of current programs to provide a context in which to interpret the data.

Resources

An extensive discussion of the methodological issues involved in measuring inequalities is available in:

Kenneth Keppel, Elsie Pamuk, John Lynch, Olivia Carter-Pokras, Insun Kim, Vickie Mays, Jeffrey Percy, Victor Schoenbach, and Joel S. Weissman. *Methodological Issues in Measuring Health Disparities. Vital and Health Statistics 2, No. 141, 2005. Centers for Disease Control and Prevention, National Center for Health Statistics, Hyattsville, MD.*

Chapter 6: Using the Report

Overview

As with quality measurement and reporting, an equity report is a means to improvement rather than an end in itself. The completion and release of the report offers an opportunity to:

- Raise awareness about the issue of inequalities within the hospital community;
- Celebrate and offer recognition to service areas or programs that do not have inequalities or have made marked progress toward reducing previously-identified inequalities; and
- Motivate action to improve any current inequalities that are identified in the report.

Three steps are required to effectively use your hospital's equity report: sharing the report, taking appropriate action based on the data in the report, and monitoring change over time.

Sharing the Report

An equity report will not be useful unless it is shared widely within the hospital and action is taken to address any areas of concern that have been identified. Whether the results show few inequalities or many, whether they affect a small or large number of racial/ethnic, language, or socioeconomic status groups, and whether they are widespread across the hospital or limited to a few service areas, sharing the report with key staff throughout the hospital is crucial to being able to use it to catalyze improvement.

Once the report is completed, it is helpful to return to the original vision for the report (see *Chapter 2*). What were the hospital's original intentions in creating the report, and how have they changed in light of what the report has shown? If the original intentions for how the report was to be used have shifted, plans for releasing the report may change as well. For example, if the initial goal was solely to understand the baseline state of inequalities in the hospital, but the report showed areas of particular concern that the hospital's leadership would like to address, the group of individuals receiving the report may need to be widened.

If the report points to specific services or programs that are areas for concern, it may be helpful to have discussions with leaders in those areas prior to releasing the report within the hospital community. Before widespread distribution of the report, your hospital may consider sharing it with a small

group of individuals to review how the information is presented and to understand how it is likely to be received.

To address concerns that hospital executives, physicians, and staff may have, it is helpful at this point to re-emphasize that the report is intended to be used non-punitively. The goal of having an equity report is not to blame individuals for problems that may have been identified, but rather to understand the systems of care that led to such differences and seek to remedy them.

When the report is released, it should be accompanied by a memo about its importance which emphasizes the need for continuous improvement and ongoing monitoring of inequalities. This statement should come from senior hospital leadership – such as the Chief Quality Officer, Chief Medical Officer, President, or Chief Executive Officer – to emphasize the importance of the hospital highlighting inequalities as a particular focus of improvement activities. It should also emphasize the provision of the highest-quality care for all patients, regardless of their race, ethnicity, language, or socioeconomic status. The statement may refer back to the Institute of Medicine's definition of high-quality care, which includes equitable care as one of its six dimensions. If possible, it can be helpful to release the report concurrently with standard quality reports to emphasize this point and more efficiently utilize resources.

Finally, the story the report tells should be clear and easily interpreted by its readers. As discussed in *Chapter 5*, the data themselves tell only part of this story. Including anecdotes, information on what has led to success in certain areas, or details about what underlies identified problems in the report can help stimulate productive conversations about improving equity within the hospital.

Taking Action

The equity report may provide an opportunity to motivate new improvement activities as it reveals some challenges for the hospital. If the goal is to change hospital practice, the equity report can help in establishing a sense of urgency (see *Chapter 2 on John Kotter's Leading Change*) by presenting solid data describing the inequalities that exist. It may be helpful to then return to the guiding coalition and develop a new vision statement targeted at developing initiatives to reduce any inequalities that were found, and to follow through with the remainder of Kotter's eight steps. Begin by taking stock of existing programs and

resources, as well as learning from what has worked well for your hospital in the past and what has not. Some options may be low-cost, while others are likely to be resource-intensive.

When to take action

A statistically significant difference in the quality of care between two groups of patients may not necessarily be clinically significant or meaningful – or cause for action. With a sufficiently large sample size, any difference between groups – even as small as 1 percentage point – will be statistically significant. As a result, your hospital should consider having criteria for what constitutes a “large enough” inequality to take action. For example, Harvard Pilgrim Health Care, a New England-based insurer that works closely with hospitals, decided that while they would *track* all inequalities in care, no matter how small, they would only take *action* on differences of seven percentage points or more.⁸⁶

What works to reduce inequalities

Two resources may be helpful when thinking about how to implement programs designed to reduce inequalities. First, the National Committee for Quality Assurance and Eli Lilly have prepared *Multicultural Health Care: A Quality Improvement Guide*. This toolkit has four sections related to reducing inequalities in large health care organizations: how to conduct a needs assessment, planning the program, implementing the program, and evaluating the effects of the program. Taken together, this material can help provide a blueprint for acting on what was learned from the equity report. Second, the Disparities Solutions Center at Massachusetts General Hospital has prepared *Making the Case to Address Racial/Ethnic Disparities in Healthcare: The Disparities Leadership Toolkit*, which is designed to help hospital executives in thinking about how to reduce inequalities. The toolkit contains interviews with hospital leaders who are addressing inequalities in their institutions, as well as case studies of successful efforts to reduce inequalities. Additional information on both toolkits is included in the Resources section at the end of this chapter.

It may be helpful to model improvement activities on those that other health care organizations have tried. Unfortunately, no interventions have proven successful in a wide range of settings. However, the Robert Wood Johnson Foundation has invested significant resources in three programs that provide useful information for guiding a hospital's initiatives.

Improving Cardiac Care

Mount Sinai Hospital Medical Center, Chicago, IL

Mount Sinai Hospital Medical Center (MSHMC) is a Level I trauma center and safety net hospital in Chicago that primarily cares for African American and Latino patients. The hospital has been collecting race, ethnicity, and language data in its inpatient and outpatient areas using the federal Office of Management and Budget guidelines since March 2006. Additionally, MSHMC is partnered with Access Community Healthcare Network, a network of more than 44 Federally Qualified Health Centers across the Metropolitan Chicago area and they, too, are attempting to collect this information for each of their patients.

In first looking at inequalities, MSHMC stratified their National Hospital Quality Measures, specifically acute myocardial infarction and heart failure, by race, ethnicity and language, but found few obvious inequalities. The hospital is developing a plan to create culturally sensitive educational materials for patients with these conditions, and is now looking beyond the Cardiovascular Service line to explore other health conditions. Two areas identified for further focus are Women's Health Services and Geriatrics. MSHMC believes that identifying champions to oversee these efforts is critical to success.

MSHMC is currently participating in the Robert Wood Johnson Foundation-sponsored *Expecting Success: Excellence in Cardiac Care* project. This national collaborative is designed to improve cardiac care for patients in inpatient and outpatient settings, while addressing inequalities in health care. Under the executive sponsorship of Christopher Cornue, Vice President for Medical Affairs, with project direction by Dr. Sandeep Khosla and project coordination by Tammi Bornstein, the project's implementation depends on an Oversight Committee comprised of both quality and clinical leadership. In addition, there are six sub-teams working across the hospital in the following areas: inpatient clinical; community outreach; hospital-based clinics; data, registration, ethnicity, and language; communications; and the emergency department. MSHMC has experienced a significant improvement in their acute myocardial infarction and heart failure measures since the project began in September 2005. The 27-month collaborative project ends in Spring 2008 and MSHMC has identified a plan to sustain their progress.

Putting it All Together

Children's Hospital & Regional Medical Center, Seattle, WA

Children's Hospital & Regional Medical Center in Seattle, Washington has had a Diversity Advisory Council for many years. The Council was championed by hospital executives at the vice president level, and was designed to promote and guide improvements in care for diverse families at the hospital. As a result of the Council's work, in 2004, the hospital's Board of Trustees adopted a formal diversity strategic plan (see www.seattlechildrens.org/home/pdf/strategic_plan_for_diversity.pdf). The strategic plan emphasizes five goals:

- A diverse workforce that reflects the communities served by the hospital;
- An environment that reflects the hospital's values of inclusion;
- Providing effective and respectful care compatible with the health beliefs, practices and preferred languages of the hospital's patients;
- Connections with the community through outreach, community service and employee volunteerism; and
- Fostering work/life balance.

In December 2005, as part of the strategic plan, the hospital began planning its new Center for Diversity, which was formally launched in March 2007. The Center reports directly to the hospital's Chief Operating Officer, and is responsible for race and ethnicity data collection for all patients, preparing equity reports, informing hospital-wide goals focused on reducing inequalities, and providing support for making needed changes in the way the hospital works with racial/ethnic minority and limited English proficiency patients. The establishment of this office has formally institutionalized responsibility for preparing equity reports and for leading the changes needed to make improvements.

Sarah Rafton, MSW, Interim Manager of the Center for Diversity, says, "The first year of this job was hard. Everywhere I went, people questioned why a specific focus on disparities was necessary. Now, with a formal office and having shown them data for some time, I feel like everyone is calling us to ask for more." When asked how important their disparities report was in catalyzing this change, Ms. Rafton notes that "it's essential, you can't have the conversation without the data. The single most important thing that any health care provider can do is to accurately collect race/ethnicity data from patients, and use it to examine performance." The disparities data that the Center has developed have been shared widely within the hospital.

The hospital has primarily focused on measures of patient satisfaction by race and ethnicity, using the NRC Picker family satisfaction survey, and a survey conducted in person. Some inequalities had statistically significant differences between groups, but showed minimal problems – such as 1 percent of white parents reporting a problem with clinicians being respectful of their culture and lifestyle compared with 5 percent of non-white parents. In other areas, there was more concern about the inequalities that were identified.

The Center was particularly interested in the emergency department, which has had a great deal of success in decreasing inequalities. In 2006, scores related to parents' confidence/trust in the physician, having enough of a say about their child's care, and nurses providing understandable answers to questions showed significant racial and ethnic inequalities, most of which were resolved by the time the 2007 survey took place. The Center is now working with the emergency department to learn what actions they took in response to their early data, so they can share success strategies with other departments.

Children's had also noted some inequalities between different racial groups, particularly in areas related to communication – and especially for their Spanish-speaking families. As part of their participation in Speaking Together, a Robert Wood Johnson Foundation-funded program designed to improve language access services, the hospital took a



look at these data and decided to make some changes to their interpreter services. They now require interpreter services on every shift, and have been gathering data on interpreter response time. Most significantly, however, was an information system change that was supported by their decision support department. Ms. Rafton notes that “interpreter orders are now included in the electronic clinical system – now it’s just like entering an electronic order for a medication or for an occupational therapy consult. The computer system then pages, emails, and faxes the interpreter services department.” The computer system also generates automated reports, though Ms. Rafton said that “the process has taken about a year to be sure that the report they generate out of the electronic system is actually what occurred – we had to audit whether an interpretation that was ordered actually occurred.”

One of the things they learned from this change was that the vast majority of their Spanish-speaking parents were now waiting less than 15 minutes for interpreter services. While there was initial resistance among the interpreters to collecting this information, the data have significantly raised the visibility of interpreter services within the hospital, and improved morale as well. Ms. Rafton notes that “improving care for families that don’t speak English is low-hanging fruit. Every time I show our family experiences with care data or the results of our focus groups to people within the hospital, they gravitate to the interpreter services data.”

What’s next? Beginning this year, there are hospital-wide goals related to reducing inequalities. These goals relate to reducing racial and ethnic inequalities in parents not asking questions that they have about their child’s care (ambulatory settings) and not feeling involved in decision making (inpatient settings), as well as increasing the use of telephone interpretation (emergency department). The baseline goal is a 5 percent improvement over current data – and Ms. Rafton expects the phone to start ringing soon, with different departments asking for advice on what they can do to improve their performance. Reductions in inequalities will be part of the hospital’s management performance evaluation in the coming year.

Finding Answers (www.solvingdisparities.org) awards grants to health care organizations that are implementing interventions aimed at reducing inequalities. The funds are used to evaluate the interventions and their potential for real-world implementation. Two sets of products are available. The first is a series of literature reviews identifying what is known about reducing inequalities in cardiovascular care, diabetes, depressive disorders, and breast cancer screening and treatment, as well as an overview of what was learned and a report on interventions that use cultural approaches to narrow inequalities.⁸⁻¹³ The second is the Finding Answers Intervention Research (FAIR) Database. FAIR is searchable based on health topic, racial/ethnic group, type of organization, and intervention strategy, and provides a customized list of interventions based on the user’s search strategy.⁸⁷

Expecting Success (www.expectingsuccess.org) is an initiative aimed at improving cardiac care for racial and ethnic minority populations in the United States. The program uses a collaborative learning network of 10 hospitals around the country, and disseminates quality improvement strategies, models, and resources to improve cardiac care for underserved minority populations in a variety of clinical settings.

Speaking Together (www.speakingtogether.org) is designed to improve the quality and availability of health care language services for patients with limited English proficiency. Speaking Together integrates quality improvement with language services, and brings hospitals together to pilot new performance measures and test techniques for reducing health care inequalities associated with language barriers.

Monitoring Change Over Time

Much as hospitals continue to monitor quality of care over time even when performance is high, equity reports should continue to be prepared and released beyond the first report. To be most effective, your hospital’s equity report should be released at regular intervals, at least once per year. Even if few or no inequalities are found in the first report, further reports present opportunities to:

- Ensure that areas initially showing no inequalities have maintained their performance;
- Examine new areas of service or additional quality measures;

- Maintain a hospital-wide focus on the issue of inequalities to ensure that patients receive the highest possible quality of care, regardless of their race, ethnicity, language, or socioeconomic status; and
- Evaluate and track the impact of programs designed to reduce inequalities.

Before moving on to prepare subsequent reports, it can be helpful to look back at the first equity report and evaluate its contents. Answering the following questions can provide a way to gauge which aspects of the report should remain the same, and which should change.

- Were the right measures included?
- Are the right data being used to support measurement?
- Which measures should the report continue to include in order to be able to measure trends over time?
- If the hospital found few inequalities in the current report, are there other measures or data that should be included in the future to expand the scope of the report?
- Are there new programs in place designed to reduce inequalities, and what measures will best capture their impact?

Ongoing equity reporting allows a hospital to have a full picture of the care provided to all of its patients. In addition, the hospital will be prepared for requests by outside organizations related to its care for diverse patient populations. For example,

the 2006 Massachusetts health care reform legislation included a provision to make Medicaid hospital rate increases contingent upon quality measures, including measures of the reduction of racial and ethnic inequalities in health care. To date, no other pay-for-performance programs have incorporated measures of the reduction of racial and ethnic inequalities into their incentives, making the Massachusetts initiative a first test of the feasibility and impact of this approach. The program went into effect on November 1, 2007, and hospitals will need to share some of the data that could be included in an equity report with the state. If this approach proves successful at reducing inequalities, other payers may choose to follow suit.

Summary

An equity report can help your hospital understand any existing differences in the quality of care it provides to patients from different racial, ethnic, language, and socioeconomic status groups. Its release can help highlight the importance of providing equal care to all patients, regardless of their personal characteristics, and can help to catalyze action to reduce any inequalities that are identified as the report is being prepared. An equity report is a key tool that can help position your hospital to best respond to the increasing national focus on both inequalities in care and measuring and reporting health care quality.

Resources

The programs funded by the Robert Wood Johnson Foundation that are described in this chapter include:

Finding Answers: Disparities Research for Change at www.solvingdisparities.org. The Finding Answers Intervention Research (FAIR) Database of interventions to reduce inequalities is available at www.solvingdisparities.org/fair_database.

Expecting Success: Excellence in Cardiac Care at www.expectingsuccess.org

Speaking Together: National Language Services Network at www.speakingtogether.org

Two toolkits may help in thinking about options for addressing any inequalities that have been identified in the report:

National Committee for Quality Assurance. *Multicultural Health Care: A Quality Improvement Guide*. National Committee for Quality Assurance and Eli Lilly and Company, 2008. The hard copy guide and accompanying DVD may be ordered by calling (866) 791-4557 and requesting item #MG48852.

Joseph R. Betancourt, Alexander R. Green, and Roderick K. King. *Making the Case to Address Racial/Ethnic Disparities in Health Care: The Disparities Leadership Toolkit*. The Disparities Solutions Center, Massachusetts General Hospital, 2008.

<http://www.massgeneral.org/disparitiessolutions/resources.html>



More information regarding pay-for-performance and racial/ethnic inequalities is available in:

Lawrence P. Casalino, Arthur Elster, Andy Eisenberg, Evelyn Lewis, John Montgomery, and Diana Ramos. Will Pay-for-Performance and Quality Reporting Affect Health Care Disparities? 2007. *Health Affairs* 26(3):w405-14.

Additional information on the Massachusetts Medicaid pay-for-performance program is available in:

Robin M. Weinick, Margarita Alegría, Kathryn L. Coltin, Patrick M. Gannon, Anuj K. Goel, Nancy R. Kressin, Kenneth A. LaBresh, M. Barton Laws, Barbra G. Rabson, Meredith B. Rosenthal, Randolph R. Peto, Dana Gelb Safran, Eric C. Schneider, Pamela B. Siren, Lauren A. Smith, and Edward Westrick. 2007. *Pay-for-Performance to Reduce Racial and Ethnic Disparities in Health Care in the Massachusetts Medicaid Program*. Boston, MA: Massachusetts Medicaid Policy Institute. www.massmedicaid.org

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Appendices

This section contains two appendices:

- **Appendix I** displays the information included in the first Massachusetts General Hospital Disparities Dashboard (the title of the hospital's equity report); and
- **Appendix II** provides information on measures that have been used in hospital-based research studies of inequalities in health care.

Appendix I

The Massachusetts General Hospital Disparities Dashboard

This Appendix shows the information included in the first Massachusetts General Hospital Disparities Dashboard, which is how the hospital refers to its equity report.

Welcome

This section provides a brief description of the purpose of the Disparities Dashboard in the context of quality monitoring.

What We Know About Disparities at MGH

Provides an overview of what was learned from the Dashboard data, broken into three sections:

- Background
- Equitable Care
- Areas for Improvement

Collection of Data on Race and Ethnicity at MGH

Gives a brief overview of data collection; more detailed information is provided on the last page of the Dashboard.

The Chelsea HealthCare Center Diabetes Management Program: Working to Reduce Disparities at MGH

Describes a currently operating program at MGH's Chelsea HealthCare Center that is designed to address disparities in diabetes outcomes for Latino and white patients.

A Snapshot of the Diversity of MGH Patients

This section provides an overview of the racial/ethnic diversity of patients receiving care at MGH.

Where We See our Patients					
	Race/Ethnicity				
	White	African American	Latino	Asian	Other/ Unknown
	Percent				
Setting					
Inpatient Care					
Inpatient discharges					
Emergency Department					
Emergency department visits					
Outpatient Primary Care					
All					
Health center					
Non-Health center					
Outpatient Specialty Care					
Specialty care visits					

How Patients are Distributed Among our Inpatient Services					
	Race/Ethnicity				
	White	African American	Latino	Asian	Other/Unknown
	Percent of Admissions				
Service					
Inpatient Medical					
House					
Private					
Inpatient Surgical					
House					
Private					
Inpatient					
Medicine					
Surgery					
Pediatrics					
Obstetrics/Gynecology					
Psychiatry					
Orthopedics					
Neurosurgery					
Neuromedicine					
Urology					
Burns					
Oral Maxillofacial					

Inpatient Clinical Quality Indicators

This section uses the National Hospital Quality Measures to assess disparities in care.

Heart Failure Quality Indicators

Race				Primary Language			
White		Other		English		Other	
N	%	N	%	N	%	N	%

Indicator

- Left ventricular assessment
- ACE-inhibitor at discharge
- Discharge instructions
- Smoking cessation

Myocardial Infarction Quality Indicators

Race				Primary Language			
White		Other		English		Other	
N	%	N	%	N	%	N	%

Indicator

- ASA at arrival
- β-blocker at arrival
- Time to thrombolysis
- Time to PCI
- Smoking cessation counseling
- ASA at discharge
- β-blocker at discharge
- ACE-inhibitor at discharge
- Unadjusted inpatient mortality

NOTE: Race and language are each combined into 2 categories due to the small number of minority racial/ethnic and language group patients eligible for each measure.

Outpatient Clinical Quality Indicators

The outpatient clinical quality indicators are based upon HEDIS standards

Outpatient Clinical Quality Indicators

Race/Ethnicity

White		African American		Latino	Asian	Other (excludes unknown)			
N	%	N	%	N	%	N	%	N	%

Service

Preventive Screening

Any Mammogram in prior 2 years (women 52-69 years old)

Physician linked

Practice linked

Any Pap smear in prior 3 years (women 21-64 years old, excluding those with prior hysterectomy)

Physician linked

Practice linked

Colorectal cancer screening (individuals 52-69 years old)

Physician linked

Practice linked

Diabetes Care

Any HbA1c test within the last year

Physician linked

Practice linked

Any LDL cholesterol test within the last year

Physician linked

Practice linked

Patient Experiences with Care

Data in this section come from the hospital's Press Ganey data.

Inpatient Indicators of Patient Experiences with Care

Race/Ethnicity

White	African American	Latino	Asian	Other (excludes unknown)
Average Score				

Indicator

Skill of nurses

Skill of physician

Instructions for care at home

How well your pain was controlled

Likelihood of recommending hospital

Overall rating of care given

Total number of responses

Communicating with our Patients

On-Campus In-Person Interpreter Services

Language	Distribution of Languages		Interpretations in Inpatient Settings	Interpretations that are Scheduled
	N	%	%	%
The hospital's top 10 languages are included				

Total

Health Center In-Person Interpreter Services

Language	Medical Encounters		Outreach Encounters	
	N	%	N	%
The hospital's top 10 languages are included				

Total

Data and Measurement

Data Used in this Report

Describes the data sources used for the Dashboard

Collection of Data on Race and Ethnicity at MGH

Provides additional detail on how data on race and ethnicity are collected.

Appendix II: Measures Used in Hospital-Based Research Studies of Inequalities

This Appendix includes measures that have been previously used in hospital-based inpatient and emergency department research studies of inequalities. Not all are suitable for use as quality measures in equity reports. Many, while used in studies of inpatient and emergency department hospital-based care, more properly reflect the effects of the quality of earlier outpatient care that the patient received.

The racial/ethnic groups and measures are described here as they are in the original studies. Only studies in the original Institute of Medicine report are included in this Appendix (Smedley, Brian D., Adrienne Y. Stith, and Alan R. Nelson, Editors. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. The National Academies Press, Washington, DC, 2003).

Racial/ethnic groups compared	Setting	Measure	Abbreviated Citation
Cancer			
White; Black	Inpatient	Colorectal Cancer - Received chemotherapy (yes, no)	Dominitz J.A., et al., 1998
White; Black	Inpatient	Colorectal Cancer - Length of stay (number of days)	Ball J.K. and Elixhauser A. 1996
White; Black	Inpatient	Colorectal Cancer - 5-year survival (yes, no)	Dominitz J.A., et al., 1998
White; Black	Inpatient	Colorectal Cancer - In-hospital mortality (yes, no)	Ball J.K. and Elixhauser A. 1996
White; Black	Inpatient	Colorectal Cancer - Procedure type (colorectal-specific major therapeutic procedures; other major therapeutic procedures; colorectal-specific major diagnostic procedures; other major diagnostic procedures; minor/no procedures)	Ball J.K. and Elixhauser A. 1996
White; Black	Inpatient	Colorectal Cancer - Received radiation therapy (yes, no)	Dominitz J.A., et al., 1998
White; Black	Inpatient	Colorectal Cancer - Received surgical resection procedure (yes, no)	Dominitz J.A., et al., 1998
White; Black	Inpatient	Lung Cancer - Received lung resection surgery (yes, no)	Bach P.B., et al., 1999
White; Black; Other	Inpatient	Prostate Cancer - Received radiation to the pelvis with curative intent as the first course of therapy (yes, no)	Harlan L. et al., 1995
White; Black	Inpatient	Prostate Cancer - Received radiotherapy treatment (yes, no)	Optenberg S.A., et al., 1995
White; Black; Other	Inpatient	Prostate Cancer - Received radical prostatectomy as the first course of therapy (yes, no)	Harlan L. et al., 1995
White; Black	Inpatient	Prostate Cancer - Received surgical treatment (yes, no)	Optenberg S.A., et al., 1995
Cardiovascular Disease			
White; Black	Inpatient	Intravenous thrombolysis delivered (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received intravenous thrombolysis therapy (yes, no)	Canto J.G., et al., 1998
White; Non-White	Inpatient	Received thrombolytic therapy (yes, no)	Taylor A.J., et al., 1997
White; Black	Inpatient	Received thrombolytic therapy (yes, no)	Weitzman S., et al., 1997
White; Black	Inpatient	Time from arrival at hospital to thrombolysis (minutes)	Taylor H.A. Jr., et al., 1998

White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received aspirin within 24-hours of arrival at hospital (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received aspirin within 24-hours of arrival at hospital (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received calcium blocker within 24-hours of arrival at hospital (yes, no)	Canto J.G., et al., 1998
White; Black hospital (yes, no)	Inpatient	Received calcium blocker within 24-hours of arrival at hospital (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received heparin within 24-hours of arrival at hospital (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received heparin within 24-hours of arrival at hospital (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received lidocaine within 24-hours of arrival at hospital (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received lidocaine within 24-hours of arrival at hospital (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received β -blocker within 24-hours of arrival at hospital (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received β -blocker within 24-hours of arrival at hospital (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received prescription for ACE inhibitor at discharge (yes, no)	Canto J.G., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for ACE inhibitor at discharge (yes, no)	Herholz H., et al., 1996
White; Black	Inpatient	Received prescription for angiotensin converting enzyme (ACE) inhibitor at discharge (yes, no)	Taylor H.A. Jr., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for antiarrhythmics at discharge (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for anticoagulants at discharge (yes, no)	Herholz H., et al., 1996

White American; Hispanic;Asian-Pacific Islander; Native American	Inpatient	Received prescription for aspirin at discharge (yes, no)	Canto J.G., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for aspirin at discharge (yes, no)	Herholz H., et al., 1996
White; Black	Inpatient	Received prescription for aspirin at discharge (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic;Asian-Pacific Islander; Native American	Inpatient	Received prescription for calcium blocker at discharge (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received prescription for calcium blocker at discharge (yes, no)	Taylor H.A. Jr., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for calcium channel blocker at discharge (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for digitalis at discharge (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for diuretics at discharge (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for hormone replacement therapy at discharge (among women hospitalized for definite or possible myocardial infarction) (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for insulin at discharge (among patients hospitalized for definite or possible myocardial infarction) (yes, no)	Herholz H., et al., 1996
White American; Hispanic;Asian-Pacific Islander; Native American	Inpatient	Received prescription for nitrates at discharge (yes, no)	Canto J.G., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for nitrates at discharge (yes, no)	Herholz H., et al., 1996
White; Black	Inpatient	Received prescription for nitrates at discharge (yes, no)	Taylor H.A. Jr., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for oral hypoglycemics at discharge (among patients hospitalized for definite or possible myocardial infarction) (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for other anti-hypertensives at discharge (yes, no)	Herholz H., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received prescription for β -blocker at discharge (yes, no)	Herholz H., et al., 1996
White American; Hispanic;Asian-Pacific Islander; Native American	Inpatient	Received prescription for β -blocker at discharge (yes, no)	Canto J.G., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for β -blocker at discharge (yes, no)	Herholz H., et al., 1996

White; Black	Inpatient	Received prescription for β -blocker at discharge (yes, no)	Taylor H.A. Jr., et al., 1998
Non-Hispanic White; Mexican American	Inpatient	Received prescription for lipid-lowering drugs at discharge (yes, no)	Herholz H., et al., 1996
White; African American; Latino; Asian	Inpatient	Received angiography (yes, no)	Carlisle D.M., Leake B.D., Shapiro M.F., 1995
White; African American; Latino; Asian or Pacific Islander	Emergency Department	Received cardiac angiography (yes, no)	Carlisle D.M., et al., 1999
White; Black	Inpatient	Received coronary angiography (yes, no)	Weitzman S., et al., 1997
White; Black	Inpatient	Coronary arteriography performed (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received coronary arteriography (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Offered cardiac catheterization as first treatment option for acute myocardial infarction (yes, no)	Watson R.E., et al., 2001
White; Non-White	Inpatient	Received cardiac catheterization (during hospitalization; within 30 days of admission; within 180 days of admission) (yes, no)	Taylor A.J., et al., 1997
White; Black	Inpatient	Received cardiac catheterization (during, or within 90 days of admission) (yes, no)	Peterson E.D., et al., 1994
White; Black	Inpatient	Received cardiac catheterization (yes, no)	Giles W.H., et al., 1995
White; Black	Inpatient	Received cardiac catheterization (yes, no)	Whittle J., et al., 1993
White; Non-White	Inpatient	Received cardiac catheterization procedure (yes, no)	Scirica B.M., et al., 1999
White; Black	Inpatient	Received cardiac catheterization within 90 days of hospitalization (yes, no)	Gregory P.M., et al., 1999
White; Black	Inpatient	Received coronary catheterization (yes, no)	Daumit G.L., et al., 1999
Caucasian; African American	Inpatient	Invasive procedure recommended to patient (yes, no)	Sedlis S.P., et al., 1997
Caucasian; African-American	Inpatient	Invasive procedure refused by patient (yes, no)	Sedlis S.P., et al., 1997
White; Black	Inpatient	Number of hospital discharges for ischemic heart disease (per 1000 beneficiaries per year)	Gornick M.E., et al., 1996
White; Black; Latino; Asian	Inpatient	Received defibrillator implant (yes, no)	Giacomini M.K., 1996
White; Black; Latino; Asian	Inpatient	Received heart transplant (yes, no)	Giacomini M.K., 1996
White; Black; Latino; Asian	Inpatient	Received pacemaker (yes, no)	Giacomini M.K., 1996
White; Black	Inpatient	Received reperfusion therapy (yes, no)	Canto J.G., et al., 2000
Caucasian; African American	Inpatient	Surgery recommended to patient (yes, no)	Sedlis S.P., et al., 1997

Caucasian; African American	Inpatient	Surgery refused by patient (yes, no)	Sedlis S.P., et al., 1997
White; Non-White	Inpatient	Hospital readmission (within 180 days) (yes, no)	Taylor A.J., et al., 1997
White; Black	Inpatient	Death within 1 year of admission for acute myocardial infarction (yes, no)	Gregory P.M., et al., 1999
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	In-hospital mortality (yes, no)	Canto J.G., et al., 1998
White; Non-White	Inpatient	In-hospital mortality (yes, no)	Taylor A.J., et al., 1997
White; Black	Inpatient	In-hospital mortality (yes, no)	Taylor H.A. Jr., et al., 1998
White; Black	Inpatient	Survival at 1 year post-admission (yes, no)	Peterson E.D., et al., 1994
White; Black	Inpatient	Survival at 2 years post-admission (yes, no)	Peterson E.D., et al., 1994
White; Black	Inpatient	Survival at 30 days post-admission (yes, no)	Peterson E.D., et al., 1994
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced cardiogenic shock during hospitalization (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Experienced cardiogenic shock during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White; Non-White	Inpatient	Experienced congestive heart failure associated with acute myocardial infarction (yes, no)	Taylor A.J., et al., 1997
White; Non-White	Inpatient	Experienced heart block (Mobitz II or 3rd degree) associated with acute myocardial infarction (yes, no)	Taylor A.J., et al., 1997
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced heart failure during hospitalization (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Experienced heart failure during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced recurrent infarction during hospitalization (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Experienced recurrent infarction during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced recurrent ischemia during hospitalization (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Experienced recurrent ischemia during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced stroke during hospitalization (yes, no)	Canto J.G., et al., 1998

White; Non-White	Inpatient	Experienced ventricular arrhythmias associated with acute myocardial infarction (yes, no)	Taylor A.J., et al., 1997
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Experienced ventricular fibrillation (VF) or ventricular tachycardia (VT) during hospitalization (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Experienced ventricular fibrillation (VF) or ventricular tachycardia (VT) during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White; Black	Inpatient	Had a stroke during hospitalization (yes, no)	Taylor H.A. Jr., et al., 1998
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Measured ejection fraction (% as measured)	Canto J.G., et al., 1998
White; Black	Inpatient	Measured ejection fraction (% as measured)	Taylor H.A. Jr., et al., 1998
White; Non-White	Inpatient	Peak creatine kinase (U/liter)	Taylor A.J., et al., 1997
White; Non-White	Inpatient	Was unable to perform exercise test after acute myocardial infarction (yes, no)	Taylor A.J., et al., 1997
White; Black; Hispanic	Inpatient	Readmitted for cardiac revascularization procedure (yes, no)	Blustein J., Arons R.R., S., 1995 and Shea
White; Black	Inpatient	Receipt of revascularization with either coronary-artery bypass grafting (CABG) or percutaneous transluminal coronary angioplasty (PTCA) within 90 days of angiography (yes, no)	Ayanian J.Z., et al., 1993
White; Black; Hispanic	Inpatient	Received cardiac revascularization procedure (yes, no)	Blustein J., Arons R.R., and Shea S., 1995
White; African American	Inpatient	Received indicated revascularization procedure within 12 months (yes, no)	Laouri M., et al., 1997
White; Black	Inpatient	Received revascularization procedure (yes, no)	Daumit G.L., et al., 1999
White; Black	Inpatient	Received revascularization procedure within 90 days of hospitalization (percutaneous transluminal coronary angioplasty - PTCA or coronary artery bypass graft surgery - CABG) (yes, no)	Gregory P.M., et al., 1999
White; Black	Inpatient	Time from arrival at hospital to primary (immediate) angioplasty (minutes)	Taylor H.A. Jr., et al., 1998
White; Black; Hispanic	Inpatient	Transferred to another hospital to receive cardiac revascularization procedure (yes, no)	Blustein J., Arons R.R., and Shea S., 1995
White; Black	Inpatient	Coronary angioplasty (including any form of catheter-based therapy) performed (yes, no)	Taylor H.A. Jr., et al., 1998
White; Black	Inpatient	Primary (immediate) angioplasty delivered (yes, no)	Taylor H.A. Jr., et al., 1998
White; African American; Latino; Asian	Inpatient	Received angioplasty (yes, no)	Carlisle D.M., Leake B.D., Shapiro M.F., 1995
White; Black; Latino; Asian	Inpatient	Received angioplasty (yes, no)	Giacomini M.K., 1996
White; Black	Inpatient	Received angioplasty (yes, no)	Peterson E.D., et al., 1997

White; Non-White	Inpatient	Received cardiac angioplasty (yes, no)	Scirica B.M., et al., 1999
White; Black	Inpatient	Received coronary angioplasty (during, or within 90 days of admission) (yes, no)	Peterson E.D., et al., 1994
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received coronary angioplasty (yes, no)	Canto J.G., et al., 1998
White; Black	Inpatient	Received coronary angioplasty (yes, no)	Weitzman S., et al., 1997
White; Black	Inpatient	Received coronary angioplasty (yes, no)	Whittle J., et al., 1993
White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received primary (immediate) angioplasty (yes, no)	Canto J.G., et al., 1998
White; African American	Inpatient	Appropriateness of receiving coronary artery bypass RAND criteria)	Schneider E.C., et al., 2001
White Non-Hispanic; African American; White Hispanic	Inpatient	Appropriateness of selection for coronary artery bypass graft surgery (assessed using RAND criteria)	Hannan E.L., et al., 1999
White; African American	Inpatient	Appropriateness of receiving percutaneous transluminal coronary angioplasty (assessed using RAND criteria)	Schneider E.C., et al., 2001
White; Black	Inpatient	Coronary bypass surgery performed (yes, no)	Taylor H.A. Jr., et al., 1998
White; Black	Inpatient	Offered coronary artery bypass grafting (CABG) as first treatment option for acute myocardial infarction (yes, no)	Watson R.E., et al., 2001
Non-Hispanic White; Mexican American	Inpatient	Received aortocoronary bypass surgery (ACBS) (yes, no)	Ramsey, D.J., et al., 1997
White; African American; Latino; Asian	Inpatient	Received bypass graft surgery (yes, no)	Carlisle D.M., Leake B.D., Shapiro M.F., 1995
White; Black	Inpatient	Received bypass surgery (during, or within 90 days of admission) (yes, no)	Peterson E.D., et al., 1994
White; Black	Inpatient	Received cardiac bypass surgery (yes, no)	Peterson E.D., et al., 1997
White; Black	Inpatient	Received coronary artery bypass graft (CABG) (yes, no)	Weitzman S., et al., 1997
White; Black	Inpatient	Received coronary artery bypass graft (CABG) (yes, no)	Whittle J., et al., 1993
White; Non-White	Inpatient	Received coronary artery bypass graft surgery (CABG) (during hospitalization; within 180 days of admission) (yes, no)	Taylor A.J., et al., 1997
White; Non-White	Inpatient	Received coronary artery bypass graft surgery (CABG) (yes, no)	Scirica B.M., et al., 1999
White; Black	Inpatient	Received coronary artery bypass surgery (yes, no)	Giles W.H., et al., 1995
White; Black	Inpatient	Received coronary artery bypass surgery (yes, no)	Gornick M.E., et al., 1996
White; Black; Latino; Asian	Inpatient	Received coronary bypass (yes, no)	Giacomini M.K., 1996
White; Black	Inpatient	Received coronary bypass (yes, no)	Weitzman S., et al., 1997

White American; Hispanic; Asian-Pacific Islander; Native American	Inpatient	Received coronary bypass surgery (yes, no)	Canto J.G., et al., 1998
White; African American; Hispanic	Inpatient	Received necessary coronary artery bypass graft (CABG) surgery (yes, no)	Leape L.L., et al., 1999
White; Black	Inpatient	Offered percutaneous transluminal coronary angioplasty (PTCA) as first treatment option for acute myocardial infarction (yes, no)	Watson R.E., et al., 2001
Caucasian; African American	Inpatient	Percutaneous transluminal coronary angioplasty (PTCA) recommended to patient (yes, no)	Sedlis S.P., et al., 1997
Caucasian; African American	Inpatient	Percutaneous transluminal coronary angioplasty (PTCA) refused by patient (yes, no)	Sedlis S.P., et al., 1997
White; African American; Hispanic	Inpatient	Received necessary percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Leape L.L., et al., 1999
White; Non-White	Inpatient	Received percutaneous transluminal coronary angioplasty - PTCA (during hospitalization; within 180 days of admission) (yes, no)	Taylor A.J., et al., 1997
White; Black	Inpatient	Received percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Giles W.H., et al., 1995
White; Black	Inpatient	Received percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Gornick M.E., et al., 1996
Non-Hispanic White; Mexican American	Inpatient	Received percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Ramsey, D.J., et al., 1997
White; Black	Inpatient	Received percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Weitzman S., et al., 1997
White; Black	Inpatient	Received percutaneous transluminal coronary angioplasty (PTCA) (yes, no)	Whittle J., et al., 1993
White; African American; Latino; Asian or Pacific-Islander	Emergency Department	Received a test to diagnose or exclude coronary artery disease (yes, no)	Carlisle D.M., et al., 1999
White; African American; Latino; Asian or Pacific-Islander	Emergency Department	Received one or more noninvasive cardiac stress test(s) (yes, no)	Carlisle D.M., et al., 1999
White; Black	Inpatient	Time from arrival at hospital to 1st electrocardiogram (minutes)	Taylor H.A. Jr., et al., 1998

Cerebrovascular Disease

White; Black	Inpatient	Received imaging study of carotid arteries (yes, no)	Oddone E.Z., et al., 1999
White; Black; Latino; Asian	Inpatient	Received carotid endarterectomy (yes, no)	Giacomini M.K., 1996

Emergency Services

White; African American	Emergency Department	Received authorization for emergency department visit (yes, no)	Lowe R.A., et al., 2001
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White; Black; Hispanic	Emergency Department	Number of ED visits over the preceding 3 months (not including the visit at which data was collected) (none; one; two or more)	Baker D.W., Stevens C.D., and Brook R.H., 1996
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Eye Care

White; Black	Inpatient	Received trabeculectomy surgery (yes, no)	Devgan U., et al., 2000
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Gallbladder Disease

Caucasian; African American	Inpatient	Received laparoscopic cholecystectomy (yes, no)	Arozullah A.M., et al., 1999
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Caucasian; African American	Inpatient	Post-operative length of stay after cholecystectomy (days)	Arozullah A.M., et al., 1999
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Caucasian; African American	Inpatient	Total length of stay for cholecystectomy (days)	Arozullah A.M., et al., 1999
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Caucasian; African-American	Inpatient	Operative mortality after cholecystectomy (yes, no)	Arozullah A.M., et al., 1999
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HIV/AIDS

White; Black; Hispanic	Inpatient	Use of anti-pneumocystis carinii pneumonia medications - initiation within 2 days of admission (yes, no)	Bennett C.L., et al., 1995
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White; Black; Hispanic	Inpatient	Use of bronchoscopy within 2 days of admission (yes, no)	Bennett C.L., et al., 1995
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White; Black; Hispanic	Inpatient	Length of hospitalization (days)	Bennett C.L., et al., 1995
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White; Black; Hispanic	Inpatient	In-hospital mortality (yes, no)	Bennett C.L., et al., 1995
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Maternal and Infant Health

White; Black	Inpatient	Use of prenatal care (month of pregnancy in which care was initiated).	Barfield W.D., et al., 1996
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White; Non-White	Inpatient	Cesarean delivery (yes, no)	Aron D.C., et al., 2000
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White; Black; Non-White	Inpatient	Cesarean delivery (yes, no)	Braveman P., et al., 1995
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White; Black	Inpatient	Fetal mortality (yes, no)	Barfield W.D., et al., 1996
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White; Black	Inpatient	Neonatal mortality (yes, no)	Barfield W.D., et al., 1996
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White; Black	Inpatient	Perinatal mortality (yes, no)	Barfield W.D., et al., 1996
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White; Black	Inpatient	Birth weight (very low (500-1499g); moderately low (1500-2499g))	Barfield W.D., et al., 1996
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Mental Health

White; Black; Hispanic	Inpatient	Psychiatric hospitalization (yes, no)	Padgett D.K., et al., 1994
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White; Black; Hispanic	Inpatient	Psychiatric length of stay (days)	Padgett D.K., et al., 1994
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Pain

White; Black	Emergency Department	Analgesic administration (any or no analgesic)	Todd K.H., et al., 2000
Non-Hispanic White; Hispanic White	Emergency Department	Analgesic administration (any or no analgesic)	Todd K.H., Samaroo N., and Hoffman J.R., 1993
White; Black; Hispanic; Asian	Inpatient	Narcotic dosage self-administered by patient (total dose, mg)	Ng B., et al., 1996
Non-Hispanic White; Hispanic White	Emergency Department	Analgesic administration (high/low dose)	Todd K.H., Samaroo N., and Hoffman J.R., 1993
White; Black	Emergency Department	Analgesic administration (oral/parenteral)	Todd K.H., et al., 2000
Non-Hispanic White; Hispanic White	Emergency Department	Analgesic administration (oral/parenteral)	Todd K.H., Samaroo N., and Hoffman J.R., 1993
White; Black; Hispanic Asian	Inpatient	Narcotic dosage prescribed (mg/h)	Ng B., et al., 1996
White; Black	Emergency Department	Analgesic administration (narcotic/non-narcotic)	Todd K.H., et al., 2000
Non-Hispanic White; Hispanic White	Emergency Department	Analgesic administration (narcotic/non-narcotic)	Todd K.H., Samaroo N., and Hoffman J.R., 1993
Non-Hispanic White; Hispanic White	Emergency Department	Difference between patient and physician estimates of pain severity as assessed on the visual analog scale	Todd K.H., Lee T., and Hoffman J.R., 1994

Peripheral Vascular Disease

White; Black	Inpatient	Amputation of all or part of lower limb (yes, no)	Gornick M.E., et al., 1996
White; African American	Inpatient	Received above-knee amputation (yes, no)	Guadagnoli E., et al., 1995
White; African American	Inpatient	Received below-knee amputation (yes, no)	Guadagnoli E., et al., 1995
White; African American	Inpatient	Received toe and/or foot amputation (yes, no)	Guadagnoli E., et al., 1995
White; African American	Inpatient	Received percutaneous transluminal angioplasty (yes, no)	Guadagnoli E., et al., 1995
White; African American	Inpatient	Received lower-extremity arterial revascularization (yes, no)	Guadagnoli E., et al., 1995

Rehabilitative Services

White; Black	Inpatient	Number of inpatient days where physical and/or occupational therapy was received (days; % of length of stay in days)	Horner R.D., et al., 1997
White; Black; Other	Inpatient	Discharge destination (home, skilled nursing facility, died)	Harada N.D., et al., 2000
White; Black	Inpatient	Time to initial contact with physical and/or occupational therapy consultation (days)	Horner R.D., et al., 1997
White; Black; Other	Inpatient	Length of stay (number of days)	Harada N.D., et al., 2000
White; African American	Inpatient	Physical and/or occupational therapy was initiated during hospitalization (yes, no)	Hoenig H., Rubenstein L., and Kahn K., 1996

White; Black	Inpatient	Physical and/or occupational therapy was initiated during hospitalization (yes, no)	Horner R.D., et al., 1997
White; African American	Inpatient	Physical and/or occupational therapy intensity [high (> 0.714 sessions/day); low (0.714 sessions/day)]	Hoening H., Rubenstein L., and Kahn K., 1996
White; Black; Other	Inpatient	Pattern of physical therapy use (acute PT only; skilled nursing facility (SNF) PT only; acute and SNF PT; no PT)	Harada N.D., et al., 2000
Other			
White; Black	Inpatient	Number of hospital discharges (all diagnoses) (per 1000 beneficiaries per year)	Gornick M.E., et al., 1996
White; Black; Latino; Asian	Inpatient	Received total hip replacement (yes, no)	Giacomini M.K., 1996
White; Black	Inpatient	Received surgical reduction of hip fracture (yes, no)	Gornick M.E., et al., 1996
White; Black; Latino; Asian	Inpatient	Received lithotripsy (yes, no)	Giacomini M.K., 1996
White; Black	Inpatient	30-day mortality (yes, no)	Jha A.K., et al., 2001
White; Black	Inpatient	In-hospital mortality (yes, no)	Jha A.K., et al., 2001
White; Black; Latino; Asian	Inpatient	Received kidney transplant (yes, no)	Giacomini M.K., 1996

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