

Using Data to Reduce Disparities and Improve Quality

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INTRODUCTION

Unless specifically measured, disparities in health and healthcare can go unnoticed even as providers, health plans, and governmental organizations (hereafter referred to as healthcare organizations) seek to improve care. Stratifying quality data by patient race, ethnicity, language and other demographic variables such as age, sex, health literacy, sexual orientation, gender identity, socio-economic status, and geography is an important tool for uncovering and responding to healthcare disparities.

The original version of this document focused primarily on how healthcare providers can use data to reduce disparities and improve quality. However, there is a growing consensus that multi-stakeholder coalitions made-up of governmental organizations (e.g., state Medicaid agencies), health plans, providers, and community-based organizations have the potential to significantly reduce health inequities by aligning their efforts. This document has been updated to also address the use of data by equity-focused multi-stakeholder collaboratives.¹

Using stratified quality data strategically allows healthcare organizations to:

- 1.** Discover and prioritize differences in care, outcomes, and/or experiences across patient groups
- 2.** Plan Equity-Focused Care Transformations and Measure Impact
- 3.** Tell the story of how patients experience health care

This brief is organized into these three topics and recommends strategies that healthcare organizations can use to effectively organize and interpret stratified quality data to improve health equity for their patients. It is intended for healthcare organizations and collaboratives that already have quality data stratified by one or more demographic variables. However, there are many resources on how to best collect and stratify race, ethnicity, language ([R/E/L](#)), sexual orientation, gender identity ([SOGI](#)) and [other demographic data](#).

¹ For ease of use, this document will utilize the term healthcare organization to refer to all types of organizations, unless otherwise noted. Additionally, governmental organizations, health plans, and providers use different terms when referring to individuals who receive healthcare services (e.g., consumers, members, patients). Each of these terms emphasizes different aspects of the care recipient's experience and role. The use of the term patient in this document is meant to encompass each of these perspectives.

How to Collect & Stratify Race, Ethnicity, and Language (R/E/L) & Sexual Orientation Gender Identity (SOGI) Data:

Sexual Orientation and Gender Identity Data:

1. [Guidelines and Tips for Collecting Patient Data on Sexual Orientation and Gender Identity](#)
2. [Sexual and Gender Minorities: Opportunities for Medicaid Health Plans and Clinicians](#)

Race, Ethnicity, and Language Data:

1. [HRET Disparities Toolkit](#)
2. [AF4Q Race, Ethnicity, and Language \(R/E/L\) Training](#)
3. [CMS: Inventory of Resources for Standardized Demographic and Language Data Collection](#)

1. Using Data to Discover and Prioritize Health and Healthcare Disparities

DISCOVERING HEALTHCARE DISPARITIES

To reduce disparities across patient groups, healthcare organizations must first understand where disparities exist, the magnitude of the disparities, and why these disparities are occurring within their patient population. Examining disparities allows organizations to understand differences in how patients experience care and improve care processes to ensure appropriate care for all patients. Organizations may have pre-existing ideas of how health conditions and outcomes vary in specific patient populations based on observations and anecdotal evidence. However, healthcare organization employees often underestimate the magnitude of disparities in their own patient populations, and they may not be aware of the barriers patients face during the course of usual care or the factors outside of the healthcare system that may play a role in specific health inequities. Additionally, disparities may exist in different groups or conditions than expected. Closely examining stratified quality and health outcome data is the most reliable way to reveal the type and magnitude of a disparity and thus either verify “hunches” or re-direct focus.

For example, one practice participating in the [Aligning Forces for Quality \(AF4Q\) Equity Improvement Initiative](#)² knew anecdotally that they had a very diverse Black patient population. They were also aware that some of these patients from immigrant communities might need some additional support in navigating care due to their refugee status and low English literacy. However, without a systematic understanding of need, it was difficult to decide where and how to provide additional support. The practice stratified its quality metrics by Race, Ethnicity, Language (R/E/L) data. This illuminated a disparity in diabetes outcomes for their Somali patients. They created a care transformation targeted to these patients, many of whom were recent immigrants, and they periodically revisit their R/E/L-stratified data to monitor progress in reducing the identified disparity.

² Aligning Forces for Quality (AF4Q) was a Robert Wood Johnson Foundation effort to lift the overall quality of healthcare in targeted communities, reduce racial and ethnic disparities and provide models for national reform. Learn more about AF4Q at www.forces4quality.org. Learn more about RWJF's efforts to improve quality and advance health equity at www.rwjf.org.

STRATEGIC COMPARISONS

1. Identify how a chosen quality measure is distributed within each demographic group (rather than how the measure is distributed across the whole population);
2. Compare the distribution in one group against the distribution in another.³

Looking at the distribution within each group answers the question: “What is happening within each group?” Comparing across groups answers the question: “How is quality within one group different from quality in another group?”

Healthcare organizations should consider a health equity lens, in order to recognize the historical and structural factors, including racism and other forms of oppression that may be uncovered or hidden within measureable health disparities. A health equity lens defines health disparities not solely as healthcare quality or outcome differences, but their meaning within a context of social justice. These are differences that arise from intentional or unintentional discrimination or marginalization and likely reinforce social disadvantage and vulnerability. This two-step process will provide healthcare organizations with the breadth and depth of different health disparities within the populations they serve. From there, organizations can consider the best benchmarks, measures, and analyses needed to understand and track the health disparities.

Benchmarks and Meaningful Differences:

Benchmarks are needed to identify disparities. If the more socially advantaged population has the best health outcomes, they can often serve as a benchmark. Other options for comparison include two less socially advantaged populations or the all-patient average. The goal is to identify meaningful differences. Meaningful differences are often identified through statistical analysis, but it is important to verify that statistically meaningful differences are also clinically meaningful. In addition, organizations do not need to do rigorous statistical analyses to identify meaningful differences. Instead, organizations can identify measurable differences by benchmarking current data against historical data from within their own organization or against comparison data from other organizations.

Historical data: For example, what was it like a year ago for the same group of patients? Historical data are relatively easy to collect within an organization, though they may be less appropriate for conditions likely to improve over time regardless of intervention. This historical data can also serve as a control group post intervention, with the non-participating cohort serving as the control.

National or local data: For example, regional quality reports, community needs assessments, and quality data from parent organizations or health plans. External data, show the priorities and performance of other peer healthcare organizations. They also can indicate whether the quality for an organization’s highest-performing patients is on par with the quality that generally occurs outside of that organization. National datasets such as U.S. Census, Behavioral Risk Factor Surveillance System (BRFSS), or RWFJ’s Country Health Rankings can further provide context to national and state trends and social determinant of health data. See Figure 1 for additional sources of community data.

³ See Appx. B for a step-by-step visual discussion of data comparisons, including how to choose appropriate denominators.

Figure 1: Sources of Community Data

SOURCES OF COMMUNITY DATA	PRIMARY VALUE
Regional newspapers, neighborhood newsletters, public bulletin boards (in libraries, community centers) and culturally-specific news media	Identify local priorities and current events among minority communities
Digital storytelling archives or photo voice projects (often run by community-based organizations or public health campaigns)	Hear first-hand accounts of community needs (potential causes of disparities), particularly among more vulnerable populations
Meetings with local business leaders, cultural or religious figures, social services directors, school superintendents, consumer advocacy groups, and neighborhood coalition patients	Promote equity efforts among diverse stakeholders, gain buy-in for future interventions, and access resources such as additional data or other kinds of data
Community needs assessments and health improvement plans, developed by local authorities for public health accreditation or regional planning efforts	Identify community priority issues that could affect your clinical data (e.g., the prevalence of disease, environmental hazards, and behavioral risk factors like smoking rates) Collaborate with public health entities that can help support and spread effective interventions
RWFJ's County Health Rankings	View health behavior and social determinants of health data by county and state. Utilize tools, webinars, and learn from other communities
Community Catalyst	Access a host of resources, tools, and policy briefs including: <ul style="list-style-type: none"> ▪ Storybanking Online Tool ▪ Payment Reform Toolkit ▪ Medicaid ACO Checklist for SDOH

Multiple Measures:

Organizations may need to examine multiple measures to identify disparities and their causes that may not be apparent in a single measure. For example, an outcome measure may show that an increasing number of patients with diabetes are being seen in the emergency room for diabetes-related complications. A process of care measure could reveal that few patients with diabetes are being checked for their blood glucose levels. Using these two measures together would give an organization more information about why disparities are occurring than if the organization examined only the single outcome measure.

Additionally, trends in quality among groups can vary across different measures. An organization’s African American population could be receiving higher rates of diabetes care but lag behind other populations for rates of cancer screening. Or within the same condition, an organization’s Asian population may be screened more often but still experience poorer clinical outcomes than other patient groups.

PRIORITIZING HEALTHCARE DISPARITIES

Healthcare organizations should stratify quality measures that reflect their organizational priorities and that would be most sensitive to disparities. These can include measures of access and care delivery (e.g., missed appointments or immunization rates), clinical outcomes, satisfaction, cost, or others. Because managing data can be time and resource intensive, organizations can reduce this burden by choosing measures that overlap with quality improvement work they are already pursuing (e.g., patient-centered medical home certification) or required federal, state, or health plan reporting. Ideally, data should also be easy to collect or readily available through sources such as registries, electronic health records, medical charts, claims data, health plan/payer or state data files.

Organizations may also want to prioritize domains of care expected to differ the most across demographic groups. The National Quality Forum (NQF) provides four criteria to help healthcare organizations select measures that are meaningful and warrant a specific focus on health equity and health disparities. These criteria can be considered across a range of factors including race or ethnicity, gender identity, sexual orientation, disability, socioeconomic status and other social factors. These four criteria include:

- // **Prevalence:** How prevalent is the disease or condition (targeted by the quality measure) in the disparate population?
- // **Size of Disparity:** How large is the gap in quality, access, and/or health outcome between the disparate population and the group with the highest quality for that measure?
- // **Strength of Evidence:** How strong is the evidence linking improvement in performance on the measure to improved outcomes in the disparate population?
- // **Ease and feasibility of improvement (actionable):** Is the measure actionable (e.g. by providers, clinicians, health plans, etc.) among the disparate population?

USING DATA TO DIAGNOSE THE CAUSES OF DISPARITIES AND DESIGN CARE TRANSFORMATION

Organizations should examine an issue using both quantitative and qualitative data from several angles to identify the root causes of disparities and areas for improvement.

By using an intersectional lens with quantitative data, healthcare organizations can have a stronger and more nuanced understanding of why a health disparity is manifesting. For example, if a healthcare organization identifies a health disparity in well-child visit screenings between their Black and white adolescent populations, assessing that disparity by zip code, payer status, or another demographic variable can provide additional context. For example, if the racial health disparity varies significantly by zip code, then social determinants of health might be driving the disparity (e.g., income, transportation). However, if the racial health disparity is consistent across zip codes and income levels, it may suggest that the healthcare system is driving the health disparity.

Qualitative data can tell a fuller story than quantitative data alone. The disparities data should be shared with patients, community members, and staff via focus groups, surveys, interviews to collect qualitative insights and ultimately inform the development and implementation of potential solutions via care transformation.

The patients and communities living with the identified disparities have critical insights into why disparities exist and therefore what might be the best way to address them. Be sure patients', care-givers, and community members' points of view are represented, either through an advisory panel or some other mechanism with a genuine and sincere desire to learn and incorporate their perspectives into understanding potential reasons for the disparities and their recommendations for eliminating them.

For example, one practice in the AF4Q Equity Improvement Initiative originally planned to develop an educational program on diabetes, however through patient engagement, the organization learned that their patients with diabetes needed more emotional coping support rather than simply additional education on diabetes. Therefore, informed by their patients, the organization developed a more comprehensive program including both education and emotional coping support.

In addition to patients, non-physician staff members have practical experience and valuable observations regarding how care is delivered that is often overlooked. For example, staff could report trouble using an automated call system to make Spanish-language appointment reminders as one reason for low screening rates among Hispanic patients. These types of insights from patients, staff, and community members are necessary for organizations to address disparities, even though it is not “quantifiable”.

Some organizations may feel reluctant or concerned about openly sharing their disparities data, fearing it will be perceived as a sign of failure. However, all organizations have disparities in health and health care. Looking for disparities in the data and taking action to reduce and eliminate them once they are discovered is instead a sign that the organization takes quality and health equity seriously. In many ways, actively identifying disparities in health and healthcare are signals to others that the organization is not only on the leading edge of quality improvement but also cares enough to ensure that all of the patient populations it serves receive high quality care.

Finally, qualitative data are especially useful for organizations where minority populations are small or for organizations with substantial diversity across several racial, ethnic, or language groups resulting in small sample sizes for a given measure. These organizations may find it more difficult to identify

quantitative trends but can use qualitative data to respond meaningfully to all populations. Organizations also can look to qualitative data sources outside the organization to find further contextual clues about the causes of disparities.

For example, community data can reveal local disease prevalence, common patient

behaviors in the community (e.g., substance use, smoking), and environmental risk factors in geographic locations where there is a high concentration of minority groups (e.g., availability of providers, food deserts, availability of safe walking spaces).

Thus, using both qualitative and quantitative data helps organizations choose interventions or process improvements that will make the best use of their resources to meaningfully impact disparities in care.

2. Planning Equity-Focused Care Transformations and Measuring Impact

As organizations are choosing a course for reducing disparities, they should establish a cohesive evaluation plan so that using data is an integral part of implementation rather than an afterthought. Such an approach ensures that organizations have the data they need to support claims about the impact of the care transformation and track implementation progress and challenges.

The following steps should be taken early, as organizations plan their care transformation:

- // Define goals for improvement and identify appropriate measures;
- // Develop a process for reviewing data over the course of the care transformation, including gathering a baseline prior to implementation

DEFINING GOALS FOR IMPROVEMENT AND TRACKING APPROPRIATE MEASURES

As with any other quality improvement effort, organizations should define the degree of change they hope to see over time and define measures to track that improvement. Organizations should start with the measures they used to identify disparities in the first place but also should choose other measures that will reflect the impact of the care transformation. Three types of measures are useful for successfully evaluating data: process, outcome, and intervention tracking measures. Process and outcome measures show an impact on patients (positive or negative) and are usually the measures organizations stratify to find disparities in the first place.

Intervention process measures evaluate whether the care transformation was successfully implemented as planned. These are new measures specific to the care transformation efforts and help organizations avoid wasting time or resources as they adopt new approaches to care, with implications for staffing, cost, and future sustainability. For example, an organization may track no-show rates or the number of calls it takes to reach a patient in order to show the effort required for “successful” patient contact. These data are usually specific to the quality improvement effort and generally come from work plans, staff assignment logs, or other project management tools. Tracking measures can be absolute numbers as well as rates. For example, an organization that is instituting a new referral program might track the number of people referred (25 people) for resource allocation but also the rates of people referred (80 percent of eligible patients) to show improvement over time. See Figure 2 for a more detailed example.

Health process measures refer to what is done to a patient. Ideally, organizations will use evidence-based process measures that have been demonstrated to improve patient outcomes (e.g., administering a flu shot, using an angiotensin-converting enzyme inhibitor medication for a patient with systolic heart failure, or eye screening for patients with diabetes). Process measures tend to improve faster than outcome measures since they focus on one part of care rather than on the constellation of factors that influence outcome measures.

Outcome measures refer to the actual results for the patient. They can be disease-specific or general, and include clinical indicators such as blood pressure control for patients with hypertension or hemoglobin A1C for patients with diabetes. Other outcome measures include results such as the number of emergency department visits or hospitalizations and survey measures of patient experience.

Figure 2: Intervention Process Measure Example

HEALTH PRIORITY	INTERVENTION	EXAMPLE INTERVENTION PROCESS MEASURE
<p>Hard-to-reach patients with chronic health conditions were not being properly engaged leading to gaps in care, high utilization of preventable emergency department visits and hospitalizations, and low-quality outcomes</p>	<ul style="list-style-type: none"> ▪ The health plan implemented a community health worker program to target hard-to-reach patients. ▪ Established an automated review and analysis of patient claims data to capture when a patient visited a provider different from their PCP or ED. ▪ Patients were flagged based on analyses and followed-up with phone calls, targeted education, and referrals to resources to address high-risk and treatable conditions. ▪ Staff also attended cultural competency training. 	<ul style="list-style-type: none"> ▪ Number of patients identified within claims data ▪ Number of staff who attended cultural competency training ▪ Number of patients engaged and connected to their PCP. ▪ Barriers to care documented in EHR ▪ Number of providers engaged

For each type of measure, organizations can define goals in terms of:

- // **The same population before and after the intervention**
 (e.g., 10 percent increase in LDL screening rates),
- // **A comparison to another group**
 (e.g., equal rates between Hispanic/Latino patients and Asian-American patients), or
- // **A comparison to a benchmark outside of the organization**
 (e.g., 80 percent of the national rate for this measure).

A control group can demonstrate change in a compelling way, but a control group may not be feasible or acceptable. A control group could be all patients offered participation and those that declined to participate compared to those who chose to participate. (For example, organizations may not wish to exclude patients or have them wait to receive the care transformation.) In these cases, organizations often choose pre- and post-measurement to show improvement.

Measures can show:

- // **Absolute improvement** –a measure improved by 80%.
- // **Positive change in trends** –year-over-year emergency department visit rates declined compared to increases in the two years’ pre-intervention.
- // **Flattening trends**—year-over-year emergency department visit rates stopped climbing compared to increases in the two years’ pre-intervention.

Each of these examples may be an appropriate goal depending on the inner-and outer-contexts of the organization and the disparity being addressed. Additionally, measuring individual clinics compared to their own baselines and not an aggregated measure across all clinics could be a way to adjust for different clinic contexts that should be taken into account when assessing progress (e.g., patient acuity, payer mix, quality improvement infrastructure, significant differences in the status of social determinants of health impacting the patient populations served by each clinic).

DEVELOPING A PROCESS FOR REVIEWING DATA OVER THE COURSE OF THE CARE TRANSFORMATION

Organizations should determine how often they will review data over the course of the intervention to monitor outcomes and adjust intervention processes as they learn what works and what does not. For example, organizations may measure baseline and then review every six months, quarterly, or monthly. Regularly reviewing data allows organizations to break goals into manageable pieces, ensure accountability among involved staff, and address feasibility challenges before they compromise the intervention.

Regularly reviewing data also ensures that an organization’s efforts are not creating or worsening disparities. Organizations can use several tools for regular data review, including standard quality improvement methodology (i.e., Plan-Do-Study-Act (PDSA) cycles) as well as project management tools (i.e., work plans, staff assignments, and timelines).

All organizations should regularly review data to adjust their intervention processes, and some organizations also may find it helpful to conduct “pilot testing” before the intervention begins. Pilot testing involves implementing change on a smaller scale before expanding the intervention in order to collect data that can suggest future changes. Future changes may include: 1) the scale of the intervention (e.g., more patients or more practices), 2) the population or condition of focus, 3) the intervention itself, and 4) stakeholder involvement (who and how to engage). Organizations that lack the staff time or institutional resources to perform dedicated pilot testing should look for ways to improve their intervention efforts within the data they regularly review.

It is important to account for lags in data availability that will impact project timelines. For example, in a setting where it takes six months for data to be fully and accurately entered into a database, accessed, and analyzed the first quarter annual data (January through March) will not be available for review until October.

3. Telling the story of how patients are experiencing health care

Organizations should not simply collect and monitor disparities data. As organizations work to reduce disparities, they can improve their success by also sharing the results of the intervention. Personal stories re-humanize the people behind the quantitative data and are an important way to generate buy-in. Stories will keep staff and leadership more engaged throughout the intervention and sharing the results of health equity efforts can encourage further action and highlight opportunities for improving implementation.

By sharing results within and outside of the organization, organizations can:

- // Receive feedback and ideas for ways to improve health equity efforts;
- // Celebrate progress (including “quick wins”) in order to maintain momentum;
- // Understand why results came out as they did;
- // Create a culture of transparency with patients and communities of goals and improvements
- // Lay the groundwork at the end for future partnerships and encourage action from people not previously involved (e.g., partnerships with additional health plans or community-based organizations); and
- // Maintain health equity as a top priority by linking clear, compelling results to other high-priority programs in the organization (e.g., patient safety or care management).

Organizations can best share their care transformation and disparity reduction results by developing concise results statements targeted to the interests of their specific audiences. Visual tools such as charts or infographics also can be compelling ways to share results. For each audience, organizations should highlight a few data points and give context to make the results most pertinent to the audience’s priorities and concerns (see figure 3 describing messaging for different audiences). Organizations might relate the data to national or local trends, to organizational goals, or to possible action. Not all care transformations will successfully reduce disparities. Organizations may hesitate to share negative results, but even negative results can carry lessons for success. Organizations can learn important lessons from projects that fail to have an effect and can incorporate the lessons into future efforts.

Figure 3: Data Messaging for Different Stakeholder Groups

STAKEHOLDER	LIKELY CONCERN	ADDRESSING THE CONCERN
Leadership	Return on investment	Present data on potential positive financial impact, or flattening of spending trend. Highlight how the initiative satisfies a contractual requirement.
Providers	Office visit efficiency	Describe patients’ cultural background as information that, like family history, helps determine the best course of action with the patient. Give examples of how culturally tailored approaches enhance patient engagement and satisfaction, reducing redundancy or disconnect in visits and outreach.
Front-Line Staff	Clinic flow	Be honest about potential temporary impact but not how changes will ultimately improve flow (for example, reduce patient confusion). Solicit input for improvement.
Patients	How the clinic will use equity data (e.g. Privacy) Health status	Ensure the patient that data are used to ensure everyone is getting high quality care and that all data will remain confidential.
Community	Access to health care services and general wellness in the community	Emphasize project outcomes that benefit the community and include community partners in developing strategies to reduce disparities.
Everyone	Patient outcomes	Explain health equity efforts and how activity should affect outcomes.

USING DATA TO SUPPORT SUSTAINABILITY

Health equity data can help “prove” the value of a project and make the case for resource allocation. Data also show which aspects of a care transformation are essential for continued impact and which can be altered or minimized for purposes of sustainability. As with other quality improvement efforts, having data allows organizations to identify opportunities to improve care and leadership may expect such data when evaluating their commitment to future disparities efforts. Health equity data support sustainability in several ways:

- Health equity data to track disparities helps organizations maintain a focus on the importance of reducing disparities and providing equitable care among competing priorities.
- Using health equity data helps organizations identify how factors that drive disparities (e.g., systemic racism, bias) also drive overall quality. For example, an organization seeking to reduce emergency room use might find that utilization is being driven by one or a few demographic groups, suggesting that further research of possible causes and tailored care transformations may be more effective than a general care transformation by not only reducing the inequities, but by also improving overall quality metrics.
- Health equity data can help organizations demonstrate their success to external entities, such as the Center for Medicaid & Medicare Services, and charitable foundations. These entities may have programs, partnerships, or grant opportunities that can support organizations’ efforts— financially or otherwise—to reduce racial and ethnic disparities and thus improve quality and strengthen the business case for equity.

CONCLUSION

Stratified healthcare and health outcome data allow organizations to systematically improve care for all patients and reduce gaps in the quality of care between groups. Demographically stratified data best support quality improvement when organizations include analyzing and responding to data in the earliest stages of planning and continue throughout intervention implementation. Actively reviewing and responding to data allows organizations to reduce disparities and engage patients and the community in ways not possible without data. When used in this way, health equity data tell a compelling story that motivates healthcare stakeholders—patients, providers, payers, state officials, community patients, and others—to participate in achieving high-quality healthcare for all.

Disparities-Specific Measures Resource

Access the National Quality Forum’s document on performance measures and associated policy levers to reduce health and healthcare disparities:

[“Roadmap for Promoting Health Equity and Eliminating Disparities: The Four I’s for Health Equity”](#)

Access Center for Medicare & Medicaid Services full list of measures:

[“Measure Inventory Tool”](#)

To learn how to identify/ develop a new disparity specific measure, access:

[“The Disparities Solutions Center’s Healthcare Disparities Measurement”](#)

Appendix A

As discussed earlier, some measures are more sensitive to disparities than others, including those that have previously identified disparities successfully. Organizations may have the most success tracking and improving disparities with measures that have this level of evidence behind them. This table lists a sample of quality measures from the National Quality Forum that have demonstrated disparities in the literature.

SAMPLE NQF-ENDORSED™ NATIONAL PERFORMANCE MEASURES TO ADDRESS HEALTHCARE DISPARITIES	
CONDITION AREAS	MEASURE DESCRIPTION
Infant Mortality	Adverse outcome index Unplanned Maternal Admission to the ICU Neonatal Intensive Care All-Condition Readmissions
Mental Illness	Child and Adolescent Major Depressive Disorder (MDD): Suicide Risk Assessment Child and Adolescent Major Depressive Disorder: Diagnostic Evaluation Preventative Care and Screening: Screening for Depression and Follow Up Plan
Cardiovascular Disease	Controlling High Blood Pressure for People with Serious Mental Illness Heart Failure Symptoms Assessed and Addressed Median Time to ECG
Diabetes/Chronic Kidney Disease	Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus Controlling High Blood Pressure Patient Education Awareness—Physician Level

Appendix B: Choosing the Right Denominator

This document outlines key considerations for organizing, interpreting, and acting on performance data stratified by patient demographics and uses race, ethnicity, language, to illustrate specific examples.

KEY CONSIDERATION 1

Compare the distributions of disease within each racial/ethnic group, not just across the total population. This affects whether or not you can identify disparities because it allows you to compare the burden of disease among groups with different sample sizes.

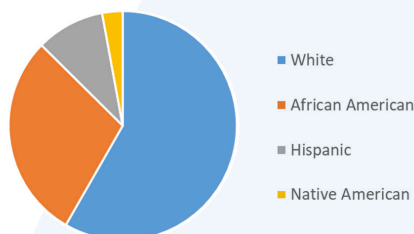
The first example below does not allow you to compare the burden of disease among groups. It shows what your data would look like if you looked across the total population instead of within each racial/ethnic group. This answers the question: Among our diabetic patients, how many are white? How many are African American (etc.)?

- Denominator = all patients with diabetes
- Numerator = number of patients with diabetes in each racial group

PATIENTS WITH DIABETES BY RACE/ETHNICITY			
	PATIENTS WITH DIABETES IN ALL RACIAL/ETHNIC GROUPS	PATIENTS WITH DIABETES WITHIN EACH RACIAL/ETHNIC GROUP	PERCENT OF TOTAL POPULATION
White	515	300	58.3
African American	515	150	29.1
Hispanic	515	50	9.7
Native American	515	15	2.9

Because this analysis compares racial/ethnic groups to the total population of diabetic patients in the clinic, the White population appears to have the biggest burden of diabetes; this is not surprising because there are more White individuals in this example.

Members with Diabetes



This does not tell us where disparities exist or if they exist at all. In other words, we still do not know which group is most impacted by diabetes. **Instead**, look at the distribution of uncontrolled diabetes within each racial group. This answers the question:

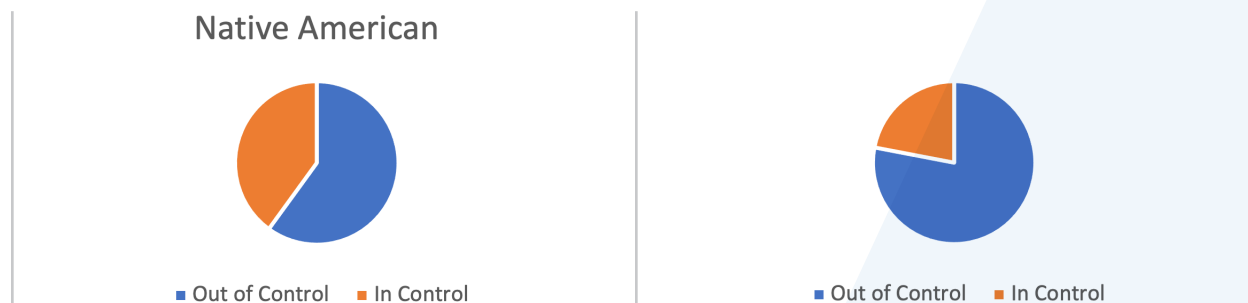
Among diabetic white patients, how many have HbA1C>7?

Among diabetic African American patients, how many have HbA1C>7?

// Denominator = number of diabetic white patients

// Numerator = number of white patients “out of control”

PATIENTS WITH HBA1C>7, BY RACIAL/ETHNIC GROUP				
	Diabetic patients in each racial/ethnic groups	Diabetic patients with HbA1C>7 by racial/ethnic group	Percent of racial/ethnic group	Percent of total population (N=515)
White	300	200	66.7	58.3
African American	150	117	78.0	29.1
Hispanic	50	43	86.0	9.7
Native American	15	9	60.0	2.9



Here it is clear that some groups are more impacted by diabetes than others. Looking at rates relative to each population allows you to compare between groups and know whether a disparity exists or not, and where.

2. Sample Results Statements

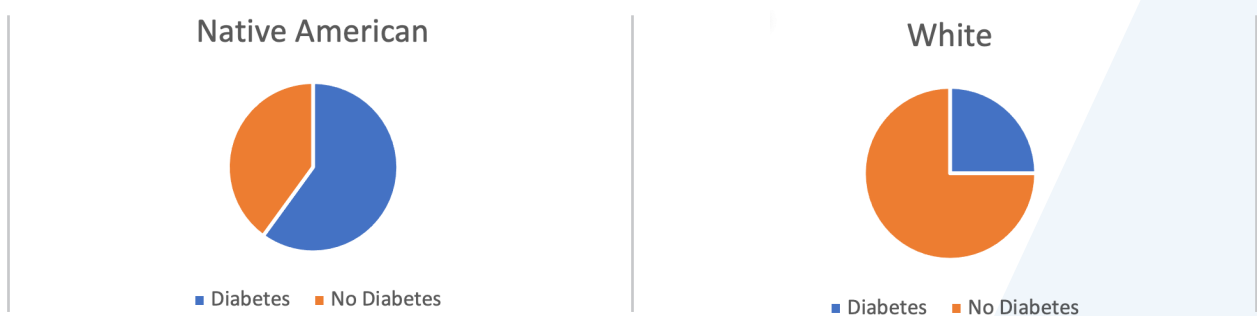
There are 150 diabetic African American patients and 78 percent of them are out of control, whereas there are 300 diabetic white patients—but only 67 percent are out of control. As a group, our African American patients are bearing a greater disease burden than our white patients.

KEY CONSIDERATION 2

Equal Rates of Diabetic Control



Unequal Rates of Diabetic Control



3. Sample Results Statement

White patients and Native American patients have about the same proportion of patients with uncontrolled diabetes (about **60 percent in each**). That is, there does not appear to be a disparity in HbA1C levels between the groups. However, a much greater proportion of Native Americans have diabetes (controlled or uncontrolled) compared to white patients—**60 percent** of Native American patients vs. only **25 percent** of white patients. Given the prevalence of diabetes among our Native American patients, we may want to intervene with them, despite their small number.

KEY CONSIDERATION 3

Monitor the impact on different racial/ethnic groups throughout the project to avoid creating disparities as you intervene. If you choose an intervention that spans multiple groups, it may impact groups differently.

While interventions that are tailored to a population (even if it is a smaller group) are generally most effective, some practices choose to pursue broader interventions to:

- /// Raise the level of care for all patients or multiple groups.
- /// Impact a larger population, particularly when the sample size of the population not meeting clinical targets is rather small.

This approach may generally work, but it is important to make sure the intervention works well for all groups. If organizations choose not to tailor, they are unlikely to know ahead of time how specific racial/ethnic minority groups will react to the intervention. Monitoring individual groups throughout the intervention will allow organizations to adjust their intervention approaches as needed to avoid creating further disparities.

KEY CONSIDERATION 4

Assess disparities in processes of care, not just clinical outcomes.

Assessing disparities in processes of care can:

- // Help you identify an area to improve if disparities in clinical outcomes aren't readily apparent.
- // Allow you to see progress more quickly after beginning interventions, since processes of care generally change more quickly than clinical outcomes. This progress helps maintain momentum. Support funding proposals, and continue leadership and staff buy-in.
- // Give you a greater sample size to work with (a larger population to impact). For example, perhaps you have only five patients whose diabetes is out of control, but you have 20 patients who aren't getting tested. This could justify an intervention focusing on increasing testing rates.
- // Even if you do see disparities in clinical outcomes, reviewing care processes can help you narrow down your intervention approach. For example, if two groups are receiving LDL screening tests at the same rate, but one group has higher cholesterol levels, you will know to rule out access to LDL tests as a source of disparities and consider other possible causes of the disparity.

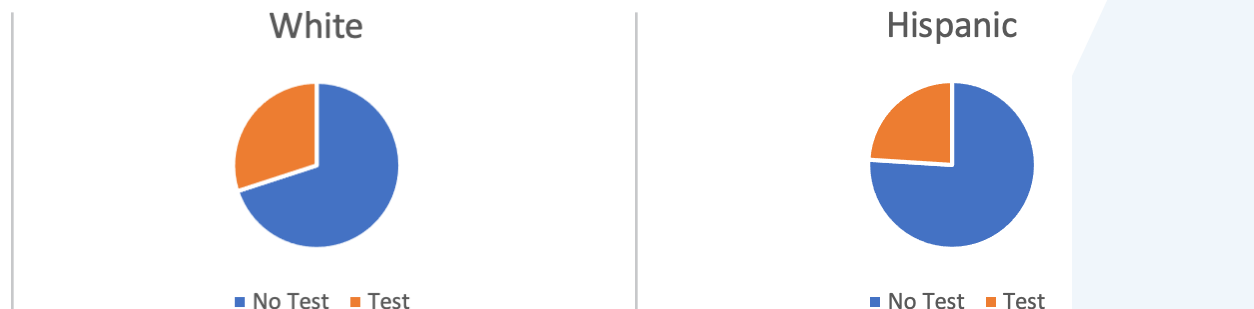
In looking at care processes, you can look at between-group differences (for example, who is getting tested?) in the same way that we compare clinical outcomes by racial/ethnic group.

4. Among White patients, how many completed an HbA1C test? Among Hispanic patients, how many completed an HbA1C test?

// Denominator = number of diabetic white patients

// Numerator = number of white patients who completed a test

PATIENTS WITH COMPLETED HBA1C TESTS, BY RACE/ETHNICITY			
	Diabetic patients in each racial/ethnic group	Diabetic patients in each racial/ethnic group with completed test	%
White	300	100	33.3
Hispanic	50	12	24.0



5. Sample results statement

Only **24 percent of Hispanic patients** have completed requested HbA1C tests, whereas **30 percent of white patients** have completed tests. Though every individual has different barriers, we would like to identify barriers that may affect a large portion of our Hispanic patients, causing them to miss needed tests more often than our white patients.

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