Why Quality Measures Don't Measure Quality

The Use of Quality Measures in Value-Based Payment

A major weakness in traditional fee-for-service payment is that healthcare providers are paid for delivering a service regardless of the quality or appropriateness of the service. Value-based payment programs have attempted to correct this by paying bonuses or imposing penalties on providers based on various types of quality measures.

These programs assume that higher scores on quality measures mean that patients are receiving higher-quality care. Unfortunately, in many cases, the exact opposite is true. As a result, current quality measures can cause physicians and hospitals to be penalized for providing the most appropriate care for patients and to be rewarded for delivering lower-quality care. This has the potential to exacerbate health disparities rather than improve quality and value.

Example: The Quality of Diabetes Care

The most commonly used quality measure is the percentage of patients with diabetes whose HbA1c level is above 9.0.[1] HbA1c (glycated hemoglobin) is a measure of the patient's average blood sugar level. Since high blood sugar can lead to vision loss, kidney disease, and other complications, one of the goals of diabetes care is to keep a patient's HbA1c levels low.

However, despite over a decade of public reporting and financial incentives tied to this measure, the percentage of patients with an HbA1c above 9.0 has remained essentially unchanged. In 2020, between 20% and 50% of the patients in every category of health insurance had high HbA1c levels. The percentages for each type of insurance were almost identical in 2010.[2]
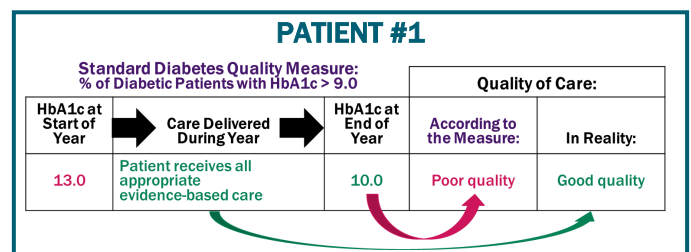
Does this mean physician practices or health plans need stronger financial incentives to improve the care of patients with diabetes? Or is there a problem with the way the quality of care is being measured?
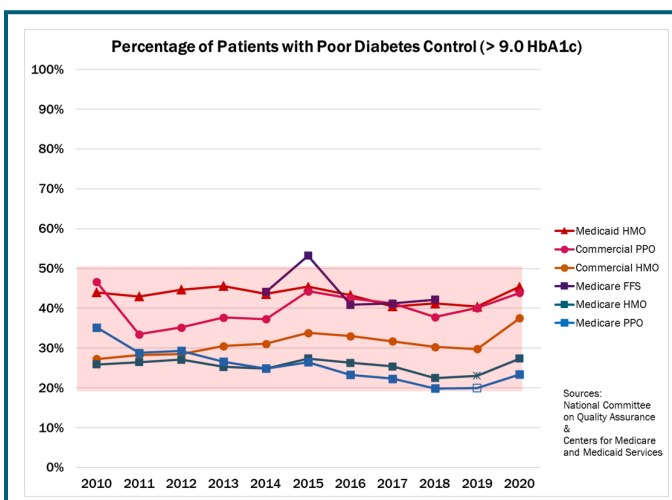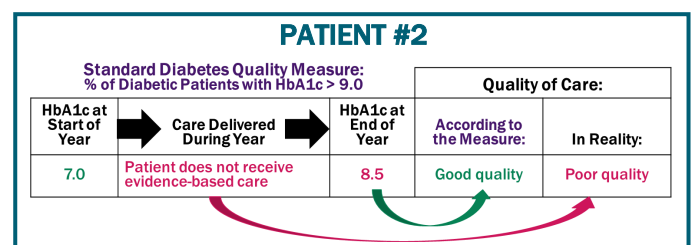
How Current Quality Measures Evaluate Care for Individual Patients

To be meaningful, a quality measure has to accurately assess whether an individual patient is receiving good or bad care. Current quality measures don't do this. Consider how the diabetes quality measure would rate the care of four hypothetical patients with diabetes who begin receiving care from new primary care physicians:

- **Poor Quality Score Despite Good Quality Care.** Patient #1 has a very high blood sugar level (13.0 HbA1c) when they begin seeing their new physician. The physician and practice staff do all of the things that medical evidence has shown will improve control of the patient's diabetes, such as prescribing appropriate medication and encouraging changes in diet and exercise, and as a result, the patient's blood sugar control improves significantly (to an HbA1c of 10) by the end of the year. However, for the purposes of the quality measure, it doesn't matter whether the patient received evidence-based care or how much the patient improved; if the patient's HbA1c is still above 9, the physician's care is rated as poor quality.

PATIENT #1				
Standard Diabetes Quality Measure: % of Diabetic Patients with HbA1c > 9.0			Quality of Care:	
HbA1c at Start of Year	Care Delivered During Year	HbA1c at End of Year	According to the Measure:	In Reality:
13.0	Patient receives all appropriate evidence-based care	10.0	Poor quality	Good quality

- **Good Quality Score Despite Poor Quality Care.** Patient #2 has a relatively low blood sugar level when they begin seeing their new physician. The physician practice fails to provide the patient with appropriate care for their diabetes, and as a result, the patient's HbA1c increases significantly. For most patients, the goal of diabetes care is to keep HbA1c levels below 8.0 or ideally below 7.0, so a patient with an HbA1c of 8.5 or 9.0 would not be considered as having "good" control of their diabetes. Under the quality measure, however, the physician's care is considered "good quality" because the HbA1c level is not above 9.0.

PATIENT #2				
Standard Diabetes Quality Measure: % of Diabetic Patients with HbA1c > 9.0			Quality of Care:	
HbA1c at Start of Year	Care Delivered During Year	HbA1c at End of Year	According to the Measure:	In Reality:
7.0	Patient does not receive evidence-based care	8.5	Good quality	Poor quality

Percentage of Patients with Poor Diabetes Control (> 9.0 HbA1c)

Legend:
- Medicaid HMO
- Commercial PPO
- Commercial HMO
- Medicare FFS
- Medicare HMO
- Medicare PPO

Sources: National Committee on Quality Assurance & Centers for Medicare and Medicaid Services

- **Failure to Adjust for Barriers to Care.** Patient #3 has a high blood sugar level when they begin receiving care from their new physician. Although appropriate medications would likely reduce this, the patient cannot afford them (e.g., because they do not have prescription insurance or cannot afford to pay the required cost-sharing). The physician and staff in the primary care practice recommend alternative approaches that are feasible for the patient, such as changes to their diet, and this prevents the patient's blood sugar levels from worsening. Although the patient received the best care possible with the resources available, the measure rates the care as "poor quality" because the patient's HbA1c level is still above 9.

PATIENT #3

Standard Diabetes Quality Measure:
% of Diabetic Patients with HbA1c > 9.0

HbA1c at Start of Year	→ Care Delivered During Year →	HbA1c at End of Year	Quality of Care: According to the Measure:	In Reality:
10.0	Patient cannot afford to take medications needed for diabetes but primary care practice helps patient avoid getting worse	10.0	Poor quality	Best quality feasible for patient

- **Ignoring What Matters to the Patient.** Patient #4 has maintained good control of their diabetes for many years and continues to do so with guidance and support from their new physician. Although the practice orders an HbA1c test, the patient doesn't get tested because the patient monitors their blood sugar regularly and sees no need to spend the time or money to get an HbA1c test that year when they have other health problems of greater concern. However, the formula for the quality measure requires that the patient be classified as having "poor control" if no HbA1c test has been performed, regardless of whether other information indicates their diabetes is being successfully managed.

PATIENT #4

Standard Diabetes Quality Measure:
% of Diabetic Patients with HbA1c > 9.0

HbA1c at Start of Year	→ Care Delivered During Year →	HbA1c at End of Year	Quality of Care: According to the Measure:	In Reality:
6.5	Patient maintains good diabetes control but is unwilling/unable to get an HbA1c test during the year	(6.5) but not tested	Poor quality	Good quality

In all four cases, the quality *measure* rates the quality of *care* the wrong way. Good quality care is rated as poor, while poor quality care is considered good, and there is no adjustment for patients who are unable or unwilling to use healthcare services that might have resulted in better outcomes.

How Current Quality Measures Evaluate Care for a Population of Patients

Under value-based payment systems, the quality rating for an individual patient won't affect how much a provider is paid for its services to that patient. What matters is whether the *average* quality for the provider's "population" of patients is better or worse than the average for other similar providers. In fact, a provider can be paid *more* for delivering poor quality care to an individual patient if enough *other* patients are rated as receiving high-quality care from that provider.

To understand how this is possible, consider two primary care practices, each of which enrolls 10 new patients who have diabetes. At the time they enroll, each group of patients has HbA1c levels ranging from 6.5 to 11.0, and 40% of the patients have HbA1c levels above 9.0.

- Practice A delivers individualized, evidence-based diabetes care to each of the patients, and every patient improves their blood sugar control. By the end of the year, 30% of the patients now have HbA1c levels above 9.0, compared to 40% initially.

- Practice B focuses its attention almost exclusively on the patients with HbA1c levels above 9.0. Two of those patients improve enough that their HbA1c levels are no longer above the 9.0 threshold (although they are still far above a desirable level of blood sugar control), while one patient leaves the practice because of dissatisfaction with their care. All of the other patients in the practice do worse, but their higher blood sugar levels are not (yet) above the 9.0 threshold used in the quality measure. Although the average HbA1c level has increased, only 1 of the 9 remaining patients (11% of the total) has an HbA1c level above the 9.0 threshold used in the quality measure.

Which primary care practice delivered better care?

It seems obvious that Practice A is doing a better job, since all of its patients received appropriate care, whereas half of the patients in Practice B did not. However, according to the diabetes quality measure, Practice B delivered better-quality care because a smaller percentage of its patients had HbA1c levels above 9.0.

Diabetes Care at Two Primary Care Practices

Baseline Diabetes		Practice A		Practice B		
Patient	Year 1 HbA1c	Year 2 HbA1c	Change Year 1-2	Year 2 HbA1c	Change Year 1-2	
#1	6.5	6.5	0.0	8.0	+1.5	5 patients have worse control of diabetes
#2	7.0	6.5	-0.5	8.5	+1.5	
#3	7.5	7.0	-0.5	8.5	+1.0	
#4	8.0	7.5	-0.5	9.0	+1.0	
#5	8.5	8.0	-0.5	9.0	+0.5	
#6	9.0	8.5	-0.5	9.0	0.0	
#7	9.5	9.0	-0.5	9.0	-0.5	2 patients improve control
#8	10.0	9.5	-0.5	9.0	-1.0	
#9	10.5	9.5	-1.0	10.5	0.0	
#10	11.0	9.5	-1.5	???	???	1 patient leaves care
Average:	*8.8*	*8.2*		*8.9*		

All patients have improved diabetes control

	> 9.0:	> 9.0:	Change	> 9.0:	Change	Quality *measure* is better
	40%	30%	-10%	11%	-29%	

	90% Improved	20% Improved	Actual *quality of care* is worse
	0% Worsened	50% Worsened	
	0% Unknown	10% Unknown	

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How Current Quality Measures Can Reduce Quality and Increase Disparities

These serious flaws in the way quality is currently measured can cause the true quality of care to decrease rather than improve:

- **Steering patients to the wrong providers.** In the example above, patients could mistakenly believe they would get better care from Practice B than Practice A. Some patients might even be forced to switch from Practice A to Practice B if their health insurance plan excluded Practice A from its network because of its lower quality score.

- **Paying more for lower-value care.** Under a value-based payment program that provided financial incentives based on the diabetes quality measure, Practice B could receive a bonus, while Practice A could receive a penalty. Instead of paying less for low-quality care, the payer would actually be paying more.

- **Reducing access to care for higher-need patients.** It would be easier for a physician practice to get a higher score on the diabetes quality measure by refusing to enroll patients who have poorly-controlled diabetes than by doing the hard work needed to help those patients manage their diabetes successfully. This could make it more difficult for disadvantaged patients and patients with complex conditions to obtain the services they need.

These problems are not unique to the diabetes quality measure. Most of the quality measures currently used in value-based payment programs are structured in similarly problematic ways:

- **Arbitrary, simplistic thresholds for "quality."** Most quality measures use a single arbitrary threshold to distinguish "good quality" care from "poor quality" care for every patient. It doesn't matter whether a patient is getting all of the services they need or whether their health gets better or worse; all that matters is whether the patient is on one side of the threshold or the other when the measure is calculated.

- **Failure to adjust for patient-specific needs.** Many patients face barriers in obtaining the services needed to achieve good outcomes (e.g., they cannot afford effective medications) or they do not respond well to standard therapies. Yet most quality measures provide no mechanism for either excluding these patients from the measure or adjusting the quality standard to reflect the services or outcomes that are most appropriate for the patients. As a result, care that is customized to the patients' needs can be classified as "poor quality," and providers who serve higher-need patients may be classified as delivering lower-quality care.

Because of these limitations, no one actually expects that a physician, hospital, or other healthcare provider could or should achieve a 100% score on most quality measures. However, there is also no way to know what lower percentage is achievable for the specific population of patients an individual provider is caring for. Value-based payment programs simply assume that a provider with a higher percentage score on a quality measure is delivering better care than a provider with a lower percentage, but that creates an incentive for providers to avoid hard-to-treat patients rather than to deliver better care.

It is not surprising that this flawed approach to quality measurement has failed to improve the overall quality of care and it has likely contributed to disparities in health outcomes for low-income and minority populations.

A Patient-Centered Approach to Evaluating the Quality of Care

How *should* "high quality care" be defined and measured? High-quality care is *patient-centered* care, and patient-centered care should have two key characteristics:

1. **Delivery of Individualized, Evidence-Based Services.** Each patient should receive services that can address their specific health problems in a way that is feasible and acceptable for that patient. The starting point in developing a plan of care for the patient should be the services recommended by evidence-based *Clinical Practice Guidelines (CPGs).* However, if the patient is unable or unwilling to use those services, deviations from the guidelines will be needed. In addition, when patients have multiple health conditions, guidelines designed for care of individual diseases may not be appropriate, and a customized approach will have to be developed. In order for care to be patient-centered, the patient has to be actively involved in the process of deciding which services they should receive.

2. **Achieving the Outcomes That Matter Most to the Patient.** Regardless of how much evidence there is about how well services have worked for other patients in the past, what matters to the individual patient is whether the services are meeting their specific needs today. The only way for the provider of care to know that is to *ask the patient,* using a validated instrument such as the *What Matters Index.* If the patient's needs are not being addressed, changes to the services must be made. If a patient has multiple problems and it isn't possible to address all of them effectively, priorities should be based on achieving the outcomes that matter most to the patient.

Two of the key tools needed for this approach already exist:

- *Clinical Practice Guidelines (CPGs)* have been developed by clinicians for all of the health conditions addressed by typical quality measures as well as many conditions for which there are no quality measures. A CPG assembles all of the available evidence regarding how to diagnose a symptom or treat a condition in a way that is likely to achieve the best outcomes for a patient based on their individual characteristics. CPGs represent a more comprehensive, patient-centered way of guiding high-quality care than a list of narrowly-focused, simplistic quality measures. Although quality measures are generally based either on CPGs or on the evidence underlying the CPGs, the measure specifications ignore the many nuances in the guidelines in order to make the measures easier to calculate, and this leads to the erroneous "quality" ratings described earlier. (For example, current clinical practice guide-

lines for diabetes say that "an HbA1c less than or equal to 6.5 is considered optimal if it can be achieved in a safe and affordable manner", but that HbA1c targets "should be individualized based on numerous factors such as age, life expectancy, comorbid conditions, duration of diabetes, risk of hypoglycemia or adverse consequences from hypoglycemia, patient motivation, and adherence."[3])

- The *What Matters Index (WMI)*[4] is a free tool that enables physician practices and other providers to easily identify patients who are not receiving adequate assistance. It is based on a patient's answers to seven simple questions regarding (1) their confidence in managing their health problems, (2) how much pain they are experiencing, (3) whether they are bothered by emotional problems, (4) how many medications they are taking, (5) whether they believe their medications are making them sick, (6) whether they have enough money to pay for necessities, and (7) whether they feel they are receiving the care they need and want. The WMI has been proven to identify patients at high risk of emergency department visits, hospitalizations, and other problems as well or better than complex risk stratification and predictive modeling systems.[5]

Measuring whether a healthcare provider is delivering care with these characteristics can be easily done without the complex and administratively burdensome systems that are required for current quality measures. When a physician or other clinician orders or delivers services to a patient, they would simply need to attest whether:

(1) the services ordered or delivered to the patient (a) are consistent with applicable Clinical Practice Guideline(s) or (b) deviated from the CPGs for patient-specific reasons that are documented in the patient's clinical record, and

(2) they have monitored the patient's health and the effectiveness of services using a validated tool such as the *What Matters Index*.

If both criteria are met, the patient should be classified as receiving quality care. If this approach to measuring quality were used for the four hypothetical patients with diabetes described earlier, Patients 1, 3, and 4 would be rated (correctly) as having received quality care, whereas Patient 2 would not.

If a "quality score" is needed for a population of patients, it is simply **the proportion of the patients whose care met the two patient-centered quality criteria**. In contrast to current population-based quality scores:

- **Providers can and should achieve a 100% quality score.** A provider can and should be expected to achieve a 100% score on the patient-centered quality measure since it explicitly allows services and outcomes to be appropriately customized to each of their patients' needs. Under this approach, a high-quality provider is one that provides quality care to *every* patient, not just a higher proportion of patients than other providers. For the two hypothetical physician practices described earlier, Practice A would be rated (correctly) as a high-quality practice, and Practice B would not.

- **A single measure can be used by all providers for all of their patients.** Instead of the hundreds of narrowly-focused quality measures currently being used in value-based payment programs and the complex attribution and weighting systems used to create composite quality scores, a single, easy-to-understand measure could be used by all providers for all of their patients.

Can payers trust a quality score based solely on what physicians and other providers attest they have done for a patient? They already do. Current quality measures are based on what is reported by providers, not on information independently collected by payers. For example, the current HbA1c measure is based on the lab test result reported by the patient's physician; Medicare and other payers do not review patients' test results themselves or verify the accuracy of the testing equipment. Similarly, the current quality measure for hypertension is

Comparison of Current Quality Measurement to Patient-Centered Quality Measurement

Current Quality Measures	Patient-Centered Quality Measure
The definition of "good quality" care may not be appropriate or feasible for all of the patients being measured. As a result, providers can be penalized for treating patients with unique or complex needs.	"Good quality" means that a patient receives services that are safe, appropriate, and feasible based on that patient's specific needs, preferences, and resources. Providers are not penalized because they treat patients with unique or complex needs.
A provider can be deemed to be delivering "good" quality care even if a significant fraction of its patients fail to receive appropriate services, as long as the proportion of patients receiving poor quality care is smaller than the proportion for other providers.	A provider is expected to deliver evidence-based, patient-centered care to every patient.
Providers are burdened with reporting dozens of quality measures, and different payers require the use of different quality measures, even for similar patients.	A single measure would be needed to assess the quality of care for every patient, and every payer could use the same measure.
There is no measure of quality for many types of patients and health problems.	Providers are expected to deliver appropriate, evidence-based care for every patient and to monitor the health of all of their patients.

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based on patients' blood pressures as reported by their physician, and the measure for depression screening is based on whether the physician attests that a screening was performed. If there is concern that a provider is reporting quality information inaccurately, the payer can audit the provider's records. The same process can be used in a patient-centered quality measurement system for determining that clinical guidelines were used, that deviations from guidelines were documented, and that providers contacted their patients to find out about their health status and the effectiveness of services.

Unlike current quality measures that focus on specific subsets of patients and services and ignore the quality of care for all other patients, the patient-centered quality measure can be used to assure that *every* patient receives high-quality care, regardless of the specific health problems they have. In addition, because the deviations from current guidelines would be documented in the clinical record and because patient outcomes would be regularly monitored, that information can be used by clinicians to improve the clinical practice guidelines so they support better outcomes and reductions in disparities over time.

The Need for Value-Based Payment That Supports High-Quality Care

A patient-centered approach to measuring quality is necessary but not sufficient to improve the quality of care and reduce disparities. Healthcare providers cannot deliver the services needed for high-quality care if payers do not pay adequately to cover the costs of those services. Merely paying bonuses and penalties based on quality measures, as most current "value-based payments" do, will not remove the significant barriers to patient-centered care that exist in current payment systems. A *patient-centered payment* system is needed to do this. Details on how to create patient-centered payments are available at PatientCenteredPayment.org.

PATIENT-CENTERED QUALITY OF CARE MEASURE

The percentage of a healthcare provider's patients who:

(1) received services that (a) are consistent with applicable Clinical Practice Guideline(s) or (b) deviated from the CPGs for patient-specific reasons that are documented in the patient's clinical record, and

(2) were contacted regularly by the provider to assess their health and the effectiveness of services using a validated tool such as the *What Matters Index*.

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1. National Quality Forum. *Diabetes: Hemoglobin A1c (HbA1c) Poor Control (>9%).* NQF Measure 0059. A patient is classified as having poor control if their HbA1c level was above 9.0% or no HbA1c test result was recorded at all. Because population-level quality measures are expressed in terms of percentages and HbA1c levels are also typically reported as a percentage, HbA1c levels are discussed in the text without the % symbol in order to avoid confusion.

2. National Committee on Quality Assurance. *Comprehensive Diabetes Care.* https://www.ncqa.org/hedis/measures/comprehensive-diabetes-care/
   Centers for Medicare and Medicaid Services. *2021 National Impact Assessment of the Centers for Medicare & Medicaid Services Quality Measures Report.* (June 2021) https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/National-Impact-Assessment-of-the-Centers-for-Medicare-and-Medicaid-Services-CMS-Quality-Measures-Reports

3. Garber AJ et al. "Consensus Statement by the American Association of Clinical Endocrinologists and American College of Endocrinology on the Comprehensive Type 2 Diabetes Management Algorithm." *Endocrine Practice* 24(1): 91-120 (2018).

4. Wasson JH et al. "Development of a Care Guidance Index Based on What Matters to Patients." *Quality of Life Research* 27:51-58 (2018).

5. Wasson JH, Ho L, Soloway L, Moore LG. "Validation of the What Matters Index: A brief, patient-reported index that guides care for chronic conditions and can substitute for computer-generated risk models." *PLoS ONE* 13(2): e0192475. (2018)