NEJM Catalyst | Innovations in Care Delivery

COMMENTARY

Health Care Equity: From Fragmentation to Transformation

Karthik Sivashanker, MD, MPH, CPPS, Tam Duong, MSPH, Andrew Resnick, MD, MBA, Sunil Eappen, MD, MBA

Vol. No. | September 1, 2020
DOI: 10.1056/CAT.20.0414

Achieving health equity is increasingly understood to be an essential priority for providers and for organizations throughout the larger health care system. The authors describe a four-tier model that offers a pragmatic framework to establish measurements that will advance equity for both the patients and the staff of the health care provider organization. The four areas within which the metrics should be established to assess equity are access, transitions, quality, and socioeconomic/environmental impact.

Inequities in U.S. health outcomes by race, gender, language, class, and other factors are widespread.[1-3] Unfortunately, there is a lack of clear equity standards and benchmarks around which incentivization programs can be developed to influence behavior and encourage accountability. Additionally, existing incentive schemes may actually exacerbate inequities. Medicare's Value-Based Purchasing Program tends to financially penalize safety-net hospitals that serve a disproportionate share of disadvantaged patients.[4] And the Centers for Medicare & Medicaid Services (CMS) applies high penalties to transplant centers for not meeting standards for 12-month patient survival and organ functioning. This incentivizes transplant centers to systematically screen out disadvantaged populations, including patients with less social support, financial resources, and access to health care.[5] Patients of color are disproportionately impacted by these poorly considered incentive schemes, due in part to socioeconomic privation from centuries of structural racism in the United States.[5]

This lack of standards and benchmarks contributes to a fragmented equity landscape in U.S. health care, where organizations stumble across and/or react to inequities rather than systematically and proactively seeking them out; where each institution uses a distinct set of measures and approaches, which prevents meaningful comparisons between institutions; where intra-institutional equity work is structurally and operationally siloed and disconnected due to an absence of organizational commitment and strategy; and, where local success rarely translates to system-level improvements that address and correct inequities.

Advancing equity requires the identification and widespread adoption of a core set of interconnected measures. These measures, in aggregate, should create a meaningful narrative that describes the journey and experience of patients as they move through health care systems. This is especially important for patients with intersectional identities whose experience of friction with racism and other forms of structural discrimination is difficult to capture with a single measure.[6] These core measures should be common and relevant to all institutions (e.g., access or transitions of care) and should contribute to equity improvement in transformative rather than incremental ways.

Importantly, the ability to impact these measures should largely be within the control of the institution, especially if incentives will be attached to these measures. For example, while every health care organization should try to improve HgbA1c levels for their disadvantaged populations, health care is only one factor among many social determinants that influence this outcome. It would be unfair to punish poorer health systems for the socioeconomic conditions in their communities (e.g., access to stable housing and food) over which they have limited control and/or funds to address.

This tendency to focus on and incentivize clinical measures that are largely determined by social determinants outside the organization's control (e.g., HgbA1c) may worsen existing inequities and mask serious systems-failures. For example, affluent hospitals may appear to provide higher-quality and more equitable care by performing well on these narrow clinical measures, while simultaneously creating or failing to eliminate barriers to access for disadvantaged patients.

Instead, access to hospital-based diabetes prevention programs that incorporate lifestyle change and medication management is a more balanced and fairer core measure. Every system can and should be held accountable for their choices, as reflected in their policies, practices, or financial strategy, that make it easy or difficult for a diversity of patients to access care.

Using the example of diabetes management, we can expand this framework by considering four levels of measurement and intervention (Figure 1).

FIGURE 1

A Pragmatic 4-Tiered Measurement Framework for Advancing Equity

This framework includes four distinct categories of measures that organizations and regulatory bodies can use to assess equity, prioritize efforts, and maximize impact. The categories are arranged in a specific sequence: Access, Transitions, Quality of Care, and Socioeconomic/Environmental Impact.

Source: The authors

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

This framework considers four distinct categories of measures that we have arranged in a specific sequence for organizations and regulatory bodies to assess equity, prioritize efforts, and maximize impact: Access, Transitions, Quality, and Socioeconomic/Environmental Impact:

Access

Level one, defined as access, refers to whether patients can even gain entry to the health care system. An excellent candidate for a level-one core equity measure is the difference between the percent of Medicaid and/or uninsured patients treated by a health care institution and the total percent of Medicaid and/or uninsured individuals in the relevant city, state, or region.[7] By this measure, many large academic health centers are highly inequitable when compared to safety-net hospitals, even if they deliver superior outcomes to a relatively smaller group of these patients. Equity is not limited to patients; we can use the same model to describe an employee-facing*access* measure. An example includes the percentage of employees in management positions in the health care organization, stratified by race and ethnicity.[7]

Transitions

The level two measure, defined broadly here as transitions, refers to whether patients will be offered services equitably as they transit the health care system. A recent study provides a prime example of such a measure, finding that Black and Latinx patients were less likely to be admitted to cardiology for heart failure care than white patients.[8] This finding highlights how each change in settings, providers, and processes exposes patients to new risks and associated inequities.

> *It would be unfair to punish poorer health systems for the socioeconomic conditions in their communities (e.g., access to stable housing and food) over which they have limited control and/or funds to address."*

Examples of level two measures include referral rates to ambulatory specialty care, consultation rates for inpatient specialty services, and room versus hallway placement in the emergency department. An analogous employee-facing measure might be the rate of academic or organizational promotions of faculty by race, ethnicity, and gender, as well as their combinations (e.g., Native American women) in contrast to trends in regional and/or national demographics.[7]

Quality of Care

The level three measure refers to the quality of care delivered, commonly described through clinical outcomes and associated process measures. Due to the current payment landscape, most institutions are incentivized to use a rescue-based approach that focuses on downstream outcomes such as HgbA1c. This is often in lieu of a broader population-level approach that focuses on upstream contributors like access and transitions.

For example, institutions are better reimbursed for costly procedures and treatments needed to address diabetic foot ulcers, as compared to bundled reimbursement for access to diabetes prevention programs to prevent foot ulcers. In this framework, measures for levels one (access) and two (transitions) should be prioritized over level three measures, and incentive programs should be restructured and/or created accordingly. Clinical or academic productivity could be used as employee-facing level three measures.

Socioeconomic and Environmental Impact

The fourth and final level refers to the vitality of the socioeconomic and environmental conditions in the neighborhoods and communities served by the institution. Examples might include the impact of an organization on: (1) the neighborhood economy, which could be measured as the percent of supplies or services obtained from local minority-owned businesses, or the ratio of bad debt over charity care[7]; (2) employee living conditions, which could be measured as the percent of employees receiving a living wage, or by the percent of employee accounts sent to collections for unpaid bills from their home institution; and (3) the environment, as measured by greenhouse gas emissions.

We could reasonably argue that socioeconomic and environmental-facing measures should be prioritized higher in this framework (i.e., level 1 = socioeconomic/environmental, level 2 = access, level 3 = transitions, and level 4 = quality). This is because the socioeconomic challenges of patients and employees are even further upstream than access and transitions. However, this model is built, first and foremost, as a pragmatic tool for driving change. It suggests first working on internal, system-focused measures like access and transitions of care before considering downstream clinical outcomes. Improving the socioeconomic conditions of the surrounding community is reserved as the final step to avoid organizational paralysis — a risk seen when unprepared organizations try to tackle large and complex problems outside their scope of practice (e.g., housing and food insecurity).

> “ *This model is built, first and foremost, as a pragmatic tool for driving change. It suggests first working on internal, system-focused measures like access and transitions of care before considering downstream clinical outcomes. Improving the socioeconomic conditions of the surrounding community is reserved as the final step to avoid organizational paralysis."*

By focusing on four levels of measures and by developing standard process and outcomes measures that are related and synergistic, the value of this work in actually identifying and solving inequities in health care is much greater. Organizations such as Vizient have for years encouraged hospitals to look at a variety of CMS core measures (e.g., VTE-5, ED-1b), stratified by various demographics. While this is a good start, many core measures have been optimized by hospitals and small differences between populations may not reliably demonstrate inequitable clinical care.

Looking at access measures, process measures, and outcomes measures that are tied together can be much more powerful. For example, consider the treatment of sepsis or heart failure. Is the emergency room admission rate for patients of color equivalent to that of white patients for this condition? Is the time to fluids and antibiotics or the door to balloon time equivalent? Are different patient populations transferred to the intensive care unit at different rates? Are mortality or readmission rates equivalent? By looking at the complete picture, this framework allows an institution to gain much insight into potential inequities in care delivery.

Patient and staff experience have a role at every level of the framework in the form of patient-reported outcomes and employee culture survey data. In most cases, institutions will also find themselves working on every level in parallel. This is expected and healthy because we would expect that valued and energized employees would contribute positively to patient experiences. This would lead to individuals, groups, and departments developing initiatives crafted around local opportunities. It is the task of leadership to connect and align these parallel efforts to a central set of system-wide measures, which is the focus of this equity measurement framework.

The approach of Brigham Health to equity data measures during the Covid-19 pandemic illustrates the power of this framework in action. We began by focusing on Covid-19 testing data for our patients and staff, stratified by race, ethnicity, language, and other factors. This level one access measure helped us to characterize the differential impact of Covid-19 on groups early in the pandemic. Our data mirrored national trends showing that communities of color and non-English–speaking patients were being especially harmed by Covid-19. As a result, we also began monitoring stratified ICU census data as a proxy for access (level 1) to scarce life-saving resources such as ventilators, and as a transitions-of-care (level 2) measure for patients presenting to the emergency department with severe Covid-19 symptoms.

It was only after we had reassured ourselves around equitable access and transitions of care for our Covid-19 patients that we began focusing on Covid-19 mortality data, stratified by demographics — a downstream level three outcome measure. This data indicated that our non-English–speaking Hispanic patients were experiencing a higher mortality than English-speaking Hispanic patients, even after adjustment for comorbidities and other social determinants of health. Though not definitive, this data raised the possibility that quality of care issues related to language barriers might be a contributing factor. Thus, we began paying special attention to the timely and reliable delivery of interpreter services. Finally, we used community-level Covid-19 infection data (level 4) to identify *hot spot* neighborhoods with above-average Covid-19 infection rates. This data helped to guide community outreach efforts, such as setting up mobile testing sites to enhance testing and transmission surveillance.

> “ *Institutions must decide for themselves on which measures to prioritize and how to balance equity and other factors such as cost. As a general rule of thumb, if it doesn’t hurt (financially), it’s probably not enough."*

Importantly, these interconnected metrics provided a compelling narrative of how individuals and communities were being impacted. Patients and employees testing positive for Covid-19 were more likely to come from hot-spot neighborhoods that traced historical lines of injustice — such as the practice of redlining to systematically deny home loans to communities of color starting in the 1930s.[9] On presentation to our institution, equitable access to testing and ICU services was verified, but despite strong preexisting interpreter services at our hospital, non-English–speaking patients still died at higher rates after risk-adjustment. As a result, we were even more diligent in our provision of language services. In this way, we could begin to interrupt the cycle of inequity in which these patients are trapped. There is ongoing work to quantify the impact of this intervention on key health outcomes.

The most significant limitation of our framework has been a general vacuum of incentive and regulatory structures to point institutions toward a few core equity measures focused on access and transitions of care. As a result, institutions must decide for themselves on which measures to prioritize and how to balance equity and other factors such as cost. As a general rule of thumb, if it doesn’t hurt (financially), it’s probably not enough. This is especially relevant in a time of financial constriction for many health care organizations, when leaders are keenly aware of the fiscal bottom line.

The organizing principles described above are the beginnings of a model that, combined with robust incentive programs, would reward caring for the most disadvantaged patients. Our framework aligns nicely with a groundbreaking new ranking system that incorporates aspects of civil leadership — such as pay equity, community benefit, and inclusivity — in rating hospital performance.[10] By examining the differences in compensation between hospital executives and health care workers without advanced degrees, or assessing whether the racial and socioeconomic diversity of the community is reflected in the hospital's patient population, this system generates very different rankings than traditional scoring systems and highlights powerful disparities.[9] Many renowned academic medical centers received an A or A+ for patient outcomes but only a D for civic leadership.[9] In general, the top-scoring hospitals for patient care also ranked at the bottom for civic leadership, and around 150 hospitals spent less than 0.1% of their expenses on charity care.[9]

Of course, this ranking system is imperfect and should be constantly pressure-tested for unintended consequences. Objections may be raised about the specific measures chosen, the use of composite scores, the subjective assignment of weights for categories, and the relevance of such a system for an individual patient in making decisions about where to seek care. That said, it's an important step toward more resilient and reliable systems that will ultimately improve care for everyone — and that's a measure of success that we can all agree on.

Karthik Sivashanker, MD, MPH, CPPS
Medical Director for Quality, Safety, and Equity, Department of Quality and Safety, and Department of Diversity, Inclusion, and Experience, Brigham and Women's Hospital

Tam Duong, MSPH
Senior Project Manager and Research Associate, Institute for Healthcare Improvement

Andrew Resnick, MD, MBA
Senior Vice President and Chief Quality Officer, Brigham and Women's Hospital

Sunil Eappen, MD, MBA
Senior Vice President, Medical Affairs, and Chief Medical Officer, Brigham and Women's Hospital

Disclosures: No grant support or drug company support. Karthik Sivashanker, Tam Duong, Andrew Resnick, and Sunil Eappen have nothing to disclose.

References

1. AHRQ. 2018 National Healthcare Quality and Disparities Report. Rockville, MD: Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, September 2019. Last reviewed April 2020. Accessed July 27, 2020. https://www.ahrq.gov/research/findings/nhqrdr/nhqdr18/index.html.
2. Joshi M. Hundreds of Days of Action as a Start to Address Hundreds of Years of Inequity. NEJM Catalyst.
3. Quinn A, Laws M. Addressing Community Needs and Preparing for the Secondary Impacts of Covid-19. NEJM Catalyst.
4. Chatterjee P, Joynt KE, Orav EJ, Jha AK. Patient experience in safety-net hospitals: implications for improving care and value-based purchasing. Arch Intern Med. 2012;172(6):1204-10

5. Kulkarni S, Ladin K, Haakinson D, Greene E, Li L, Deng Y. Association of racial disparities with access to kidney transplant after the implementation of the new kidney allocation system. JAMA Surg. 2019;154(6):618-25

6. Crenshaw K. Mapping the margins: intersectionality, identity politics, and violence against women of color. Stanford Law Rev. 1991;43(6):1241-99

7. Improving Health Equity: Eliminate Racism and Other Forms of Oppression. From Improving Health Equity: Guidance for Health Care Organizations. Boston: Institute for Healthcare Improvement, 2019. Accessed July 27, 2020. http://www.ihi.org/resources/Pages/Publications/Improving-Health-Equity-Guidance-for-Health-Care-Organizations.aspx.

8. Eberly LA, Richterman A, Beckett AG, et al. Identification of racial inequities in access to specialized inpatient heart failure care at an academic medical center. Circ Heart Fail 2019;12:e006214 .

9. Resnick A, Galea S, Sivashanker K. Covid-19: The Painful Price of Ignoring Inequities. BMJ Opinion. March 18, 2020. Accessed July 27, 2020. https://blogs.bmj.com/bmj/2020/03/18/covid-19-the-painful-price-of-ignoring-health-inequities/.

10. Lown Institute Hospitals Index. Accessed July 08, 2020. https://lownhospitalsindex.org/.