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### Health equity and quantifying the patient experience: A case study

Maria R. Moreno

*Sutter Health / Institute for Advancing Health Equity*, [morenom@sutterhealth.org](mailto:morenom@sutterhealth.org)

Brandon Sherrets

*Sutter Health*, [sherreb1@sutterhealth.org](mailto:sherreb1@sutterhealth.org)

Danielle J. Roberts

*Sutter Health*, [friendd@sutterhealth.org](mailto:friendd@sutterhealth.org)

Kristen Azar

*Sutter Health / Institute for Advancing Health Equity*, [azark@sutterhealth.org](mailto:azark@sutterhealth.org)

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## Health equity and quantifying the patient experience: A case study

Maria R. Moreno, *Sutter Health/Institute for Advancing Health Equity*, [morenom@sutterhealth.org](mailto:morenom@sutterhealth.org)

Brandon Sherrets, *Sutter Health*, [sherreb1@sutterhealth.org](mailto:sherreb1@sutterhealth.org)

Danielle J. Roberts, *Sutter Health*, [friendd@sutterhealth.org](mailto:friendd@sutterhealth.org)

Kristen Azar, *Sutter Health/Institute for Advancing Health Equity*, [azark@sutterhealth.org](mailto:azark@sutterhealth.org)

### Abstract

The COVID-19 pandemic has invigorated efforts to address health inequities disproportionately burdened by racial/ethnic groups and individuals of low socioeconomic status. Measuring and monitoring patient experience is crucial to understanding why the gaps exist and identifying mechanisms necessary to close them. Electronic health records and digital health tools hold much promise in this regard and can lead to change. We present a case study describing the innovative efforts undertaken at Sutter Health, a large integrated health network in Northern California, to quantify gaps in health equity using electronic platforms and visualization modalities. More work is needed to identify and address barriers rooted in social context and structural inequities and ultimately impact health equity.

### Keywords

Health equity, health disparities, social determinants of health, population health, environmental and physical influences, medical care and social factors, healthcare technologies

### Importance of Measuring Patient Experience for Health Equity

Disparities in health for socioeconomically vulnerable and underserved populations have been well documented, especially since the National Academy of Medicine published its influential report documenting state of health disparities in the U.S. nearly two decades ago.<sup>1</sup> More recently, the COVID-19 crisis has invigorated efforts to address these inequities as the disproportionate burden of illness and death borne by marginalized racial/ethnic groups and individuals of low socioeconomic status was undoubtedly exacerbated by the underlying disparities that existed prior to the pandemic.<sup>2-4</sup> While much attention has been paid to the “what” of disparities, there has been far less attention paid to the “why” disparities persist.

Understanding, measuring, and monitoring gaps in health outcomes such as maternal health and chronic disease admissions alongside patient experience is a crucial approach to shifting the paradigm from identification of gaps, to identifying mechanisms necessary to close these gaps. Patient experience can be defined as “the sum of all interactions, shaped by an organization’s culture, that influence patient perceptions across the continuum of care”.<sup>5</sup> In a recent survey conducted by The Beryl Institute, U.S. consumers reported very different perceptions of the quality of care they receive based on their racial/ethnic backgrounds. While a total of 4 percent of White individuals report that they “often” or “sometimes” feel discrimination in healthcare, 35 percent

of Black people and 24 percent of Hispanic/Latino people report this experience.<sup>6</sup> These are all realities we must both acknowledge and act on in our efforts to tackle disparities and inequities in healthcare. While evidence of disparities in experience exists, more work is needed to quantify these disparities and monitor changes over time. Electronic health records (EHR) and digital health tools hold much promise in this regard and can be leveraged to improve not only our understanding of patient context and experience, but also to measure and monitor disparities in experience that provide actionable insights, leading to change. We present a case study describing the innovative efforts undertaken at Sutter Health, a large integrated health system in Northern California, to quantify gaps in health equity as it related to patient experience using the EHR data.

### Potential of SDOH Data to Understand Patient Experience

In order to truly understand and improve patient experience, it is necessary for organizations to improve methods for understanding the factors external to the clinic that influence health and well-being.<sup>6</sup> As part of an initiative to address health inequities, Sutter Health is undergoing efforts to include patient-reported information regarding the social determinants of health (SDOH) and health behaviors in the EHR. The information will be used to connect patients with identified social needs to social service support within and outside of the ambulatory healthcare setting. Social determinants of health are the

conditions under which people are born, grow, live, work, and age, and include factors such as socioeconomic status, education, employment, social support networks, and neighborhood characteristics.<sup>7</sup> These social conditions have a major impact on people's health, well-being, and quality of life.<sup>8,9</sup> According to the Robert Wood Johnson Foundation, these factors can drive as much as 80 percent of a person's health outcomes.<sup>10</sup> SDOH also contribute to wide health disparities and more importantly poverty, structural racism, and discrimination, are the primary drivers of health inequities.<sup>11-13</sup>

The disparate effects of SDOH on clinical health status and health care have been extensively documented. There is increased recognition in clinical settings of the importance of documenting, understanding, and addressing patients' SDOH in order to improve health and address persistent inequities.<sup>14-20</sup> Yet, very little attention has been paid to how understanding and addressing SDOH might improve the quality of clinical interactions.<sup>21</sup> Literature reports the importance of a provider's ability to recognize and act upon the sociodemographic factors contributing to their patients' health and health-related behaviors as crucial to bending the curve of disparities. Recognizing and understanding social determinants of disease can then guide patient-centered care strategies.<sup>8-10</sup> The World Health Organization defines patient-centered care as "respecting and responding to patients' wants, needs and preferences, so that they can make choices in their care that best fit their individual circumstances".<sup>10</sup> Key to a patient-centered approach is good communication, based on an understanding of patients' life experiences, values, and identity. Patient-centered communication leads to improved outcomes, including self-management of chronic conditions, adherence to recommended therapy, and patient experience.<sup>12,13</sup> In addition, patients' social context undergirds their ability to understand the condition (e.g., health literacy), determines how their illness affects their life, and in turn, how their life affects the illness and ability to adhere to recommended therapies. Asking directly about social context and SDOH may uncover important barriers to their clinical treatment that can be addressed by the physician or other members of the healthcare team.<sup>8</sup>

Sutter Health launched three SDOH pilots intended to develop and evaluate a standard workflow using questions embedded within its EHR<sup>27</sup> to gather patient SDOH information within the Sutter network, and included a patient survey and qualitative component to ensure that the patient voice is represented as the workflows are created. While understanding how SDOH shape both patient experience and health outcomes, it is important to recognize the importance of including patients in the process of establishing these procedures as they can sometimes lead to sensitive and emotional conversations. Much of current literature shows that patients perceive

social risk screening as appropriate; however, research also emphasizes different factors which influence acceptability, such as trust in clinicians, clinical settings, and patients' concern on privacy of social health data within their EHR.<sup>28</sup> Stigma or shame was cited as barriers to disclosure of social needs like food insecurity.<sup>29</sup> The overall non-responsiveness to the depression domain questions within one of the Sutter pilots (with only 7% of eligible patients responding) may also be indicative of stigma against mental illness, though evidence from other clinical sites suggests that depression screening is increasingly perceived as positive.<sup>30</sup> In an ambulatory pilot conducted just prior to the COVID-19 pandemic, half of the participating patients reported at least one identified social need. The most commonly identified social needs were stress, lack of physical activities, alcohol overuse, and limited social connections.

A better understanding of the SDOH that influence a patient's life can help to increase understanding of the patient experience, including the barriers they encounter, and help providers and health systems alike to identify new and innovative ways to engage with them to more effectively improve their health and the delivery of healthcare to achieve better outcomes for all. A large body of evidence demonstrates the influential role these factors play in health outcomes and the accessibility, availability, and experiences of healthcare.<sup>22</sup>

## Visualizing Patient Experience

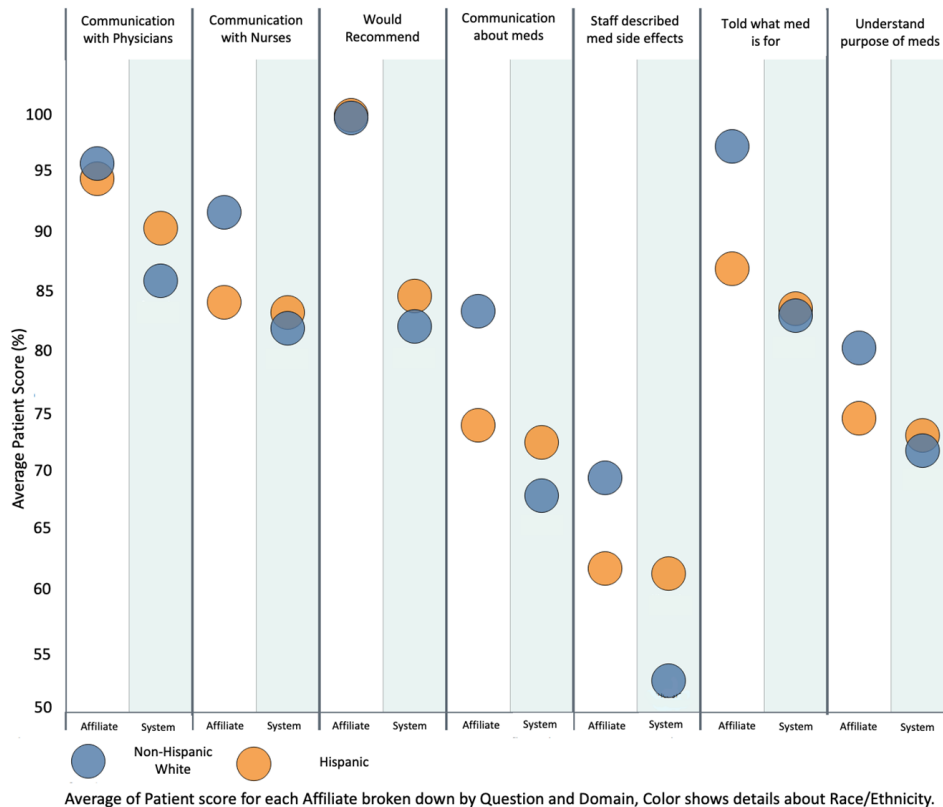
In addition to quantifying and analyzing SDOH information to improve the patient experience, Sutter Health is conducting innovative work to visualize and track disparities in patient experience by leveraging patient-reported experience of care and satisfaction survey results. To improve the birth experience for expecting mothers of diverse backgrounds, Sutter took a more granular view of patient experience data. Given the importance of patient-centered communication and health literacy to patient experience, a patient's perceived ability to communicate with the care team is of high importance to their health outcomes. Racial/ethnic disparities in maternal outcomes persist, even as advancements in obstetrics and medicine continue to progress, medical care continues to fail countless women each year, particularly minority women and women of color. Black and American Indian/Alaska Native (AI/NA) women experience exponentially more pregnancy-related deaths yearly in the U.S. compared to all other race/ethnic groups.<sup>35</sup> The pregnancy related mortality ratio for Black and AI/AN women aged  $\geq 30$  years was approximately four to five times that for their White counterparts.<sup>36</sup> Disparities in maternal morbidity including cesarean section (CS) should be considered a quality metric for obstetric care at the state, hospital or provider level. A retrospective cohort study at University California San Francisco, found that after adjusting for

known risk factors, African American women had 1.48 times greater odds of having a CS than did White women, and Latina women had 1.19 times greater odds, differences that existed even for women at low risk of CS.<sup>37</sup> These maternal disparities prompted teams at Sutter to create a visual dashboard, stratifying patient perceptions of ease of communication by race/ethnicity (Figure 1). The figure shows anonymized data from a Sutter-affiliated specialty hospital focusing on maternity and women’s health with a high proportion of patients who self-identify as Hispanic. Controlling for case-mix profile, i.e., performance of the affiliated clinic is compared to overall Sutter Health’s performance for similar cases. Disparities can be identified by observing the gaps in average score, comparing Non-Hispanic White to Hispanic responses and comparing clinic-level performance to the system-level. After controlling for case-mix, in this example, the affiliate clinic outperforms system-level; however, it varies across the domains. These data and visualizations can be used to inform discussions with care teams about targeted approaches to improve the experience for all our patients while closing the “experience equity gap.” This dashboard helps the care team identify an opportunity to target communication improvement between nurses and Hispanic patients, particularly related to discussions about medications. Through this work, care teams can explore

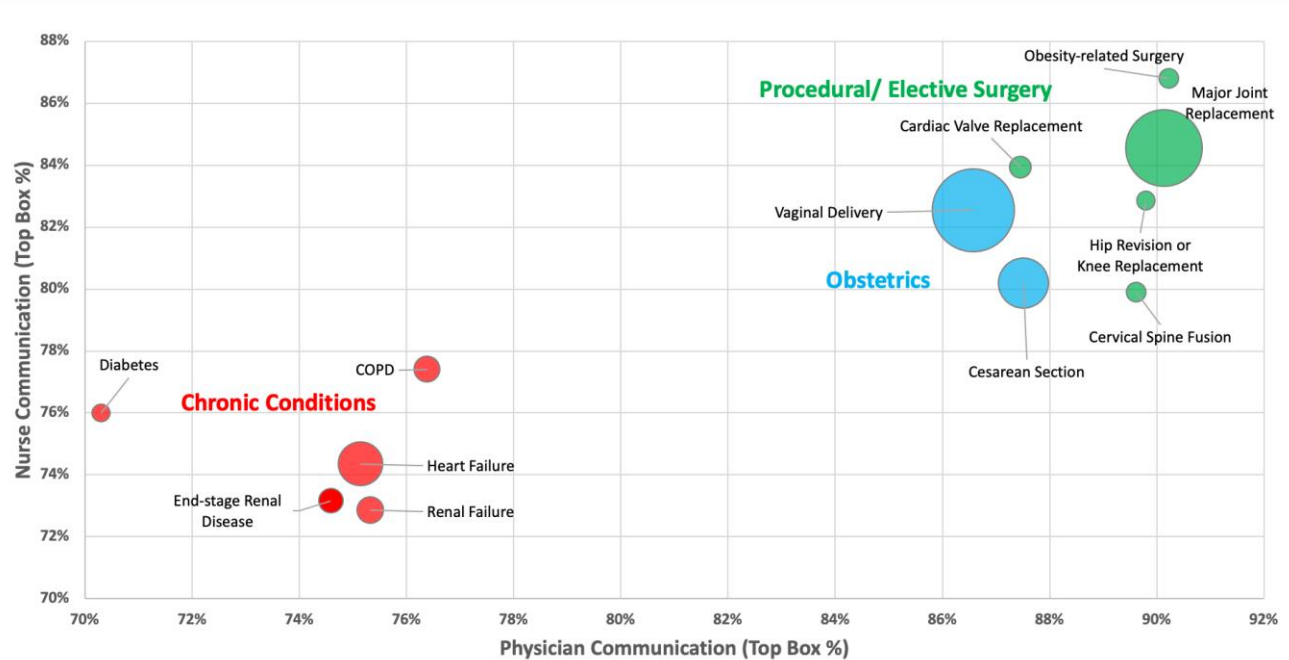
ideas such as, “How can we do a better job of making sure we hear the feedback from all our patients? What can be done to improve response rates from under-represented groups?” These data present evidence in disparities by race/ethnicity among obstetric patients at Sutter, alluding to the need to further refine the data by race/ethnicity across all subgroups.

Understanding patient experience by diagnosis-related groups (DRG) can provide some added insight into potential inequity in patient experience. Socioeconomically minoritized patient groups bear a disproportionate burden of chronic diseases such as cardiovascular disease,<sup>38,39</sup> diabetes,<sup>40</sup> COPD,<sup>41</sup> heart failure<sup>42</sup> and chronic renal disease.<sup>43</sup> Further, these groups face significant barriers to elective procedures such as knee or hip replacement.<sup>44</sup> Examining patient-reported satisfaction regarding physician and nurse communication (Figure 2) for chronic disease management and other DRGs can help health systems to identify opportunities for improvement. The figure compares top quartile patient reported satisfaction with physician vs. nurse communication during their

**Figure 1. Visualization of Patient Experience Equity Gaps**



**Figure 2. Patient Reported Communication by Select Diagnosis-Related Group (DRG)**



hospitalization. While not shown in the figure, stratifying these responses by race/ethnicity or payer type can further elucidate equity gaps and opportunities for improvement. As shown, those admitted for chronic conditions are more likely to have an unsatisfying experience, while those admitted for obstetrics, as well as elective procedures, tend to be much more satisfied with their communication with the care team, ultimately impacting experience.

**Conclusion**

Health information technologies, EHR data, dashboards and visualization tools can help to translate crucial information regarding SDOH and patient-provider communication into quantifiable, measurable, actionable data. These data can then be used to identify gaps in equity and inform innovative solutions to improve patient experience for all. At Sutter Health, various teams across the network, including Health Equity and Population Health, are collaborating to engage the EHR while using patient-facing tools like Myhealthonline (i.e. online patient portal) to facilitate the collection of these patient self-reported data to better understand and benefit the patients. Understanding patient journeys across Sutter’s large Northern California footprint using new technology can establish the ability to fully resource patients when they need them most. This is an ongoing process requiring continuous fine-tuning, which will entail a multidisciplinary multi-stakeholder approach to enable it to become routinized in practice. In December 2020, Sutter established its formal Institute for Advancing Health Equity, an effort to engage leaders from across the

integrated system in population health, research, quality, digital health, communications and other key stakeholder groups to begin to strategically identify and address health and healthcare inequities among patients, especially in terms of patient experience. Using data to quantify patient experience in order to identify these opportunities for intervention is a crucial first step in the process. More work is needed to identify and address barriers rooted in social context and structural inequities, which will be critical to enhancing care for all patients, impacting their experience with healthcare and achieving health equity.

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