



**Institute for Diversity  
and Health Equity**

*An affiliate of the American Hospital Association*

# AN ANALYTIC APPROACH TO ADVANCING HEALTH EQUITY

**MEMBERS IN ACTION CASE STUDY**

**Sutter Health** | Sacramento, California

## Overview

Serving more than 3.5 million patients, Sutter Health's community-based network provides care to more underinsured and uninsured patients than any other system in the 22 Northern California counties it serves. When Maria R. Moreno, MPH, Health Equity Program Manager in the Office of Patient Experience at Sutter Health, first began working for the integrated healthcare network in 2003, roughly 30 percent of its patients represented racial and ethnic minority groups. "In the 15 years that I have been with Sutter, the percentage of our patients who self-identify as non-White has risen to 56 percent," says Moreno. "As the racial, ethnic, and linguistic dynamics began shifting within our patient population, we wanted to quantify differences among racial and ethnic groups to help us measure health inequities across all our patient populations, assess how to reduce differences in health outcomes among different patient groups, and provide the most culturally competent care possible."

To that end, Sutter – one of the AHA's 2019 Carolyn Boone Lewis Equity of Care Award honorees – has

created a unique framework to advance health equity, much of which is based on the accurate collection of race, ethnicity, ancestry, primary language, and interpreter need (REAL) data. Sutter's journey began in 2005 when Moreno and several colleagues honed



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their approach to collecting self-reported patient demographic information. "In the beginning of this project, we knew that we would eventually be migrating to a system-wide electronic medical record (EMR)," says Moreno. "So, even with paper questionnaires, we were as granular as possible in the data we wanted to obtain. We weren't just asking for race and ethnicity, but also for sub-ethnicities and ancestry."

It took five years for Sutter's 24 hospitals and nine outpatient facilities to go live with its EMR – Epic – in 2010, and another two to three years to mitigate various migration challenges. Then, in 2012, Sutter's collection of REAL data through Epic was finally as precise as Moreno and her team had hoped it could be. "This was a seven-year journey to establish a foundation for all of Sutter's health equity work to

build upon," says Moreno. Initially, Moreno was focused on using the data gathered through the questionnaires to target and enhance language services. But soon, Sutter's leadership team began to explore ways to analyze its vast patient data resource at a clinical level.

“Our way of looking at health equity is that it is a pillar of quality,” says Stephen H. Lockhart, M.D., Ph.D., Chief Medical Officer for Sutter. “It’s not about treating everyone the same. It’s about understanding why outcomes are different and creating tailored interventions that provide equitable outcomes.” This desire led to the development of a novel, innovative metric known as the Health Equity Index (HEI) that allows Sutter to identify population subgroups suffering the most from outcome disparities and to develop interventions to address these inequities.

**Health Equity Index.** The HEI represents the average ratio of observed-to-expected hospital encounters for a given disease or diagnosis in a set time period and can be disaggregated and reported by racial and ethnic category. Expected encounters are adjusted by age, sex, and race for underlying population distribution of each hospital catchment area, prevalence of the condition, the propensity to use the given hospital, and the average frequency of that utilization. A ratio of 1.0 or less indicates that outcomes for the group are at least as good as or better than expected. Values above 1.0 indicate that the outcomes are not as good as expected for that particular group. When Sutter first implemented the HEI in 2016, it was used to identify and quantify inequities in patient care for ambulatory-care-sensitive conditions such as asthma, diabetes, heart failure, and obstructive lung disease.

According to Moreno and Lockhart, Sutter’s HEI is the first implemented health equity metric that uses real-time, health system data combined with external demographic, prevalence, and utilization statistics to produce a value that can be ascribed to outcomes specific to each racial or ethnic group studied. This type of information can help not only to rectify disparities, but also to address their underlying causes.

## Impact

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The HEI has been valuable in the development of programs to enhance equity; it also provides a methodology for measuring and evaluating impact. For example, looking at asthma in 2017, African

American patients at Sutter Health had an HEI of 2.2, much higher than their counterparts who are White (1.0), Hispanic (1.1), or Asian (1.3). “We realized that two hospitals in Berkeley and Oakland in particular were ‘hot spots,’” says Moreno. “In addition, our data allowed us to drill down even further and identify which specific African American patients had visited the emergency room (ER) more than four times in one year for asthma-associated issues. Our response was to create an adult asthma program in partnership with a local federally qualified health center and make it available to all African American adults at the point of contact who were seeking care for asthma in the ER in the two participating hospitals.”

When looking at diabetes – another ambulatory-care-sensitive condition – at Sutter, the HEI in 2017 was 2.2, indicating that the health system experienced more than twice the expected number of encounters given the underlying population characteristics. In contrast to asthma, the subgroups driving this inequity were defined by age. In particular, the youngest age group (20 to 44 years old) had several times the expected numbers of ER encounters for diabetes. Similar patterns were observed at all hospitals. Thus, Sutter has since developed interventions targeted at this younger age group. “This is an example of the underlying value of the HEI for identifying situations where subgroups of White patients may also be at increased risk,” says Lockhart. “Use of the HEI helps to eliminate preconceived notions that the only populations at risk are minority racial and ethnic groups.”

## Lessons Learned

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In 2017, Sutter’s Moreno received a fellowship to a year-long Disparities Leadership Program sponsored by the Disparities Solution Center in conjunction with Harvard Medical School and Massachusetts General Hospital. During the program, Moreno met with Joseph R. Betancourt, M.D., MPH, the founder of the Disparities Solution Center who agreed to hold a one-day summit at Sutter in 2018 to assess its initial work with its HEI program. The summit included the CEOs of Sutter’s

24 hospitals, the system CEO, and 120 other leaders from across the organization. “Through our work with Dr. Betancourt, we learned that we came running out of the gate too quickly and focused our efforts too narrowly,” says Moreno. “Rather than looking at just four ambulatory-care-sensitive conditions, we should have stepped back and conducted a ‘health disparities sweep.’ We needed to get out of the weeds and stop focusing on one backyard. The entire system needed to be evaluated by different teams across the system.”

After spending the next six months pulling data, Sutter analyzed 18 quality measures from birth to the end of life, stratified by race and ethnicity to create a snapshot of health equity across the spectrum of clinical care. As Sutter’s work progresses, the system will expand its focus to include other demographic factors and achieve an even greater understanding of the role provider organizations can play in advancing health equity.

## Future Goals

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Sutter is now beginning to offer the HEI to health systems in several other states to validate the potential

usefulness of the tool on a national scale. Both Lockhart and Moreno believe that one of the system’s critical goals is to leverage the power of the HEI and its impact on health equity nationally. “Sutter has made a commitment to share our experience and insight, and invest resources to shape the national dialogue,” says Lockhart. “As a health system, we would like to bring data and information to policy makers. By doing so, we hope we can help them understand and legislate effective and data-driven ways of bringing equity to health care.”

## Contact

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