Advancing Health Equity – Data Driven Strategies Reduce Health Inequities

HEALTHCARE ORGANIZATION

- Accountable Care Organization
- Integrated Delivery System

PRODUCTS

- Health Catalyst® Analytics Platform, including the Late-Binding™ Data Warehouse and broad suite of analytics applications

SERVICES

- Professional Services

EXECUTIVE SUMMARY

Health equity means that everyone has an equal opportunity to live the healthiest life possible - this requires removing obstacles to health. The U.S. ranks last on nearly all measures of equity, as indicated by its large, disparities in health outcomes. Illness, disability, and death in the United States are more prevalent and more severe for minority groups. Health inequities persist in Minnesota as well, which motivated Allina Health to take targeted actions to reduce inequities.

Allina Health needed actionable data to identify disparities and to reduce these inequities. This came in the form of REAL (race, ethnicity, and language) data, which Allina Health analysts used to visualize how health outcomes vary by demographic characteristics including race, ethnicity, and language. To understand the root causes of specific disparities as well as to identify solutions within their sphere of influence as a healthcare delivery system, Allina Health consulted the literature and also consulted patients, employees and community members. Then Allina Health created appropriate interventions based on this information.

As a result, Allina Health created an awareness of the health inequities among its patient populations, as well as effective approaches to breach the barriers that were preventing these patients from getting the care they needed. While much work remains in this long journey to achieve health equity, Allina Health has taken some significant steps forward, including:

- Three percent relative improvement in colorectal cancer (CRC) screening rates for targeted populations, exceeding national CRC screening rates by more than ten percentage points.
- REAL data embedded in dashboards and workflow to easily identify and monitor disparities.

HEALTH INEQUITIES EXIST ACROSS THE U.S.

According to the Robert Wood Johnson Foundation, “Health equity means that everyone has a fair and just opportunity to be healthier.

> We've learned that there is a difference between equality—where everyone is treated the same—and equity; providing our patients the level of support they need to be successful. By providing additional support to address the barriers, we are able to reduce health inequities.
>
> Jana Beckering, RN
> Project Manager
> Allina Hospitals and Clinics

This requires removing obstacles to health, such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care."[1]

The U.S. ranks last on nearly all measures of equity because of its large income-related differences in health outcomes.[2] The most common causes of illness, disability, and death in the U.S.—heart disease, cancer, diabetes, and stroke—are more common and more severe for minority groups.

Health inequities persist in Minnesota as well, despite the efforts of many organizations and programs to improve health.[3]

- African-American and American Indian babies die in the first year of life at twice the rate of white babies.
  - While infant mortality rates for all groups have declined, the inequity in rates has existed for over 20 years.
- The rate of HIV/AIDS among African-born persons is nearly 16 times higher than among white, non-Hispanic persons.
- American Indian, Hispanic/Latino, and African-American youth have the highest rates of obesity, and African-American and Hispanic/Latino women in Minnesota are more likely to be diagnosed with later-stage breast cancer.

Allina Health, a not-for-profit healthcare system with 12 hospitals and 67 clinic sites and ambulatory care centers, is dedicated to the prevention and treatment of illness, and helping people live healthier lives in communities throughout Minnesota and western Wisconsin.

HEALTH EQUITY PROBLEMS PERSIST IN MINNESOTA

For more than 15 years, Minnesota has tracked disparities in populations of color, American Indians, children, adolescents, immigrants and refugees, and lesbian, gay, bisexual, transgender, and queer (LGBTQ).

In 2011, the state of Minnesota began requiring healthcare providers to collect race, ethnicity, and language (REAL) data. These data revealed inequity. Available literature provided insight into several variables that contribute to these inequities:

- Health system issues related to the complexity of the system, how it has been poorly adapted to minority patients or those with limited English proficiency, and how it has been disproportionately difficult to navigate.

- Care process issues related to care providers, including stereotyping, the impact of race and ethnicity on decision making, and clinical uncertainty due to poor communication.
- Patient-related issues including patient's mistrust, poor adherence to treatment, and delays in seeking care.

Allina Health began stratifying some of its clinical quality outcomes metrics in 2013, revealing opportunities to close the gap amongst some of its racial/ethnic minority patient populations. This stratified data demonstrated that serious health inequities persisted, motivating Allina Health to take targeted actions to reduce inequities.

UNDERSTANDING CAUSES OF INEQUITY ENABLED CUSTOMIZED INTERVENTIONS

Using data to identify inequities

To be successful in reducing inequities, Allina Health needed to understand the outcomes its patients were experiencing. For this, it needed data. Using the Health Catalyst® Analytics Platform, including the Late-Binding™ Data Warehouse and a broad suite of analytics applications, Allina Health studied REAL data, and data regarding country of origin, to begin understanding inequities.

After standardizing data collection, categories of data, and methods used to conduct the analyses, data analysts at Allina Health provided visualizations of health outcomes by race, ethnicity, and language, and displayed the outcomes compared to the white, non-Hispanic/Latino, English-speaking population (see Figure 1).

Analytics revealed that Allina Health had opportunities to reduce health inequities, including improving colorectal cancer screening (CRC) rates. Allina Health developed a multi-level work plan to increase CRC screening rates among speakers of Somali, Hmong, Spanish, Arabic, and Russian languages; as well as Hispanic/Latino, American Indian, African-American, and Native Hawaiian and other Pacific Islander populations. The goal was to achieve a screening rate comparable to the white, non-Hispanic/Latino, English-speaking patients, incrementally closing the gap.

Allina Health recognized that despite having REAL data, its understanding of patients' needs and perceptions regarding CRC screening was likely incomplete. The REAL data, and data in the EHR, does not include important data regarding other factors that influence health, such as patient values and beliefs about healthcare

Numerator:	Patients who have had a colonoscopy in the previous 10 years, a sigmoidoscopy in the previous 5 years, a stool blood test in the previous 12 months), a colonography in the previous five years , or a fecal DNA test in the previous three years.
Denominator:	Patients age 51 to 75 with at least one eligible visit with an eligible provider
Date Range:	2016
Comp. Population:	White, Non-Hispanic/Latino, English-Speaking, USA Born

Race	Numerator	Denominator	Percentage	p
American Indian or Alaska Native				
Asian				
Black or African American				
Native Hawaiian or Other Pacific Islander				
Comparison Population				

Ethnicity	Numerator	Denominator	Percentage	p
Hispanic/Latino				
Comparison Population				

Language	Numerator	Denominator	Percentage	p
Arabic				
ASL				
Cambodian				
Hmong				
Russian				
Somali				
Spanish				
Vietnamese				
Comparison Population				

Figure 1. Sample health equity data – REAL data and comparison population.

and specific healthcare interventions, housing stability, financial resource strain, culture, gender identity, food insecurity, social connectedness, and other social determinants of health.

Using literature and engagement to understand disparities

To develop a complete picture and understand root causes contributing to lower CRC screening rates, Allina Health researched available evidence about how to increase screening rates in minority populations, which increased its understanding of barriers, and activities to remedy those barriers.

Allina Health used focus groups with its certified medical interpreters, to gain additional understanding of various patient populations. Allina Health learned about values, beliefs, and barriers that might impede patients from completing the recommended CRC screening:

- The subject matter may be perceived as shameful or sexual by some.
- Screening may be an unfamiliar concept. In some cultures, the word “screening” simply doesn’t exist. Phrases such as “looking for cancer” may be more effective.

> We've developed consistent data categories and standard, shared methods for analyzing our data. This has improved our ability to use data and analytics to identify, and then work to reduce, health inequities.
>
> Mollie O'Brien, MA
> Director, Health Equity
> Allina Health

- Concerns regarding discomfort with the procedure, based on prior healthcare experiences in a patient's home country where pain medication was not used.
- Basic needs—food, housing, bills—may take priority over preventive health treatment.
- Discomfort with opposite sex providers and interpreters.
- Belief that cancer is God's will, and that people should not intervene or try to prevent it.

Intervening and monitoring the effectiveness of interventions

With improved understanding of the needs of the various patient populations, Allina Health developed and implemented a work plan to improve CRC screening rates, which includes the following interventions:

- The health system mails patients home testing/screening kits. The health system uses culturally tailored education materials, instructions, and frequently asked question documents, all written in the patient's primary language.
- Patients who do not complete the CRC screening after the initial offering receive a second kit and a phone call in their own language to remind them to complete the test. To convey the benefit of completing the CRC screening, and to address questions a patient might have about the test.
- Care guides employed by Allina Health connect with patients and work through barriers, including non-medical health-related social needs and transportation needs, to increase the patient's understanding of screening goals and screening options. Allina Health harnesses the power of community, such as running colorectal cancer screening social media campaigns designed to better engage African-American and Spanish-speaking patients, a colorectal cancer screening video for Somali patients, and a skills-based employee-volunteerism campaign that invites Allina Health employees to talk to their social networks about the why and how to get screened for colorectal cancer. The social media campaigns and videos use evidence-informed communication to most effectively reach the community of interest. Allina Health also its website to communicate the importance of CRC screening and is investigating the use of newspaper, radio, and television.
- Through its analytics application, Allina Health is able to monitor the effectiveness of its interventions on the populations at highest risk for the poorest screening rates (see Figure 2).

FIGURE 2. CRC SCREENING RATE AMONG WHITE/ NON-HISPANIC/LATINO, ENGLISH-SPEAKING PATIENTS COMPARED TO CRC SCREENING RATE AMONG BLACK OR AFRICAN-AMERICAN PATIENTS.

1. Filters are divided into groups for comparing patient populations.
2. Visual display of outcomes for comparison groups.

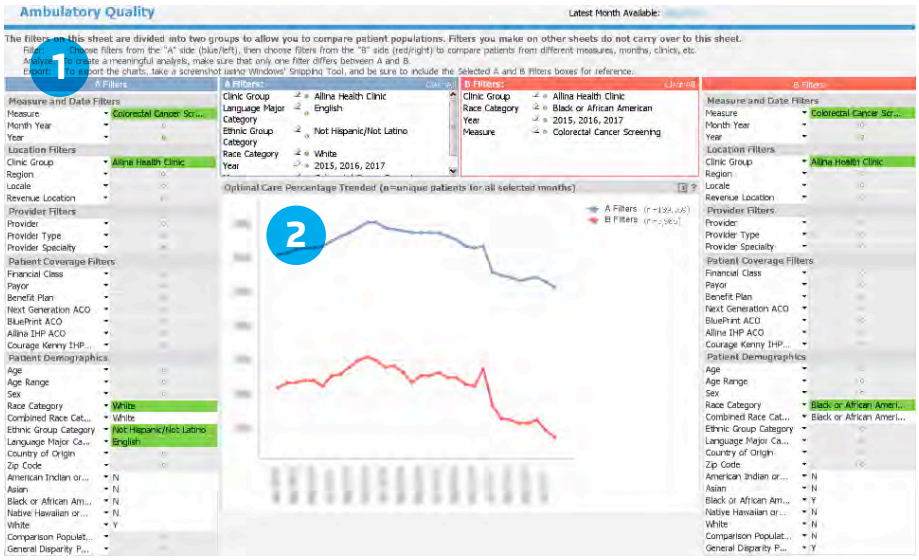

Figure 2. CRC screening rate among white/Non-Hispanic/Latino, English-speaking patients compared to CRC screening rate among black or African-American patients.

RESEARCH AND DATA-DRIVEN RESULTS

Allina Health's data-driven approach to reducing health inequities demonstrated effectiveness through customized interventions. The system increased its understanding of health equity, improved its awareness of where inequities existed, and confirmed an effective approach for reducing them resulting in:

- Three percent relative improvement in colorectal cancer (CRC) screening rates for targeted populations, exceeding national CRC screening rates by more than ten percentage points.
- REAL data embedded in dashboards and workflow to easily identify and address disparities.

WHAT'S NEXT

The integration of demographic filters into all of Allina Health dashboards has enabled the organization to identify opportunities to address health inequities in many areas, including:

- Primary care—diabetes, hypertension, asthma, pediatric immunizations, cancer screening, no show-rates, primary care provider assignment.
- Obstetric care—breastfeeding, transfusion, post-partum hemorrhage, pre-term delivery, fetal loss.

- Mental health—depression screening, depression claims, outpatient follow-up.
- Emergency care—ED utilization, wait times, use of restraints/seclusions.
- Hospital care—potentially avoidable hospitalizations for diabetes, HF, asthma, COPD, pneumonia and depression, readmissions, high-tech imaging claims.
- Pharmacy utilization.

The organization will continue to build capacity for the organization to understand the root causes of the inequities and to take action. Allina Health is sharing the learnings from this important work and creating additional organizational capacity to reduce health inequities throughout the organization, integrating health equity data into all its quality improvement efforts.

REFERENCES

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3. Minnesota Department of Health, Commissioner's Office. (2014). *Advancing health equity in Minnesota: Report to the legislature*. Retrieved from http://www.health.state.mn.us/divs/chs/healthequity/ahe_leg_report_020414.pdf

ABOUT HEALTH CATALYST

Health Catalyst is a next-generation data, analytics, and decision support company committed to being a catalyst for massive, sustained improvements in healthcare outcomes. We are the leaders in a new era of advanced predictive analytics for population health and value-based care. with a suite of machine learning-driven solutions, decades of outcomes-improvement expertise, and an unparalleled ability to integrate data from across the healthcare ecosystem. Our proven data warehousing and analytics platform helps improve quality, add efficiency and lower costs in support of more than 85 million patients and growing, ranging from the largest US health system to forward-thinking physician practices. Our technology and professional services can help you keep patients engaged and healthy in their homes and workplaces, and we can help you optimize care delivery to those patients when it becomes necessary. We are grateful to be recognized by Fortune, Gallup, Glassdoor, Modern Healthcare and a host of others as a Best Place to Work in technology and healthcare.

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