

Health Equity

How Data Driven Insights are the Key



SCALABLE
HEALTH

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EXECUTIVE SUMMARY

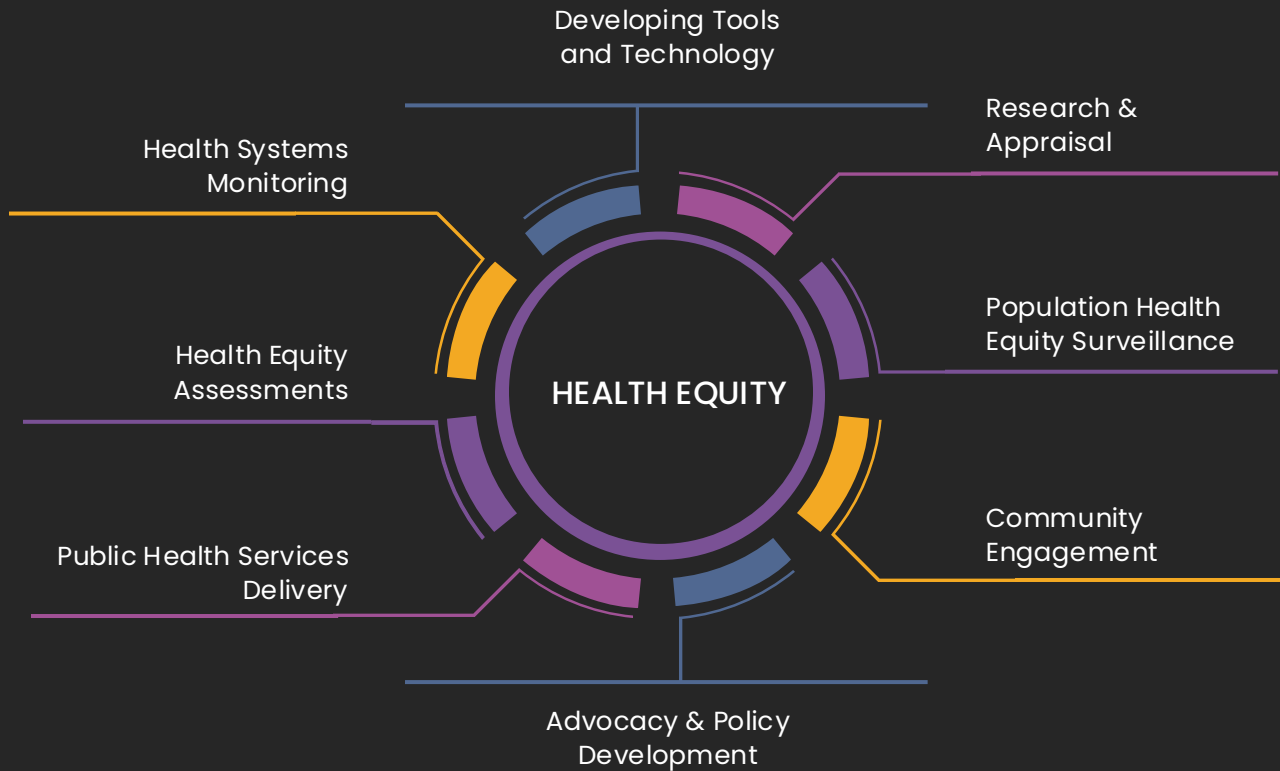
Health equity is the state in which everyone has a fair and just opportunity to attain their highest level of health- The Centers for Disease Control and Prevention CDC.

Health equity is a priority for stakeholders like healthcare leaders, organizations, policymakers, and providers. A well-defined health equity framework includes reliable care delivery, resolving social determinants of health, increasing population diversity, and much more.

The first step is understanding health equity, why it matters, and how to achieve it. To reach our target or accomplish meaningful

progress, we need to focus our efforts and attention on a critical component-Data. Healthcare challenges, optimizing efforts, and achieving desired goals need a coherent data-driven approach. Modern tools, technologies, and solutions would become essential to decision-making at the lowest to the highest levels.

The whitepaper *"Health Equity-How Data-Driven Insights Are the Key"* sheds light on the causes and consequences of health inequity. Additionally, collecting, reporting, and leveraging data to derive insights and intelligence to advance health equity is much needed.



HEALTH INEQUITIES

HEALTH EQUITY MEANS THAT EVERY PERSON HAS AN OPPURTUNITY TO ACHIEVE THEIR BEST HEALTH IRRESPECTIVE OF

- > Race
- > Ethnicity
- > Gender Identity
- > Education Status
- > Income
- > Employment Status
- > Sexual Orientation
- > Community
- > Disability



HEALTHCARE INEQUITY: THE PROBLEM

As per the CDC, longstanding systemic health and social inequities have pushed many racial and ethnic minority groups towards an increased risk of sickness and death. The recent COVID-19 pandemic has highlighted that some people are likely to struggle to access affordable healthcare due to factors like background, culture, race, income status, type of employment, or any disability.

There is an urgent need to address the situation by ensuring everyone can maintain optimum physical and mental health. Health organizations can achieve this goal by developing an ecosystem where every member has easy access to medical information,

affordable testing, and timely medical and mental healthcare intervention.

The economic burden of these health disparities in the US is projected to reach \$353 billion in 2050 if the disparities remain unchanged or see no tangible progress.

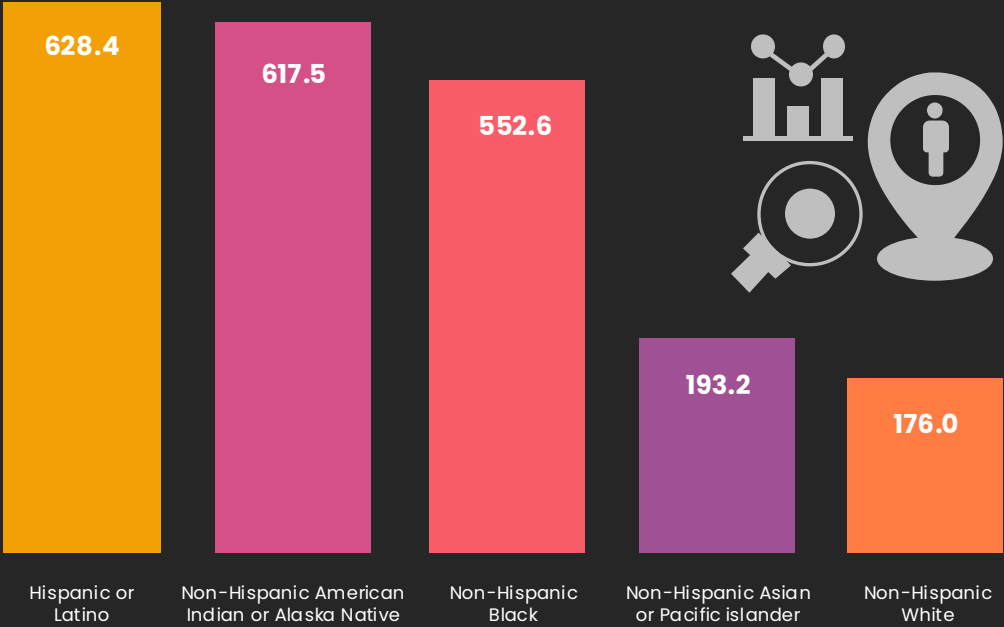
While COVID-19 starkly illuminated existing health inequities, these disparities are not new. Rectifying them is crucial for social justice and equity and for the overall health and economic well-being of the nation.

HEALTHCARE INEQUITY: A CASE STUDY

The COVID-19 outbreak in the U.S. has shown the country that there exists severe gaps in access, cost, and quality for patients based on their race, ethnicity, gender and gender identity, age, sexual orientation, or other demographic and socioeconomic factors.

Here is a graphic representing the rate of laboratory-confirmed COVID-19-associated hospitalizations in the U.S. [Period: March 1 to December 28, 2020].

Rate of hospitalizations per 100,000 population



Source: CDC and Statista, 2021

FACTORS LEADING TO HEALTH INEQUITIES

Health inequities manifest as limited access [patients unable to reach or afford necessities], unmet needs [non-alignment of innovation efforts and global burden of disease], and underserved communities [failure of payers and providers to engage groups].

The structural determinants of an organization influence the cost of utilization and medical care, which leads to health inequities. Some of the factors include:

Social determinants of health (SDOT)

Community members

Healthcare providers' cultural competence

Structural determinants of the system

HOW TO MOVE FORWARD WITH HEALTH EQUITY?

Building Health Equity into strategy

The health equity strategy should not be siloed from the organization's activity .

Expecting active involvement from all people

Health equity should be embedded into all organizational functions for improving health.

Looking for opportunities that address health drivers

Partner, coordinate and invest for consumers and communities to maximize impact.

Harnessing data and technology

Make efforts to eradicate bias, understand where to act, monitor success, and scale health equity efforts.

Challenging peers and partners







Be transparent when taking initiatives and hold people responsible for moving forward.

Measuring results

Assess the health inequity extent by measuring health care disparities and identifying the improvements.

CAUSES FOR HEALTH INEQUITIES

Some of the factors such as social determinants of health, community members, healthcare providers' cultural competence, structural determinants of a system or an organization influences the cost utilization and medical care. This eventually leads to health inequities.

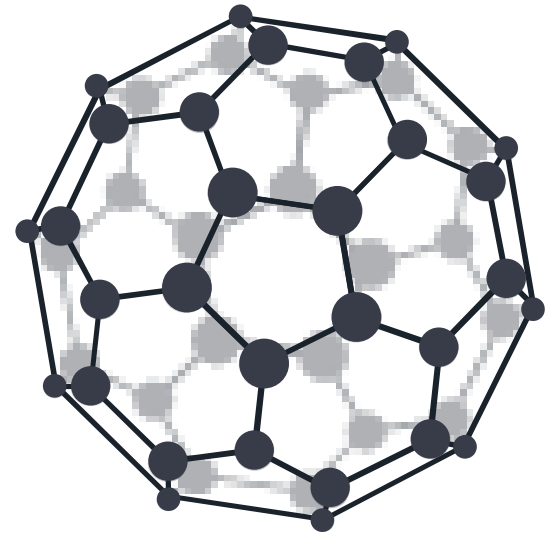
-  **Economic stability**
Employment, income, debt, medical bills, etc.
-  **Physical environment**
Housing, transportation, zip code, etc.
-  **Education**
Literacy, language, vocational training, higher education, etc.
-  **Food security**
Access limitations for healthy options
-  **Community**
Community engagement, social injustice, justice policy, trauma exposure, etc.
-  **Healthcare systems**
Health coverage, pharmacy and provider availability, quality of care, etc.



APPROACH

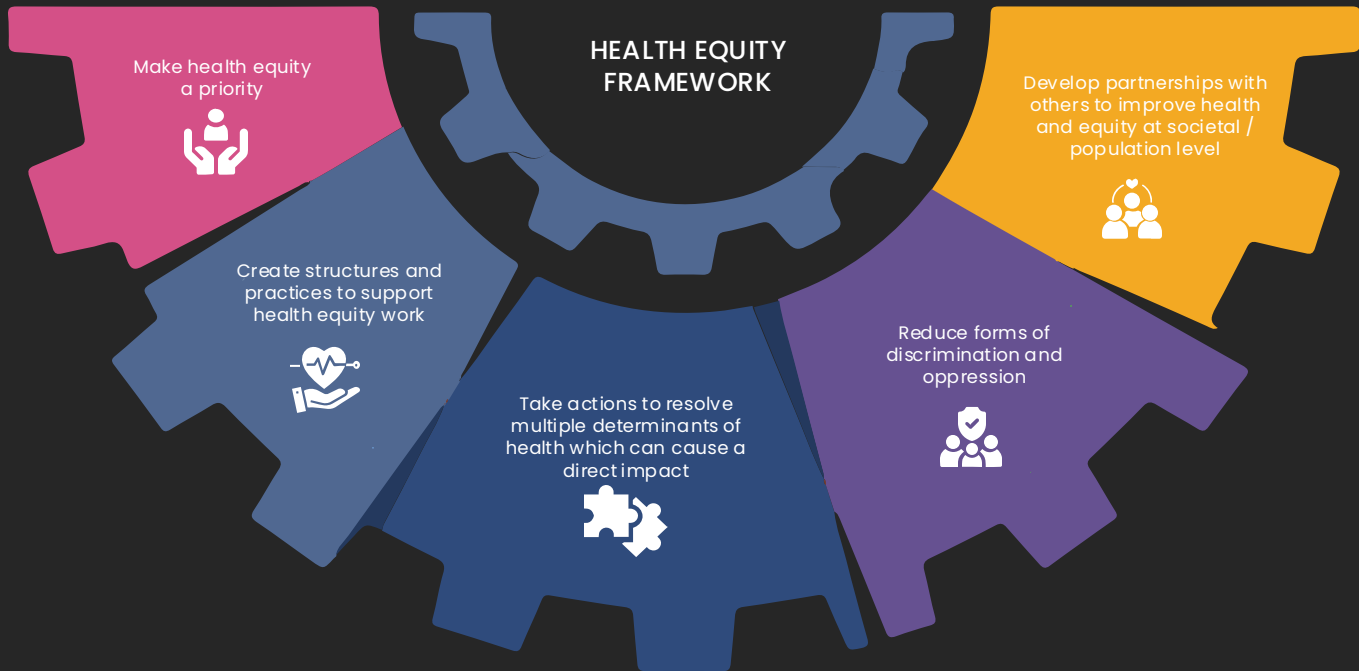
HEALTH EQUITY COMBINES DATA SCIENCE AND SOCIAL SCIENCE TO DELIVER POSITIVE HEALTH OUTCOMES CUTTING ACROSS RACE, INCOME LEVELS, EDUCATION, AND REGIONS.

- Discover and acknowledge the challenges
- Data to identify Healthcare Disparities
- Collating REAL (race, ethnicity, and language) data
- Analyzing the specific causes of disparities
- Addressing the Disparities with a data-driven approach
- Monitoring the stakeholder's Interventions
- Enhancing the patient's experience
- Improving overall public health



HEALTH EQUITY FRAMEWORK [HEF]

It is a model describing the health and education outcomes influenced by interactions between people and their environment. It is also a reflection tool that assesses the health equity approaches while exploring the new learning pathways.



Systems of Power

A life-course perspective emphasizes that the cumulative experiences across the lifespan and generations might lead to health inequalities.

Relationships and Networks

It includes connections, family support, friends, partners, and people belonging to a cultural community, schools, neighborhoods, and workplaces.

HEALTH AND EDUCATION OUTCOMES

Individual factors

Defines individual response toward social, economic, and environmental conditions.

Physiological pathways

The HEF recognizes a person's physical, biological, and cognitive abilities contribute to health outcomes.

HEALTH EQUALITY FRAMEWORK [HEF]

What's Healthcare Equality?

At the basic level, Health equality means giving every member the same opportunities, care, facilities, and service without any bias.

Introduction to Healthcare Equality Framework

The Health Equality Framework (HEF) is an outcomes tool to help the stakeholders like health commissioners, caregivers, providers, people with learning disabilities and their loved ones understand the effectiveness of services.

Key Health Determinants are taken into account while developing the Health Quality Framework-



Social determinants



Genetic
And biological
determinants



Communication
difficulties and reduced
health literacy



Behaviour & lifestyle



Healthcare Quality

Evidence from studies, research, and programs demonstrates the Health Equalities Frameworks (HEF/HEF+) as a powerful tool for enhancing health and social outcomes among individuals with intellectual disabilities, marginalized groups, and underserved communities. By integrating HEF

into their practices, processes, and programs, organizations can ensure timely, accurate, and outcome-driven healthcare delivery. The framework's focus on addressing the root cause of health inequalities enables healthcare stakeholders to strategically allocate resources towards prevention and detection.

WHY HEALTH EQUALITY FRAMEWORK?

To develop, establish, and support a health equality framework (HEF) for healthcare delivery to the right member at the right time. The health equality framework aims to improve outcomes and increase citizen access to healthcare services, especially for marginalized groups. By developing a data-driven strategy, stakeholders can ensure that everyone accesses safe, effective, affordable, and efficient healthcare without impediments. For a successful HEF, it would be important to monitor outcomes at the individual level plus analyze the collected data to identify and understand the population health trends.

APPLICATION:

HEF implementation involves establishing the right environment, developing skills, and enacting changes. Monitoring and data-driven insights allow for effective progress tracking and outcome evaluation at all levels.



THREE CRITICAL PRACTICES TO ADVANCE HEALTH EQUITY

The Minnesota Department of Health identified three critical practices to advance health equity.

- Implement a health in all policies approach with health equity as the goal
- Expand the understanding of what creates health
- Strengthen the capacity of communities to create their own healthy future



Source: Minnesota Department of Health

POST-HEDA: USING HEDA FINDINGS TO ADVANCE HEALTH EQUITY

Public health departments need to actively drive inclusion for populations facing inequities by building strong relationships and leading communities toward full participation.

Public Health Departments:

Public health departments must implement actions that would increase the inclusion of the population that experiences inequities. They should foster and strengthen relationships and play an active role in moving communities from exclusion to inclusion.

Health in all policies:

Policy change is the best-recommended way to address inequities. Policy can be changed at all levels such as law, mandate, regulation, and rules. For instance, banning smoking in restaurants reduces lung cancer.

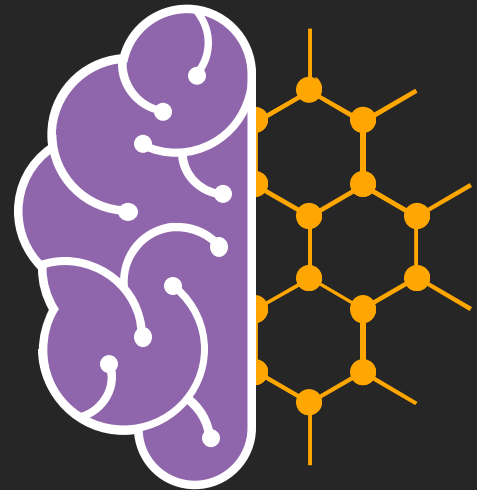
Monitoring progress:

Monitoring short- and long-term outcomes will help to determine any activity that addresses socioeconomic position.

SOLUTION

HEALTHCARE STAKEHOLDERS MUST LEVERAGE DATA AND AI TECHNOLOGY TO IDENTIFY DISPARITIES IN CARE, MAKE TIMELY INTERVENTIONS, AND SAFEGUARD PATIENT INFORMATION.

- Collecting race, ethnicity and language (REL) data
- Developing a standardized process for data collection
- Integrating all health equity data at one place
- Data Monitoring
- Data Visualizations
- Developing Analytical Capabilities



IDENTIFY HEALTH DISPARITIES

STEPS TO IDENTIFY DISPARITIES

01

Collect

Collect accurate demographic data by including questions such as gender, racism, ethnicity, and veteran status. This avoids discrepancies occurring due to manual/logistical factors while entering data into EHRs.



02

Stratify

Stratify metrics such as quality, safety, and experience to detect inequalities in outcomes. Capture nuances of patients' identities including registration, revenue cycle by forming a formed a governance committee.



03

Close

Increase the rates of complete REAL data documentation. This helps to close the identified gaps through robust reporting follow-up, tracking the findings, and establishing the statistical significance while sharing it to leaders and community.



HOW DATA ANALYTICS BRIDGE THE HEALTHCARE DISPARITIES GAP: THE TRIFECTA APPROACH

Providing care to people across the globe overcoming health inequity such as **communities** and **minority populations** is central to healthcare mission.

In this regard, **data analytics** helps to **develop strategies** and guide for an **impactful change**.

Healthcare providers urgently need to establish comprehensive data practices. Partnering with a healthcare analytics specialist can help eliminate bias, streamline data pipelines, and foster lasting equity. Accurate, real-time data is essential for identifying community health inequities, implementing timely interventions, and measuring progress toward health equity goals.



Maintaining Data Equity

- At the zip code level
- National surveys
- Inclusion of diversity markers



External Data Sources

- Data integration to EHR
- Consideration of REaL data, demographic data, socio-economic clinical data, mediclaim data, public data



ML Models to spot disparities

- Co-develop predictive models
- Creation of localized scoring system

Health Equity Best Practices

AN INTRODUCTION TO HEALTHCARE SYSTEMS AND DATA ANALYTICS

Quality of care is the degree to which health services increase the likelihood of desired health outcomes for individuals and the population. It is crucial to achieving universal healthcare coverage. To achieve this, framework put forth by the Institute of Medicine (IOM) includes six aims-

Safe: Avoiding harm to patients from the care

Effective: Providing services based on scientific knowledge and avoiding underuse and misuse

Patient-centered: Providing care that is responsive to individual needs and values

Timely: Reducing waits and harmful delays

Efficient: Avoiding waste of supplies, equipment, and energy

Equitable: Providing uniform and quality care irrespective of gender, ethnicity, socioeconomic status, and geographic location. Yet, organizations rely on passion and perseverance to address health equity. Also, there is a gap in identifying and addressing inequity with Artificial Intelligence (AI) and Analytics.

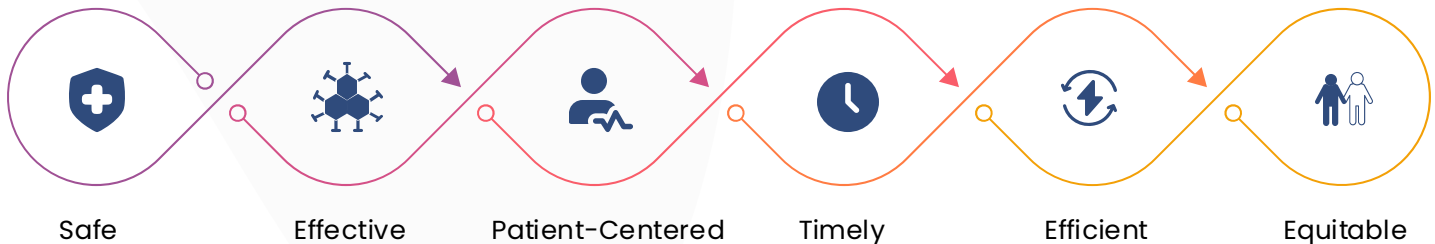
Healthcare organizations must build capabilities to ensure they have strategic, cultural, operational, and technological capabilities to achieve their mission.

The key asset to building the strategy is: The Data

Data-driven care leads to optimal patient experience. They improve affordability, decision-making, and reduce inefficiency and waste.

What does value-based care have to do with data?

In a value-based care system, healthcare organizations design a solid data analytics infrastructure to derive insights like when to expand, where to invest, and how to improve the patient experience. It includes health equity, cost, quality, performance, and outcomes.



DATA ANALYTICS FOR HEALTHCARE EQUITY

Equity in healthcare refers to equal access for people in need, equal treatment for people in need, and equal treatment outcomes for people in need. Data played a pivotal role in enabling Healthcare providers (HCPs) to prepare a response against any adverse medical condition. HCPs have realized that data is the ultimate key to bridging the disparity gaps. HCPs should harness the power of data to improve healthcare by representing the diverse populations.

The Role of Data in Advancing Healthcare Equity (HEDA)

The importance of data in healthcare means saving lives. It improves the quality of life and enables government to offer new and best solutions for a better future.

- The data allows the HCPs to make informed decisions, eventually improved quality irrespective of racism, ethnicity, or socioeconomic status.
- Along with HCPs and physicians, healthcare industry involves third-parties such as insurance and registries. A meaningful data helps them to provide healthcare while saving money.

- Holistic data collection methodologies considerably improve the healthcare quality to patients and make health benefits affordable and approachable to all members.

Health equity means all of us having equal access to healthcare, regardless of one's circumstances, zip code, economic situation, or level of support.

-Daniel E. Greenleaf, President and CEO of Modivcare

HEALTH EQUITY DASHBOARD TO MAKE INFORMED DECISIONS

A comprehensive health equity dashboard can help the stakeholders identify low-income and marginalized members. The centralized data dashboard can empower communities and providers to track and monitor policies and programs to alleviate health equity. A dashboard would enable concerned organizations

to compare data at the local level to city, regional, and state averages on issues like social determinants, healthcare delivery, and outcomes. Further, it could work as a medium or a portal to access publicly available data for planning, monitoring, and implementation.

Capabilities:

To collect and analyze accurate data at the lowest level (neighborhood). Before visualization, developing the optimum analytic resources for data quality and interoperability.

The dashboard must be user-friendly for easy deployment with documentation for the resources to maximize its potential.

Structured or unstructured Data would need to be formalized, cleansed, and integrated into the dashboard in a defined timely manner for aggregation, analysis, and intelligence.



MAINTAINING DATA EQUITY

Enabling healthcare providers to consider the regional social factors so that the AI/ML models become more efficient and localized.

01 Combining similar type of clinical surveys taken from various periods, leveraging targeted periodic surveys, and thus eliminate profile gaps.

02 Incentivizing data providers for including diversity markers while promoting race-, income-, and ethnicity data.

03 Reducing standard errors in the modelling techniques by not focusing only on larger population groups

EXTERNAL DATA SOURCES

Allowing healthcare providers to foster a larger ecosystem as a crucial step for data expansion beyond EHRs.

Facilitating healthcare providers to consider Race, Ethnicity, and Language (REaL) data, socioeconomic data, Medicaid data, self-reported and patient-generated remote data.

Integrating data collected through email, IVR responses, text messages, and other engagement tools to EHRs.

MACHINE LEARNING MODELS TO SPOT DISPARITIES

Driving healthcare decisions by biases led by algorithm-led data



Collaborating with the partners while developing the predictive models



Removing disparity in built-in scoring system by creating a localized scoring system

CORE OF AN EQUITABLE HEALTHCARE DELIVERY MODEL

Equitable health care leads to more efficient and affordable healthcare systems as a healthier population would require lesser medical care. This leads to fewer doctor's visits, less healthcare spending per patient, and better health outcomes.



Improving care process



Improving delivery of care



Improving care access

CONCLUSION

Every person deserves the right to live a healthy life. With renewed focus and attention on health equity, we can expect progress in identifying and eradicating barriers to affordable health care access and quality. Today, stakeholders leverage the collected information to run analytics, derive insights, interpret measures, monitor progress, and direct action for equitable healthcare delivery. Everyone realizes the potential of data in offering essential insights for addressing the determinants of poor health and ensuring programs and policies reach those who need healthcare.

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About Scalable Health

Scalable Health is healthcare division of Scalable Systems focused on providing innovative products and solutions in healthcare and life sciences market.

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Scalable Systems is a Data, Analytics & Digital Transformation Company focused on vertical specific innovative solutions. By providing next generation technology solutions and services, we help organizations to identify risks & opportunities, achieve sales and operational excellence to gain an innovative edge.

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