# A Winning Trifecta: 3 ways Al can help providers improve health equity

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Provider organizations are increasingly focused on health equity as a means to improve care quality and outcomes, lower costs, and improve population health. New care models, such as ACO REACH from The Center for Medicare and Medicaid Innovation (CMMI)<sup>1</sup>, incentivizes equity-focused providers who improve care quality while controlling related costs.

#### Artificial intelligence (AI)

is a positive driver for the aforementioned challenges, while supporting the framework of whole person care, and the growth of the value-based care (VBC) model.

This change couldn't come at a more meaningful time. According to CDC estimates, of the \$3.8 trillion in annual U.S. healthcare expenditures, 90% is linked to individuals with chronic disease and mental health conditions.<sup>2</sup>

Provider organizations have been pummeled by increased costs and a deeply-felt squeeze in operating margins. A survey across 900 hospitals, showed an average decrease of 11.8% in hospital operating margins, plus a 7.5% EBITDA margin decline, from January to February of this year.<sup>3</sup>

In addition, Americans have fallen into a crisis of affordability around care services and medication.

An eye-opening report from Kaiser Family Foundation (KFF) noted 46% of insured adults find difficulty affording out-of-pocket costs; and nearly 3 in 10 people are not regularly taking their prescribed medications due to the impact on their wallets.

African Americans are far more likely than people of other racial and ethnic groups to report significant medical debt. A recent report showed 16% of African Americans report having significant medical debt, compared to 9% of White and 4% of Asian Americans.<sup>4</sup>

Dig a bit below the surface of these statistics and you will find a more troubling reality—the sheer volume of health disparities—systemic inequities that historically and presently impact those groups of people having low incomes, disabilities, and living in distressed geographic areas. These social wrongs place an experiential and life-sucking drag on the health and wellness potential for millions of men, women, and children across our country.





The big reveal—healthcare services only account for up to 20% of total health outcomes for a population.<sup>5</sup> The remaining 80% of health outcomes<sup>6</sup> relate to an abundance of socioeconomic, environmental, and social challenges known as social determinants of health (SDoH). These non-medical influences include variances in level and type of employment, debt, housing, transportation, education level, food security, stress, exercise, social support services, and more.



SDoH are a critical driver and chief determining agent for health equity. They have a clear impact on care access, outcomes—including deaths, population health (risk, costs, readmissions), patient engagement, and trust within the patient-provider relationship.

As Zeev Neuwirth, Chief Transformation Officer at Atrium Health states:

"Healthcare organizations need to not only understand what is the matter with us—but what matters to us."





There are three waves of AI technology that have been and are presently applied in business and healthcare:

Wave 1 – Business intelligence and descriptive analytics Software that performs data aggregation and mining, which presents through trends and insightful dashboards.



Wave 2 – Machine learning (ML)
A branch of AI that focuses on
building systems that learn—or
improve performance—based on the
data they consume.

Wave 3 – Contextualization
Recognizing reasons why patterns
exist in data. Algorithms first crawl,
then standardize unstructured data
by leveraging ML algorithms, NLP
techniques, pre-trained clinical
corpus and meta ontologies.

This progression has led to a fast-emerging opportunity for healthcare organizations to utilize SDoH data intelligently and drive greater results in care coordination and outcomes for diverse communities.



## 3 significant ways AI assists providers in improving health equity

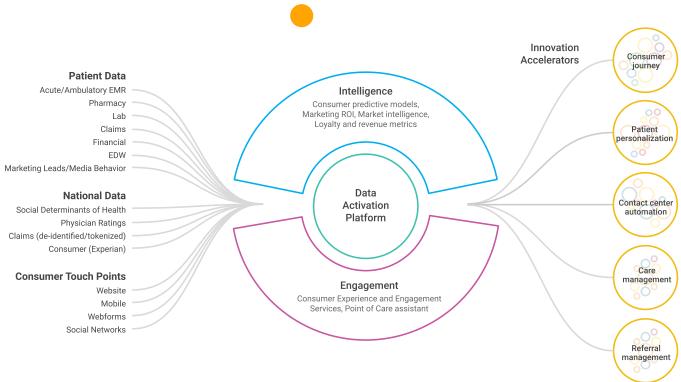
AI contextualizes and automates the structuring of clinical and non-clinical data into a single longitudinal patient record.

If we are to truly know the needs of our patients and communities—especially where health inequity exposes disparities in care quality, access, and clinical outcomes—we need to tear down the walls that keep data siloed.

One example comes from a health cloud unified model driven by an advanced enterprise master patient index (EMPI) that captures, cleans, validates, harmonizes, and then activates integrated data to deliver valuable analytics and powerful insights.

## More specifically, a cloud-based Data Activation Platform

(DAP) collects contextual data across multiple file formats, data streams, and categories from EHRs, payer systems, and other applications. The ML and NLP technology helps parse medical records (progress notes, PDFs, scanned documents) to extract various clinical concepts including patient specific SDoH elements in a structured format.





These SDoH concepts can then be mapped to standardized ICD10 Z codes using ML-based semantic mapping engines, thus standardizing the SDoH data for easier downstream consumption. This comes to an apex in the form of a unified, longitudinal patient record—where the clinical data is augmented with SDoH data.

Clinical teams utilizing such AI-assisted single longitudinal records gain insights in operational decision making, treatment recommendations, patient behavior and compliance, care coordination, drug discovery, medication adherence, and more.



This shift to whole-person care through an AI-driven unified patient record is already taking place in provider organizations such as Franciscan Health. They're transforming their thinking and approach to improve quality and coordination of care, gaining insights on cost and utilization, as well as improving patient outcomes.



Sriram Bharadwaj, former vice president of digital innovation for Franciscan Health and new Chief Operating and Information Officer at Longevity Health Plan notes:

"If I can get the genomic data of a patient, the data of their families, their information about what they did in the past, that will be helpful to get a better picture. We must [also] look at social determinants of health. The SDoH [data] examines the situations that the patient has had in the past in terms of location, types of care, and more."



#### AI stratifies population vulnerability and risk.

### Transformation that is truly patient-centered

requires an accurate window into the population's susceptibility to many social and economic conditions. This is why the CDC developed the Social Vulnerability Index (SVI), a measure of a defined population's susceptibility to various social and economic conditions.

The CDC's SVI was a good first step, but its overreliance on a simple summation of percentile ranks of all SDoHs has shown itself to be, at times, inaccurate.

More advanced AI/ML algorithms of SVI have surpassed the CDC's baseline and limitations. Now, providers have the ability, at the point of care, to receive both zip code and individual level SVI rankings from up to 58 different SDoH elements.<sup>7</sup>

Through the inclusion of Al-enhanced and SVIstratified SDoH data, the future for risk-based value-based care (VBC) is incredibly bright. Providers and other healthcare ecosystem stakeholders gain clarity in their complete view of patients.

In addition, physicians and care managers will utilize an Al-assisted closed-loop referral process to connect patients with community resources, which will meet their outstanding SDoH needs such as food, finances, transportation, and more.

More broadly, population health management through risk-based provider contracts and care managers, will get a window into the most vulnerable individuals to engage for more immediate care needs.

This will improve outcomes, reduce future care costs, prevent needless suffering and deaths, as well as strengthen financials of provider organizations, allowing them to better manage costs in VBC models.



#### AI empowers insights to improve population health management.

The CDC reports 860 million visits are made to physicians each year, and a single patient generates up to 80 megabytes of EHR and imaging data. And each year, hospitals perform billions of imaging procedures, producing 50 petabytes of data globally—yet 97% goes untouched.8

Al technology can help these systems sort through that data to understand exactly where providers should focus to get the best ROI for positive patient outcomes. By helping providers make better decisions on where to invest, they can build and allocate resources more effectively to close the disparities.

Examples of this include HEDIS/MIPS care gaps closure, preventing unplanned hospital readmissions, predictive cost of care analysis to help provider organizations in VBC contracts, as well as effective planning and resource allocation.

#### Conclusion

In the United States, health disparities cause some populations to suffer more than others. A significant driver of these disparities are inequities in factors that impact health status and as much as 80% of outcomes are related to social determinants of health. Concurrently, we have a health system which suffers from many limitations in design, function, and poor strategy around a massively growing level of relevant, but often disconnected data.

Al is not the complete answer to fix health inequity. It is still in its infancy with much promise. However, Al serves to intelligently combine, activate, and deploy insights from clinical and non-clinical data.

Specifically, in creating a single longitudinal patient record, deploying SDoH driven insights, better mitigating risk and needs across diverse populations, as well as improving outcomes and helping to reduce costs.

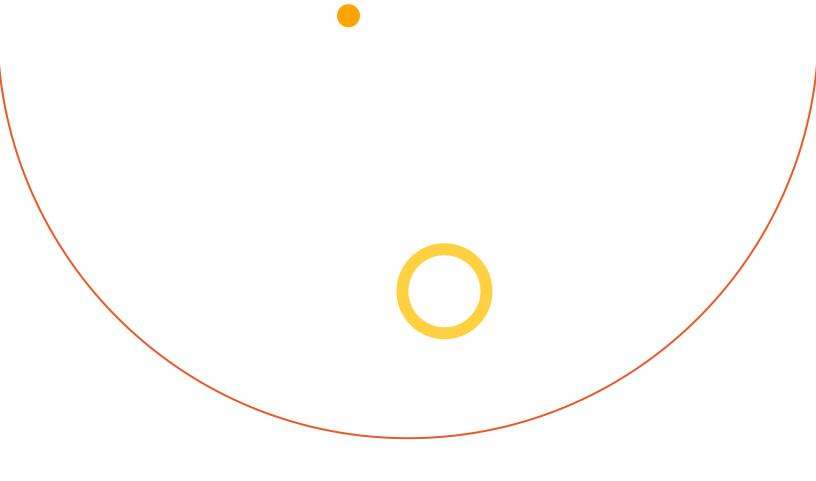
Data driven by AI efficiency, accuracy, integration, and intelligent insights will be a major catalyst in helping reduce health inequity across populations. So that all Americans will have the same equal access and opportunity to attain and maintain health in their lifetimes.



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Innovaccer Inc., the Health Cloud company, is a leading San Francisco-based healthcare technology company committed to accelerating innovation in healthcare. The Innovaccer® Health Cloud unifies patient data across systems and settings, and empowers healthcare organizations to rapidly develop scalable, modern applications that improve clinical, operational, and financial outcomes. Innovaccer's solutions have been deployed across more than 1,000 care settings in the U.S., enabling more than 37,000 providers to transform care delivery and work collaboratively with payers and life sciences companies. Innovaccer has helped organizations unify health records for more than 24 million people and generate more than \$600 million in savings. Innovaccer is the #1 rated Data and Analytics Platform by KLAS, and the #1 rated population health technology platform by Black Book. For more information, please visit innovaccer.com.

