

Enhancing Healthcare Analytics with Consumer Data

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Are You Prepared to Power Boost the Value of your Healthcare Analytics with Social Determinants of Health?

Healthcare organizations are increasingly using consumer data to augment their understanding and insights into the populations they serve, for a variety of purposes – from forecasting health outcomes, risks and future use of services to development of strategies for outreach and engagement. Consumer-generated data includes a wealth of information about individuals - including what they purchase, how they use social media, how many hours their wearable devices say they sleep at night, and other aspects of how and where they live and work.



“Consumer data presents a sizable untapped opportunity in healthcare’s transformation, primarily as a way to understand and engage with healthcare consumers proactively.

As new sources of data become available from the proliferation of smart devices and digitalization of consumer-facing processes and transactions, there will be a greater need to “know” healthcare consumers from an omni-channel perspective.” Price Waterhouse Cooper, 2020

Personal Health Record or Health Risk Assessment	Administrative (prior auth, program participation, registration/enrollment)	Disease Registries	Environmental Data (geography)
Mobile, wearables and biometric sensors	Behavioral and social media	Consumer buying and purchasing patterns	Public health records (disease surveillance, immunization and vital statistics)
Lifestyle and socio-economic data	Patient generated, including perceived health status	Interests, attitudes, and beliefs - survey or inferred from other data	Life events and living circumstances

Consumer data defined as data that is generated outside of a typical medical claim or transaction

(adapted from presentation “Growing use of Consumer Analytics in Health Care”, Pfizer Innovative Health)

Why Focus on Social Determinants of Health (SDOH)

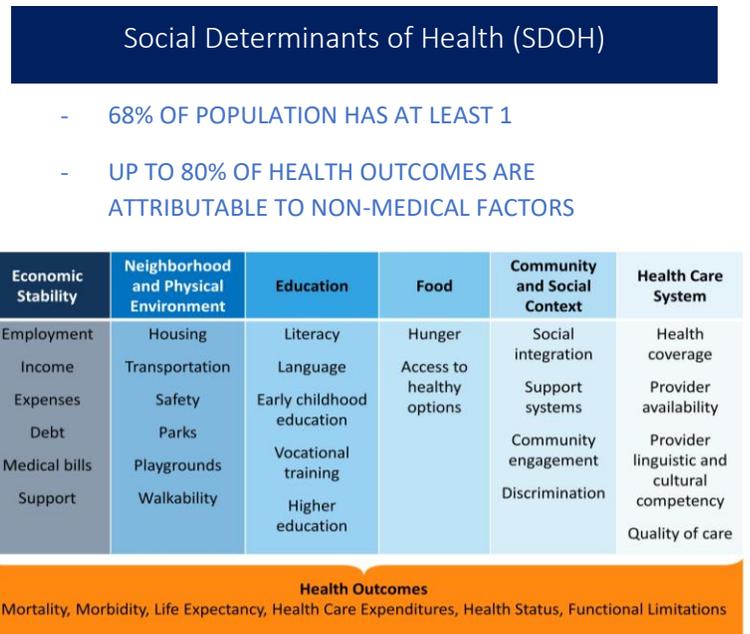
(Kaiser has framed it up well, as noted in the chart here)

There is now an important and timely opportunity to leverage policy making advancements relative to Social Determinants of Health, for purposes of taking actions to improve health outcomes.

CMS is currently testing the “Accountable Health Communities” model (AHC) which is based on emerging evidence that shows addressing health-related social needs can improve health outcomes and reduce cost.

Measurement includes:

- The use and proposed expansion of “Z codes” and development of related reimbursement policies,
- The AHC health-related social needs screening tool (identify needs related to social determinants),
- The PRAPARE tool (Protocol for Responding to and Assessing Patient’s Assets, Risks and Experiences) used by clinicians to collect data needed to act on social determinants.



Health plans and providers will have new access to measures of SDOH through traditional claims and clinical data, government, and third-party policy institutional surveys, as well as data collected in a more systematic fashion via medical and personal health records.

The link between Social Determinants of Health and Consumer-Generated Data

The more you understand the people you aim to serve, the more you can customize their experience. This kind of personalization is at the heart of healthcare transformation.

Many of the current trends and forecasts for the future of health care delivery are predicated on assumptions about a greatly expanded role for the “health care consumer” in directing and managing their own health – along with the promise of continued advancements in “big data” and orientation toward value-based care. Marrying insights about consumers and their preference and lifestyle with more traditional claim and clinical data is a promising strategy for organizations looking to capitalize on opportunities present via the combination of consumer-directed, data informed, value-oriented delivery.

The increased leveraging of consumer data coincides perfectly with current public health focus on Social Determinants of Health (SDOH) – providing powerful insights in combination with other more traditional sources of data at both the individual and population level.

Leveraging Consumer Data to Foster Improvements in Health Care and Engagement

There are several notable drivers and positive trends supporting use of consumer data, that can inform an organization’s strategy for its inclusion. In the aggregate, these considerations point to **now** being the perfect time to evaluate how the use of consumer data can be the catalyst to energize current health care offerings and services **and** ignite opportunities for innovation – putting consumers at the center and engaging them in more personalized ways to deliver value.

Drivers include:

- Shift to value-based healthcare (e.g., bundled payments, outcomes/pay for quality)
- Movement to greater personalization (messaging, outreach, engagement, intervention)
- Focus on Social Determinants of Health (SDOH) and advancing population health
- Availability of alternative therapies and locations for care (virtual/telehealth, self- guided care)

Positive trends include:

- Data ubiquity (e.g., In the near future, it is forecast that 25% of medical data will be handled, shared, and collected by patients themselves)
- Digital transformation (wearable devices, biometrics)
- Technology advancements for data sharing across community and clinical settings

Advances in “big data” and improved analytic and data management capabilities open additional avenues for data integration. Influencing consumers’ actions and decisions cannot be optimally achieved in silos – it is about using and integrating data from a variety of domains and incorporating it all within an analytic framework that has clear and purposeful objectives. It is also about understanding the limitations of different sources of information, and how to best apply the right combination of elements, yielding insights that are reliably actionable.

Example: leveraging consumer data in an initiative aimed at reducing hospital readmissions

A health system looking for ways to achieve a sustained reduction in unnecessary hospital readmissions by combining consumer and health/medical data to flag patients likely to be readmitted due to factors outside of their medical condition.



Address & Identify Data



Demographics



Household Data

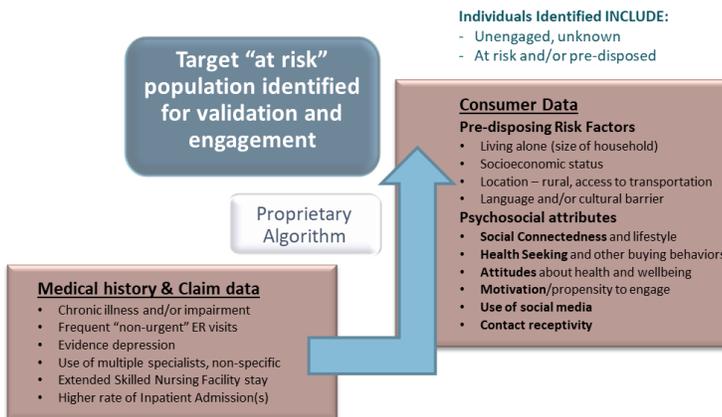


Lifestyle/Interests

Consumer Attributes Determined to be Effective at Flagging Risk for Re-admission:

- Does patient own or rent their home?
- Does he/she have a permanent place of residence?
- What is patient’s preferred language?
- What is patient’s education level?
- Does patient have access to transportation (e.g., own their own vehicle)?
- What are their attitudes and beliefs on healthy eating?
- Do they live in a community with access to healthy food choices?
- Are there other adults in the household?

Example: Pro-active Identification – at risk population(s)

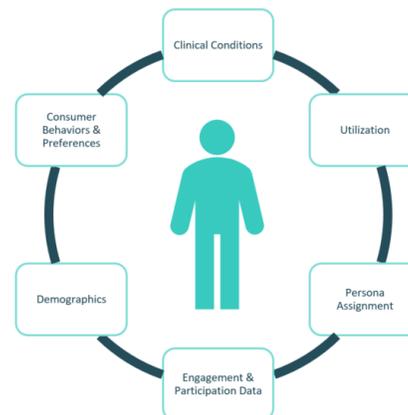
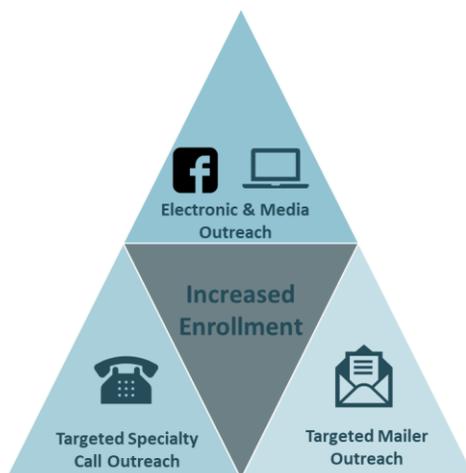


We recently worked with a client interested in having us build an identification algorithm to proactively identify individuals at risk for social isolation for purposes of more targeted outreach and intervention. The approach we used leveraged a combination of claim, clinical and consumer data in recognizing the inherent complexity in detecting (and predicting) social isolation and/or loneliness.

Consumer Data-Driven Insights: Which Individuals are most likely to engage and how best to reach them

By leveraging a combination of claims, medical history, personal characteristics and consumer attribute data, we are able to model and identify a number of different personas, representing common patterns associated with people of interest – those who we are trying to proactively reach for participation in actions to address health risk and improve outcomes.

This yields important and actionable insights about individuals or personas more likely to engage in various programs and services and what is the best avenue for communication and outreach.



Clinical and claim data provide a critical foundation, but health plans and health care providers need to incorporate more information along the lines of “social determinants of health” to build a comprehensive picture of the individual and their health and health risks. Integrating consumer data unlocks the ability to predict health risks, measure and fill in gaps in health personas.