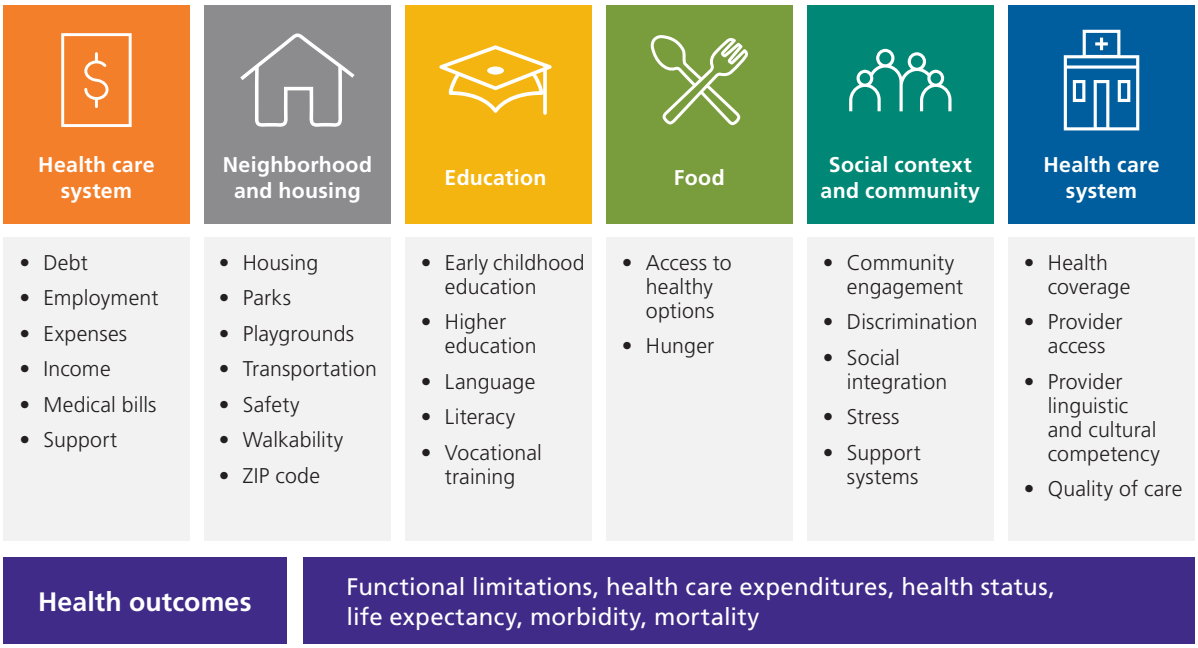
OPTUM®

Improving results with social determinants of health

Data derived from medical and pharmacy claims, lab records, hospitalizations and health risk assessments have long been the life blood of health plans' ability to analyze and manage member populations. Yet recently, many plans are recognizing the value that non-clinical factors — social determinants of health (SDOH) — can add.

Impact of ZIP code

Members' social determinants, such as education, socioeconomic status, housing, employment, social support networks and access to health care, have an enormous impact — estimates range from up to 90 percent — on health status and outcomes.[1] According to the Centers for Disease Control and Prevention, "differences in health are striking in communities with poor SDOH, such as unstable housing, low income, unsafe neighborhoods or substandard education."[2] (Illustration below.) Indeed, ZIP code is understood to be a stronger predictor of an individual's health than his or her genetic code.[3]



Kaiser Family Foundation.[1]

This paper explores the data challenges faced by payers today and how the insights derived from SDOH data can enhance underwriting accuracy, improve performance and strengthen population health management.

Data gaps

Gaps in member data present a significant challenge for payers. Most actuarial and predictive models work best with 12 months of data from both a financial and operational perspective. The average duration of Medicaid members, however, is approximately nine months.[4] Often commercial health plans experience member and employer turnover of more than 40 percent, on average, within a 12-month period.[5]

As a result, many plans have incomplete information on a significant portion of their membership. These data gaps make it difficult to develop accurate member risk profiles, anticipate members' needs, promote preventive care and personalize care experiences.

The accuracy of renewal quotes and loss ratios can also be negatively impacted. Additionally, the limits of traditional sources of member data, such as medical claims, can impede the effectiveness of patient engagement programs.

DATA GAPS MAKE IT DIFFICULT TO:

- Develop accurate member risk profiles
- Anticipate members' needs
- Promote preventive care and personalize care experiences.

Why SDOH are important

Research has shown that negative social determinants such as job insecurity, living in an unsafe environment and social isolation are connected to chronic stress responses and poor long-term health.[6] Trying to improve population health with medical interventions — but without addressing social determinants — is an uphill, if not futile, battle.

That's because the struggle for everyday necessities such as food or housing typically outweighs health care concerns. For payers, investing resources in educating a member about the importance of taking her medication will likely have minimal impact when she and her daughter are sleeping on friends' couches, struggling to find a safe environment, and worried about when their next meal will be.

The rationale for focusing on SDOH is simple — achieving health requires more than just controlling disease. Researchers estimate the impact of social factors on health comprises approximately 60 percent of individuals' health and well-being. The calculation includes a combination of social and environmental factors as well as individual behavior.[7] (Illustration below.)

Strong social relationships	Poverty	Unemployment
improve survival by	is associated with a	is associated with a
90%	**50–100%**	**20–30%**
compared to those experiencing the most isolation[8]	increase in mortality risk[9]	mortality risk[10]

Individuals living in ZIP codes with a high prevalence of poverty, crime, social isolation, food insecurity and other socioeconomic issues demonstrate high utilization of costly health care resources. CMS reported, for example, that in 2014, non-urgent use of emergency departments among Medicaid beneficiaries was almost twice as high as such use by privately insured individuals.[11]

Households with "… low food security — meaning that they faced uncertain or limited access to a nutritious diet — incurred health expenses that were 49 percent higher than those who were food secure. And health care costs were 121 percent higher for those with very low food security — those who missed meals or ate smaller meals because they couldn't afford food."[12]

HEALTH CARE COSTS

were **121 percent higher** for those with very low food security.[12]

The Optum® social isolation index has found a connection between social isolation and higher utilization and costs. Sixteen percent of individuals classified as very socially isolated visited the emergency room in the past year, compared to 9 percent of those categorized as least socially isolated, at 23 percent higher cost. Those deemed very socially isolated who were hospitalized for circulatory issues in the past year cost $257 compared to $142 for those with similar conditions who were classified as least socially isolated.[13]

Other socioeconomic factors have also been linked to increased risk of hospital readmissions. Studies have found that low education and low-income levels are often associated with increased risk of readmission among patients with heart failure.[14]

How SDOH can improve results

By supplementing traditional information with data outside the walls of the health plan, such as SDOH, plans can gain insight to more accurately understand members' risk profiles so they can be rated appropriately. Non-traditional data can also help plans learn more about members' willingness to engage, their level of social isolation and other key determinants of health which, in turn, can lead to an improved member experience and lower total costs of care.

Collecting and integrating SDOH data with other traditional data sources can fill important information gaps, improve underwriting and help forecast costs through:

- Analysis of historical member engagements and propensity to engage with the health system
- Deeper understanding of members' attitudes toward their health
- Assessment of member support or isolation from family and friends
- Evaluation of attrition and coverage lapse behaviors
- Automation and integration into analytics tools

Improving the accuracy of predictive models allows payers to reduce pricing margins and provide more competitive rates. Leveraging SDOH data with best-in-class financial predictive models can increase underwriting accuracy compared to using only a traditional financial predictive model.[15]

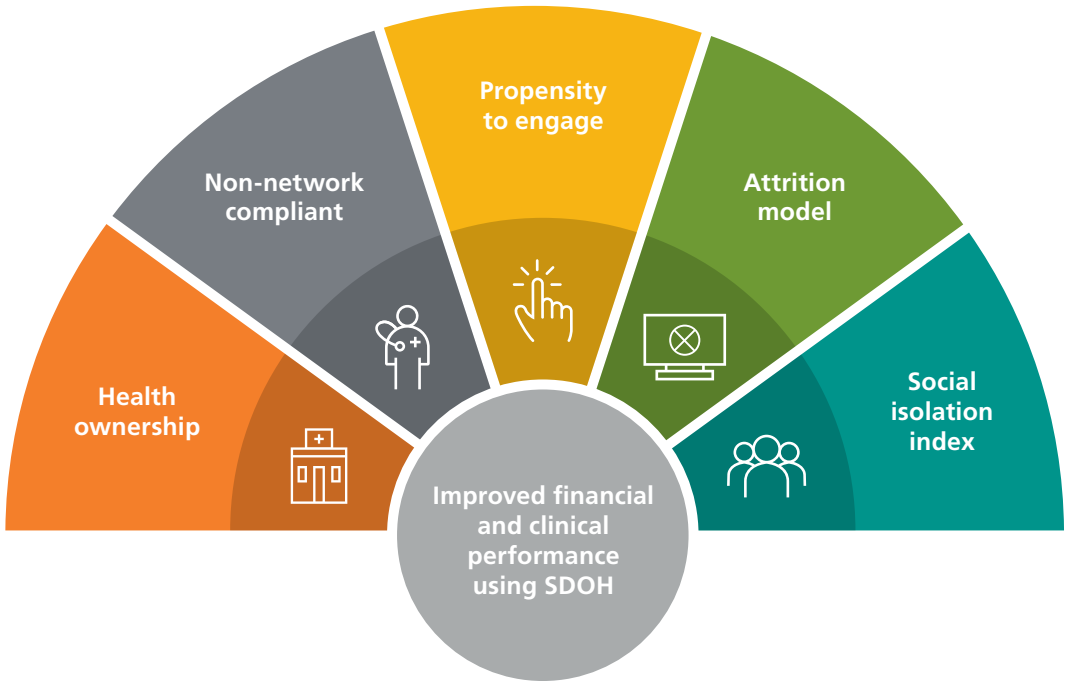
Additionally, by closing gaps in care, Medicare Advantage plans can improve their Centers for Medicare & Medicaid Services (CMS) Star Ratings — and enhance their revenue.

Collecting and integrating SDOH

SDOH data can be obtained from a variety of sources, including local government databases and consumer credit reporting agencies. Organizations dedicated to researching and measuring SDOH at both the individual and community level include the National Association of Community Health Centers, the Prevention Institute and the Sinai Urban Health Institute.

There is no standard approach to capturing or integrating SDOH data into existing health care data sources, such as claims and electronic health records. However, incorporating SDOH into reporting tools or predictive models can expand member health insight and lead to more impactful care plans. And, when providers have access to SDOH data, they can refer patients to beneficial resources in their community.

Health systems are increasingly investing in processes and technology to systematically collect data on individual inclinations and propensities. Data on health ownership, social isolation, engagement as well as utilization, like out of network use-and attrition or lapsing members, is vital for improving both clinical and financial outcomes. (Illustration below.)



PRIMARY CONSUMER ANALYTICS PROPENSITY MODELS

Monitor members' level of interaction with the health care system and personal health choices	Predict member's likelihood of using out-of-network services and providers	Can help to prioritize and target member engagement programs	Predict members that are at risk for lapsing or disengaging from a service	Predict members' propensity to have lower social ties to family and friends

Information about health status, well-being and social concerns at the identifiable member level. A 2014 Institute of Medicine report proposed that electronic health records consistently support documentation of 12 social and behavioral factors. Institutional standards can promote regular and consistent collection of these data.

SDOH initiatives

As awareness of the value of social determinants grows, so too does the pace of government and health system initiatives to identify and address social needs:

- In 2017, 19 states required Medicaid managed care plans to screen for and/or provide referrals for social needs.[16]
- Almost all (91%) of Medicaid managed care plans report activities to address SDOH.[17]
- UnitedHealthcare® recently awarded $1.95 million in grants to Wisconsin community organizations to increase access to fresh produce, dental and vision screenings.[18]
- Intermountain Healthcare formed a government–community organization alliance to focus on lack of housing, food insecurity, violence and transportation.[19]
- At Geisinger Health System's "Fresh Food Farmacy," doctors "prescribe" fresh fruits and vegetables to patients with diabetes and who are food insecure.[20]
- By providing medically appropriate meals to Medicare patients transitioning from the hospital, the Maine Medical Center reduced 30-day readmissions and lowered costs.[21]
- Mercer Health East, St. Louis, MO, partners nurse case managers with social workers to help address the social components of high-risk patients' care plans.[22]
- Bon Secours Health System has developed and maintained more than 720 low-income housing units in West Baltimore for frequent ER users who were homeless.[23]

Leveraging community health workers

Many health systems use field-based community health workers (CHWs) to help members address the social determinants that can undermine the quality of their health as well as their health care. Most CHWs are not medical professionals, although many are social workers. They typically are familiar with non-English languages and non-Western cultures and tend to work in underprivileged, marginalized communities. CHWs help members navigate the health care system and access social services such as food banks, assistance programs and housing.

Beyond helping members a follow their care plan, the CHW's greatest contribution may be the encouragement and guidance that builds the member's skills and confidence to manage their health on their own. And the result — reduced costs through fewer emergency room visits, hospitalizations and readmissions.[27] CHWs also facilitate improvements in the quality of care and the general health status of members, thus helping plans comply with performance measures such as the Healthcare Effectiveness Data and Information Set (HEDIS) and the CMS Star Ratings.

SOME EXAMPLES:

- **New Mexico.** A managed care organization provided CHW outreach and referral services for high-risk Medicaid members, resulting in significant declines in emergency room use, hospitalizations and prescriptions, and more than $1.5 million in net cost savings.[24]
- **Massachusetts.** An urban hospital system asthma case management program with nurse-supervised CHW home visits for children on Medicaid yielded a 68% decrease in asthma-related emergency room visits and an 84% decline in hospitalizations in one year.[25]
- **Texas.** Using CHWs to divert consumers from costly emergency room visits in a culturally appropriate way, a hospital achieved $25,000 monthly average savings and improved patient-reported quality of life.[26]

Keeping data secure

As health plans add SDOH data to the already huge volumes of member information stored in their databases, member privacy and security safeguards must be a top priority. Advances in technology enable the health care industry to leverage data outside their walls more readily each year. That raises concerns as to how the information will be used and protected. Health plans typically follow strict privacy and security policies that govern access to members' personal information.

It is important to remember that underwriting begins in most states when a group reaches at least 51 employees (and at least 101 employees in four states). Although not an allowable rating factor in all state, SDOH data may enable a health plan's underwriters to understand:

- Underlying changes in a group's behavior over time regarding its propensity to engage
- Degree of ownership of its health
- Extent of social isolation and other factors

Quarter over quarter trends in SDOH indices track behavioral changes happening within the group and may provide the underwriter with insights from leading indicators into trends they are seeing in traditional data sources.

Conclusion

SDOH are said to "help the data poor become data rich, and the data rich to become richer." While not a silver bullet, the insight derived from SDOH data can add value across several functions including underwriting, benefit design, risk stratification, quality of care measurements and closing gaps in care.

From a claims perspective, SDOH data can help plans better identify and more accurately project risks; from a population health perspective, such data helps plans more quickly understand which members are high-risk and could benefit from intervention. Additionally, developing insight into members' propensity to engage can enable plans to deploy resources more effectively and lower administrative costs. Ultimately, SDOH can be used to augment current work flows to help improve clinical, financial and operational performance.

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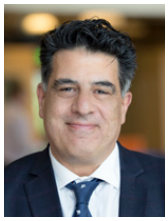

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