10-14-2022

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POPULATION HEALTH MANAGEMENT
Volume 25, Number 5, 2022
Mary Ann Liebert, Inc.
DOI: 10.1089/pop.2022.0079

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A Call for Consistent Measurement Across the Social Determinants of Health Industry Landscape

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Keywords: SDOH Industry, measurement, health-related quality of life, CMS, CAHPS, social needs, social drivers of health

Introduction

Social determinants of health (SDOH) create the haves and have-nots in access to quality health care.[1] These SDOH include both the conditions in which people are born, grow, live, work, and age as well as the complex, interrelated social structures and economic systems that shape these conditions. SDOH consistently predict premature morbidity and mortality. For example, lack of emotional support results in earlier dementia, increases the risk of death after heart attack, and is a predictor of functional decline and death for older adults.[2–4] Notably, SDOH disproportionately impact people of color, who are more likely to report higher financial insecurity and greater transportation barriers, and to be met with inadequate care access and substandard patient experience.[5,6] Subsequently, people of color shoulder a disproportionate burden of disease and negative health outcomes, including higher rates of diabetes, worse maternal outcomes, greater prevalence of HIV, and less preventive screenings.[7–10]

The purpose of this commentary is to (1) present a successful example of an SDOH intervention evaluation in a for-profit SDOH Industry company and (2) to call on industry—SDOH entrepreneurial ventures, health payers and providers, and policymakers—to collaborate and align on more consistent metrics that evaluate the impact of SDOH interventions. In this article, the authors employ an SDOH intervention evaluation strategy first presented by Goldberg and Nash of a company in the SDOH Industry to determine the efficacy of the company's intervention.[11] We then present additional recommendations to expand the conversation about SDOH intervention evaluation to foster greater collaboration among stakeholders over time.

Despite all the evidence, until recently, health payers—the primary risk bearers of health care costs—were not explicitly allowed or incentivized to cover nonclinical benefits on a broad scale. This changed markedly with the passing of the CHRONIC Care Act of 2018, which opened the door to industry adoption of nonclinical supplemental benefits aimed at social needs.[12]

Increased funding for SDOH interventions by payers coupled with inefficient SDOH intervention management strategies by providers has led to the emergence or enhanced focus of nonprofit and for-profit companies addressing SDOH.[13] For example, as of late 2021, 58 private, for-profit SDOH companies existed, with the majority emerging after 2010.[13] They offer solutions that include large-scale meal delivery, transportation to medical appointments or social activities, and companionship and personal assistance in the home.

As this industry continues to grow in size and scope, there remains no clear consensus on the best approach to address each social determinant.[13] Moreover, little focus has been placed on rigorous evaluations of SDOH interventions employed by companies in this industry.[13] Without an aligned effort between various stakeholders of all types into measurement, there is a risk of limited impact relative to both the need and to the industry's large investment and valuation ($2.4 billion of funding and $18.5 billion valuation as of 2021).[13]

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SDOH Intervention Measurement

SDOH Industry organizations face 2 primary challenges in using traditional key performance indicators (KPIs). First, the measurements reflect an outdated expectation of having a cost impact in weeks or months. Transitions of care programs and emergency department diversion programs may fit the traditional cost curve timeline expectation, but SDOH interventions may take more time to ''show up'' in cost and clinical KPIs. Patients often present with multiple intertwined social needs that require recognition, prioritization, and various interventions to solve. Evidence suggests that focusing on 1 social need, such as transportation, may not solve the underlying set of social needs.[14]

For example, the patient cannot take time off work to attend a physician visit, cannot afford the copay, or cannot find childcare, and, therefore, improvement in the clinical condition may not improve until each social needs domain is met. Second, SDOH organizations often may not have access to financial or clinical outcome data, which may limit their ability to measure or monitor impact across these traditional indicators over time. Health plans may, at some point, offer outcomes data, but usually after significant delay. Finally, from a patient perspective, current accepted and frequently applied quality metrics (eg, the Healthcare Effectiveness Data and Information Set (HEDIS), Consumer Assessment of Healthcare Providers and Systems [CAHPS]) do not measure the patient-centered value of social care delivery. Social care and its benefits go beyond the traditional short-term cost-saving analysis the industry is used to.

As an industry, SDOH organizations, health payers, and providers need different, nontraditional metrics to evaluate the success of social needs interventions. The authors recommend 4 key considerations when exploring different, nontraditional metrics: (1) the industry needs to determine proxy measures that are validated and have strong supporting evidence of their ability to predict outcomes; (2) the metrics should be reasonable for an SDOH Industry organization to implement and measure; (3) the resulting data should be easy to understand, reflect a longitudinal patient view, and allow for an accurate comparison across for-profit and nonprofit SDOH companies and between health plans; and (4) it is also important to review a range of measures to capture the patient's perspective on their health, well-being, and social connectedness.

One such measure that meets these stated criteria is the Healthy Days Measure, the key metric from the Centers for Disease Control (CDC)-recommended Health-Related Quality of Life (HRQoL) questionnaire. This metric is a reliable outcomes measure that has demonstrated its predictive power on mortality and morbidity.[15] Aimed at understanding ''an individual's or group's perceived physical and mental health over time,'' the HRQoL questionnaire can scientifically measure the health impact of quality of life both at the individual and community level. Healthy Days are revealed through an integrated and broad set of questions about recent perceived health status and activity limitations. Its operational feasibility (survey) and accessibility (free) are in contrast to the heavy burden of data collection associated with using proprietary claims coding.[15]

The core Healthy Days Measure assesses a person's sense of well-being through 4 questions: (1) self-rated health, (2) number of days in the past 30 days when physical health was not good, (3) number of days in the past 30 days when mental health was not good, and (4) number of days in the past 30 days with limited activity because of poor physical or mental health. Mental and physical unhealthy days are asked separately to link to distinctly physical or behavioral limitations. An overall unhealthy days index is calculated by adding the respondent's number of physical and mental unhealthy days together, which can be capped at 30 unhealthy days in the past 30 days or added together for a possible total of 60 unhealthy days. The unhealthy days summary index can serve both as a predictor and outcome measure of a population's health status.[15]

Strengths of the Healthy Days Measure include the score's association with higher chronic disease burden, higher functional limitations, and greater social isolation. Each unhealthy day has been shown to cost the health care system on average an additional $8 to $16 per patient per month, and to increase hospital admissions by 10.4 per 1000 people.[16,17] These figures allow SDOH providers to estimate impact on both clinical and cost outcomes.

Success in Practice

The Healthy Days Measure and HRQoL Questionnaire as a tool for SDOH Industry evaluation were proposed by Goldberg and Nash as a strategy to broadly evaluate an intervention employed by an SDOH Industry company across all domains of one's SDOH status.[13] This strategy was employed by Papa, an SDOH Industry company that focuses on pairing older adults, families, and other underserved people with a trained individual (''Papa Pal'') to provide companionship and assistance with everyday tasks. These tasks include grocery shopping, transportation to doctor's appointments, prescription assistance, and escalations for high-risk unmet social needs or changes in clinical conditions, which address various SDOH domains.

Papa collected data on participants' quality of life using the HRQoL survey to determine a Healthy Days Measure for each participant. At enrollment, Papa administered the survey to each potential participant and also assessed their loneliness based on the 3-Item UCLA Loneliness Scale.[18] This began in 2019, and participants were reassessed at biyearly intervals. At the start of the program, participants reported 9.6 mentally unhealthy days and 6.3 physically unhealthy days per month on average; 27% of participants were found to have 14 or more mentally unhealthy days, and 19% had 14 or more physically unhealthy days.[19]

In a randomized study, it was found that participation in the Papa program reduced mentally unhealthy days by 4.0 (31% reduction from baseline) and physically unhealthy days by 4.5 (38% reduction from baseline). The control arm, where participants received a loneliness resource guide, reduced mentally unhealthy days by 0.7 (8% reduction from baseline) and physically unhealthy days by 1.8 (14% reduction from baseline) ($P < 0.01$).[11] This is a preliminary example of (1) a successful evaluation strategy of an SDOH Industry intervention that offers clear and evidence-based metrics and (2) evidence of a successful intervention employed by an organization in the SDOH Industry.

Future SDOH Evaluation Recommendation

The patient or member experience is a separate and important component that describes a range of interactions patients have throughout the health care system, whether dealing with health plans, provider settings, or facilities within their community. Patient/member experience measurement is tied to the perceived impact of the SDOH solution on individual consumer satisfaction. The current CAHPS patient satisfaction questionnaire, which has recently received additional support from the Centers for Medicare & Medicaid Services (CMS), measures the patients' perceived satisfaction with their medical care but not their social care.[20]

With increasing recognition of the importance of social care, it would be inappropriate not to measure this other facet in a similarly systematic way. Although the CAHPS home- and community-based questionnaire evaluates members' experience with home health including case managers and home health aides, it stops short of assessing the patient experience with social care coordination or overall social care. The authors recommend a new question is developed and included within CAHPS that measures the members' experience with their social needs and related care as well as an indicator of the health plan's ability to resolve unmet social needs. Such a measure can be monitored yearly to ascertain directional improvement within a given plan, and also compared yearly across health plans.

It is worth noting that several organizations and coalitions are advancing frameworks and/or reviewing metrics that are relevant to the heightened SDOH focus. The organization, Wellbeing and Equity in the World (WE in the World), advances the Pathways to Population Health framework (P2PH), a strategic roadmap for organizations to improve the health and well-being of both their members and the communities they serve.

Their foundational concepts include the notion that SDOH impacts health and well-being outcomes throughout one's life course and the framework expands the idea of what the health care and SDOH ecosystems can and should do together in multisector collaboration.[21] In terms of advancing metrics, Healthy People 2030 includes a food insecurity measure that assesses the prevalence of Americans who indicate having experienced food insecurity in the past 12 months.[22] This annual measure can monitor trends in communities and trends over time. The National Quality Forum includes a social needs screening measure, and the Gravity Project has focused on standardizing SDOH metrics associated with Z-codes within electronic health systems.[23,24]

In addition, CMS recently announced plans to create a health equity index based on the current stars measures. The authors are encouraged by the pace of CMS and other agencies in responding to the demand for new measurements to evaluate SDOH needs, both broadly and among people of color, and by these agencies' exploration of new patient experience measures to assess the social care experience. The process of adopting a new measure is a long journey. To successfully arrive at its destination, a central governing body, such as the National Committee for Quality Assurance or NQF, must support the exploration, testing, and adoption of meaningful measures. CMS must also encourage, or even require, adoption of these measures from health plans and SDOH solutions.

The authors call on stakeholders across the ecosystem to join us in this dialogue and the actions it informs. As the saying goes, you can only improve what you measure. With the size and scope of the SDOH Industry and its interventions increasing rapidly, an inconsistent approach to measurement risks their promise. The industry can demonstrate belief in their promise—and more importantly, commitment to the critical imperative that is assessing and addressing social needs—in moving concertedly on measurement. We can achieve better health outcomes if we understand and serve health in all its forms, so we can put all the pieces in place toward a system that works for everyone.

Acknowledgments

Dr. Rudy, Ms. McNamara, and Mr. Parker thank Dr. Ashwin Kotwal and Dr. Carla Perissinotto for providing clinical and conceptual input, as well as Emily Hackel and Elizabeth DeMatteis for reviewing earlier drafts.

Authors' Contributions

Dr. Rudy and Ms. McNamara contributed to the conceptual framework, writing, data analysis and interpretation, and editing of this article. Mr. Goldberg and Dr. Nash contributed to the conceptual framework, writing, and editing. Mr. Parker contributed to the conceptual framework and editing.

Author Disclosure Statement

The authors declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Dr. Rudy, Ms. McNamara, and Mr. Parker are employees of Papa Inc., and own equity in Papa Inc., Mr. Goldberg and Dr. Nash declare no conflicts of interest.

Funding Information

No funding was received for this article.

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