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SDOH Data, Interoperability Challenges and Readiness Assessment Framework

Though significant technology investments have enabled healthcare delivery to mature in the past few years, rising costs and poor outcomes still exist.

But the healthcare industry is recognizing that in order to accomplish better outcomes with controlled costs, it is important to not only deliver quality healthcare, but also understand and address external factors such as lack of housing or financial strain of members that impede their overall health outcomes.

The external influences are the circumstances in which people are born, grow up, live, work and age which is defined as Social Determinants of Health (SDOH) by Centers for Disease Control (CDC). These circumstances are shaped by the distribution of money, power and resources at global, national and local levels.

Admiral Brett Giroir, Health and Human Services Assistant Secretary for Health, shared in the "Leveraging Data on the Social Determinants of Health" Roundtable Report that "America's healthcare spending is unprecedented and unequalled, accounting for almost 18 percent of our Gross National Product (GNP), potentially topping $6 trillion by 2027. Our nation must transform our 'sick care system' into a 'health promoting system'. And the key to that transformation is meaningfully and sustainably addressing the Social Determinants of Health."

Access and quality of care influences only about 20% of health outcomes which is evident from the continuously rising healthcare costs and ineffective outcomes the healthcare industry has been confronted with. Non-healthcare factors such as housing, food, safe environment, language, social connects and more comprise the remaining 80% that influence health outcomes. Several research projects such as Gravity Project, surveys such as SNP Alliance Survey 2018 and public data confirm the significance of including SDOH data to establish optimal outcomes at reduced costs.

Health payers have been exploring the inclusion of SDOH into the care delivery model to measure outcomes, drive insights and control costs of care. An example of influence of SDOH on health outcomes is where 2 individuals with the exact same diagnosis of diabetes have different health outcomes and risk profiles. One of them has adequate access to housing and healthy food whereas the other one lacks proper nutrition and housing facilities. The first individual will not need as much care coordination, community-based services and follow up as the second individual. In fact, the second individual will also need help addressing her housing and nutrition issues.

Some of the core SDOH data that Interoperability Standards Advisory (ISA, HealthIT.gov) has, identified and developing standards as areas of intervention when delivering care and reporting, are as follows:

1. Alcohol Use
2. Depression
3. Drug Use
4. Exposure to Violence (Intimate Partner Violence)
5. Financial Resource Strain
6. Food Insecurity
7. Housing Insecurity
8. Level of Education
9. Physical Activity
10. Social Connection and Isolation
11. Stress
12. Transportation Insecurity

Out of the 12 SDOH measures that ISA has developed standards for, four are commonly used by clinicians and hospital providers. The four data elements are certified to be recorded, changed or accessed within a patient record and are provided to approximately half of all office-based clinicians and one-third of the hospitals in the US. The four are:

- Overall financial resource strain
- Social connection and isolation
- Highest level of education
- Exposure to violence (intimate partner violence)

Although several providers and clinicians are making efforts to gather and include the SDOH metrics, challenges continue to exist in gathering accurate and consistent SDOH data for meaningful outcome analysis and improved care delivery. SDOH data today tends to be non-standardized, ad hoc and inconsistent, which permeates to downstream payer systems, thereby largely lacking adoption. The problem of embedding SDOH-driven intelligence mainstream can be attributed to sourcing data across multiple care delivery touchpoints and aggregating information and enhancing existing EDW models or analytical systems to support it. It is also equally important to develop the necessary interoperability, data governance and quality framework to support the ecosystem of data exchange between the providers and payers. Current challenges with collecting and reporting accurate SDOH data include:

Data Gaps

- The data reported are in different parts of an Electronic Health Record (EHR) or are in disparate systems and inconsistently collected from one provider to another or even over multiple appointments with same provider.
- The SDOH elements are not only collected from healthcare providers but from community-based organizations (CBO) who are not always equipped to collect nor report consistent SDOH data.
- The data collected can be outdated and may not represent current member/patient status. For example, a member could have adequate food security currently because of a family member intervention or community organization support even though his/her medical record could indicate otherwise.

Lack of Interoperability Standards

- The EHR or other systems of record have not yet fully adopted a standard SDOH nomenclature. A standard nomenclature is currently being established by ISA for adoption by healthcare organizations for SDOH data exchange.
- Most healthcare organizations have not yet adopted FHIR (Fast Healthcare Interoperability Resource, HL7) that enables standardized data exchange and API interface leading to challenges with real time SDOH information access and use for effective healthcare delivery and reporting.

SDOH Assessments and Scoring Methodology

- The screening assessment tools for SDOH to collect and report vary from one provider to another and are not standardized. The scoring methodology is inconsistent and/or absent
- There is no regulatory-driven approach to use screening tools such as Mini Mental tests that help with standard scoring, consistent interpretation and be embedded as part of clinical documentation in EHR.

Limited Financial Incentives

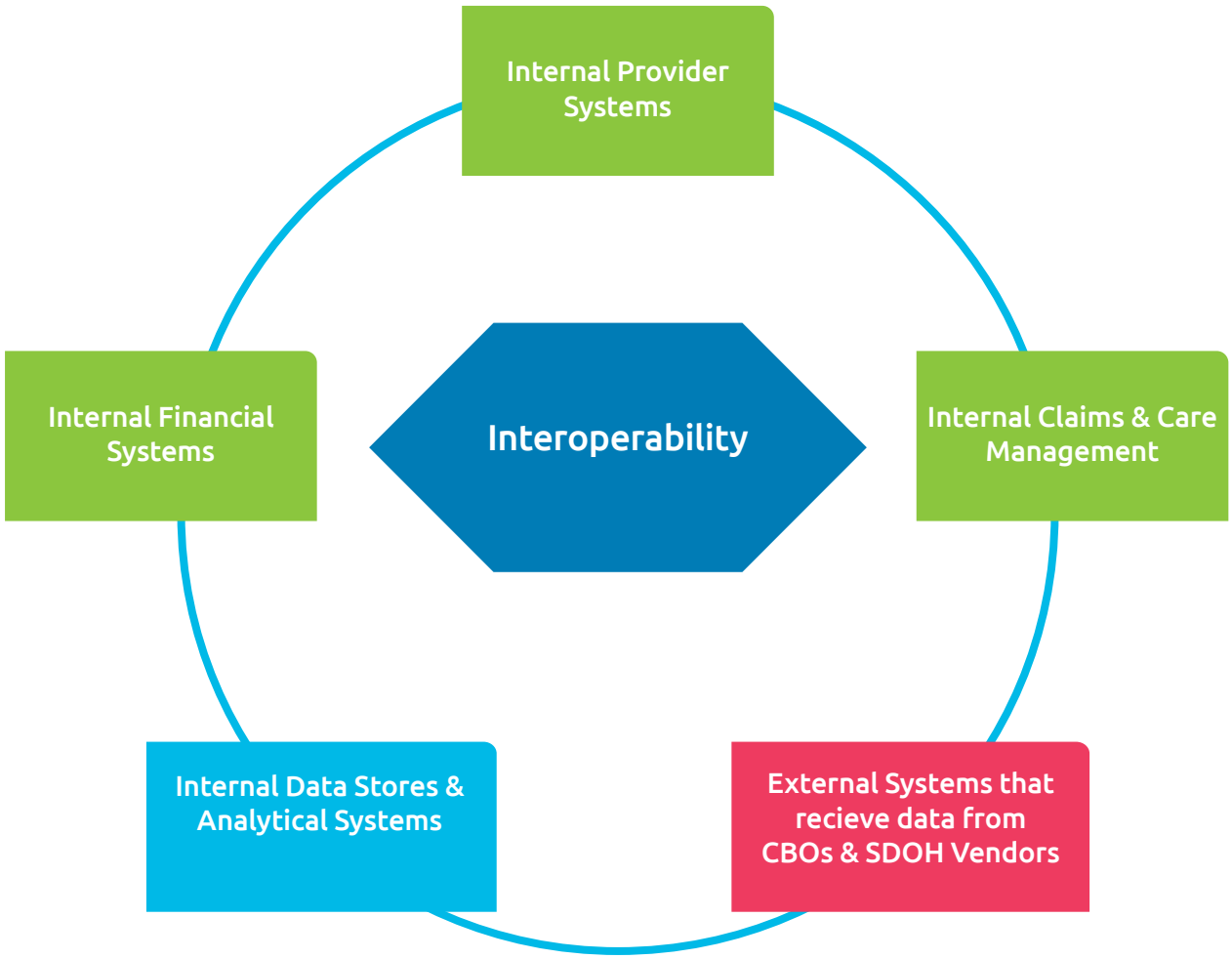
- Providers are not financially incentivized due to lack of availability of appropriate coding for the SDOH elements. Recently, some of the SDOH data have been assigned Z codes within the ICD 10 classification, SNOMED and LOINC codes as part of ISA initiative to be incorporated for claims processing and provider financial reimbursement.

Privacy and Data Breach Risks

- Non-healthcare providers collecting SDOH data may not always comply with HIPAA and privacy rules, resulting in potential risks of data breaches. Regulations are just emerging in this area and are not mature.
- Members/Patients may not be aware of the organizations that have access to their data.
- De-identification of commercial data using AI and ML can be merged with other datasets to re-identify individual patient level data, thereby risking future member access to health insurance.

As the regulatory body continues to evolve standardized policies around collecting, accessing and reporting SDOH data that will improve quality of care and outcomes, health payer organizations will need to create an SDOH Data and Interoperable Readiness Assessment Framework that they can leverage to prepare and deliver quality care and outcomes that are in step with the evolving regulatory standards. So, many questions arise- what should the framework include? How will the organization use the framework? Why create a framework when the policies are not yet matured? Would the organization gain financially or operationally?

Although it is difficult to answer these questions with one simple response, it is very clear that establishing a framework will most definitely help in understanding and assessing the current challenges in collecting accurate and consistent SDOH data which in turn will influence better care and improved outcomes. It will also give the organization the first mover advantage in building or enhancing the necessary foundation to address the data and interoperability challenges. A Readiness Assessment will identify areas of challenge, opportunities and provide insights to enable the payer's provider community. It will also provide CBOs and SDOH vendors with a standardized approach to assessments and screenings to effectively address care gaps. Some of the systems within an organization that will need to be reviewed as part of the Readiness Assessment Framework will include (Below Figure I):



The SDOH Data and Interoperable Readiness Assessment Framework (Below Figure II) will broadly include assessment of the following areas for implementation and establish best practices. A deep dive into these broad areas of the framework is further required to create a detailed readiness assessment that will advise the payer of the necessary gaps and actions they will need to take to assimilate SDOH data as an integral part of care and outcomes.

Purpose and Inventory

- Establish the purpose of SDOH framework and business objectives
- Create a inventory of systems and touchpoints that will influence SDOH data collection and reporting

Checklist

- Create a checklist that will provide consistent information about systems and touchpoints that will need to be readied for accurate SDOH reporting
- Document the workflow and operational processes to determine gaps and improvement opportunities
- Prioritize the SDOH measures rollout in phases based on the identified member population
- Partner with providers to understand their SDOH assessment and documentation capabilities and limitations
- Identify specific CBOs and SDOH vendors that will be leveraged to provide services
- Train providers on best practices on SDOH data collection based on selective diagnostic groups, member base and other relevant parameters

Data Interoperability & Reporting

- Assess historical SDOH data based on diagnostic groups and member base to determine data consistency and quality
- Review FHIR interoperability capabilities and nomenclature such as incorporation of Z codes, LOINC and SNOMED codes based on the select SDOH data elements
- Assess integration with external sources of SDOH data and how it is collected and integrated to generate reports
- Evaluate the accuracy of reports and refine the framework
- Establish best practices

SDOH data is critical to the clinical care and outcomes of members. It is imperative that health payer organizations initiate and establish standards and methodology to access, assimilate and absorb the SDOH data within their ecosystem to generate a holistic view of the member and provide a seamless experience at point of care, resulting in better outcomes and the overall well-being of members.

References

https://www.healthit.gov/isa/social-psychological-and-behavioral-data

http://www.snpalliance.org/media/1314/snpa-briefing-paper-on-sdoh-paone-final-6172019.pdf

https://www.healthit.gov/buzz-blog/interoperability/advancing-interoperable-social-determinants-of-health-data

https://www.healthdatamanagement.com/news/gravity-project-makes-early-progress-in-trying-to-standardize-sdoh-data

http://reports.opendataenterprise.org/Leveraging-Data-on-SDOH-Summary-Report-FINAL.pdf

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