altruista HEALTH

Beyond Costs and Outcomes:

Leveraging Social Determinants of Health as Part of a Holistic Approach to Population Health

Population Health – More Than Just Costs and Outcomes

The concept of population health management has evolved from simply linking total costs of care to total outcomes. Today's core focus of population health is managing the health of a specific population by providing the right intervention for individuals that will ultimately yield optimal outcomes with minimized overall costs. Important to these processes is defining and identifying the many factors that can influence health and wellness, and incorporating these factors into risk assessment, risk stratification and personalized follow up.

As value-based reimbursement models continue to evolve and grow in industry adoption, more provider and payer organizations will need new methods and tools for accurately predicting the individuals most at risk for the development of chronic disease, poor outcomes, and the preventable utilization of costly health care services. The future of successful population health requires a more holistic approach to treating the whole patient, including the many factors that influence total health status.

The Importance of Social Determinants of Health

The concept of Social Determinants of Health (SDoH) is becoming increasingly important for all healthcare industry stakeholders, but especially for those managing the care and financial risks associated with safety net populations. The U.S. Department of Health and Human Services defines the social determinants of health as reflecting the social factors and physical conditions of the environment in which people are born, live, learn, play, work, and age. These factors impact a wide range of health, functioning, and quality-of-life outcomes.

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Examples of social determinants of health include:

- Availability of resources to meet daily needs, such as educational and job opportunities, living wages, or healthful foods
- Social norms and attitudes, such as discrimination
- Exposure to crime, violence, and social disorder, such as the presence of trash
- Social support and social interactions
- Exposure to mass media and emerging technologies, such as the Internet or cell phones
- Socioeconomic conditions, such as concentrated poverty
- English as a second language; born in country other than U.S.
- Quality schools
- Transportation options
- Public safety
- Residential segregation.

Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

Health Outcomes
Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

(Courtesy of the Kaiser Family Foundation)

Why Collect, Assess and Incorporate SDoH factors into Care Scenarios?

As health care clinicians, health plans, government agencies, and care managers look to improve and refine strategies for improving the overall health of their patients, members, and populations, SDoH continues to play a more important role. Today's care teams require an understanding of the total complexity of patient health from both the clinical and non-clinical perspectives. Collecting, assessing and including SDoH can enable more patient-centered care that includes more appropriately tailored interventions.

"Research demonstrates that improving population health and achieving health equity will require broader approaches that address social, economic, and environmental factors that influence health." (Kaiser Family Foundation)

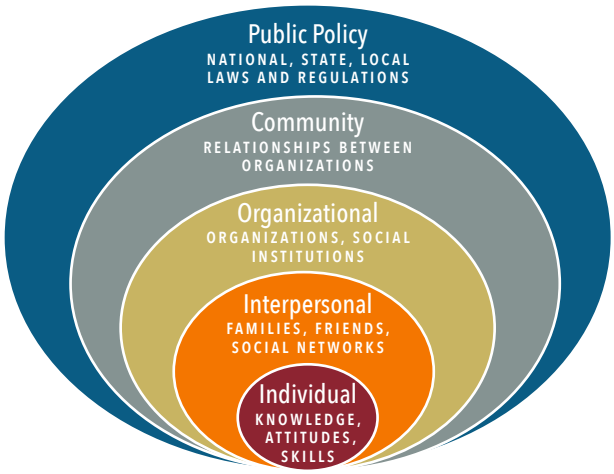
Collecting and assessing SDoH information can also help to form an important care bridge between traditional health care providers, community health and social services, thus yielding an increased focus on prevention and primary care. This is particularly important for the safety net populations – Medicare, Medicaid, and dual eligibles – as traditionally these diverse groups often have more complex health, behavioral and social needs.

Better inclusion of SDoH factors into complex care coordination can improve the many factors influencing total costs of care and the individual risk of developing additional chronic conditions. Key benefits of capturing and acting upon SDoH information include:

- Improving health equity and disparities across populations, which is particularly important for safety net populations
- Better overall population health management through an increased focus on patient complexity, and appropriate interventions
- Ultimately improvement of overall delivery system efficiency achieved through better integration of extended health care resources, including behavioral health, social services, transportation, and education.

> "Research demonstrates that improving population health and achieving health equity will require broader approaches that address social, economic, and environmental factors that influence health."
>
> *(Kaiser Family Foundation)*

Socio-Ecological Model



PRAPARE – A Holistic Approach to Population Health for Providers, Health Plans and Care Managers

PRAPARE is a national movement combining both a standardized patient social risk assessment tool consisting of a set of national core measures, and a process for addressing the SDoH at both the patient and population levels.

PRAPARE = Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences

PRAPARE enables providers to target clinical and nonclinical care, most often in partnership with other community-based organizations to drive care, transformation, integration, health improvement and cost reductions.[1]

Care teams need an understanding of patients' complexity (both clinical and non-clinical) in order to make care decisions that are patient-centered and interventions that are more appropriately tailored. According to the Robert Wood Johnson Foundation's 2014 data, social and economic factors affect up to 40% of the total influencers of health. PRAPARE's focus on the SDoH includes evaluation and consideration of the following:

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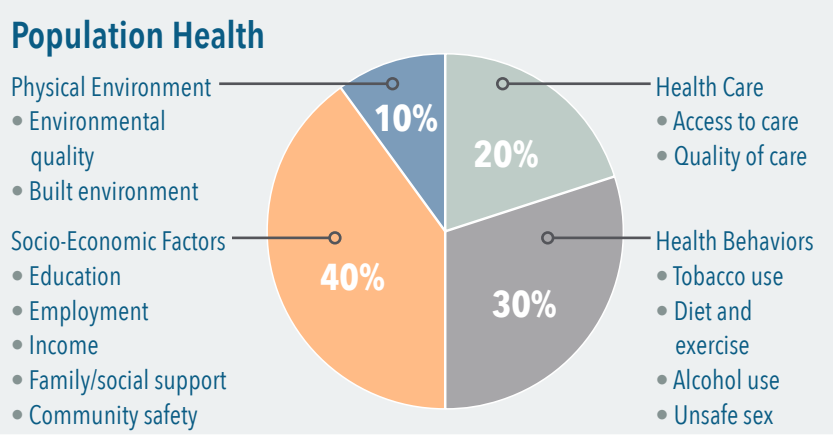


PRAPARE includes a standard assessment tool enabling the following:

- The Right Information – capturing the right information to accurately capture SDoH
- In the Right Format – identifying who will collect data and how
- To the Right People – care team partners who are organizing the right SDoH intervention and resource information, and making this information readily available for all
- Via the Right Channels – addressing the appropriate care team members based on SDoH needs
- At the Right Times – assessing a patient visit workflow process to determine the best opportunity and format for administering the PRAPARE tool, and addressing identified SDoH.

CASE STUDY

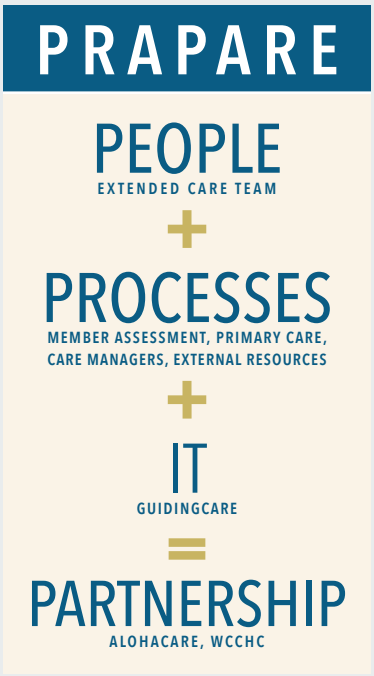
Using the PRAPARE Tool in a Collaborative Partnership for Risk Stratification Modeling

The PRAPARE assessment has been notably adopted by a unique partnership between AlohaCare and Waianae Coast Comprehensive Health Center (WCCHC) on the island of Oahu in Hawaii. AlohaCare is a local, non-profit health plan founded in 1994 by Hawaii's Community Health Centers (CHCs). WCCHC was established in 1972 and is the largest and oldest of Hawaii's 14 CHCs.[2]

The population cohort of the AlohaCare/Waianae partnership is truly a safety net population with multiple SDoH determinants in play. According to Waianae's data, the following top four factors influence their population's health:

- Poverty and/or income insecurity
- High school education
- Physical activity
- Smoking.

Complex health status patients often receive fragmented care, including high rates of utilization of emergency and hospital care. CHCs can provide an ideal patient-centered medical care home situation because of the integrated services they provide. In this pilot project, AlohaCare represented the Medicaid health plan, and Waianae represented the medical home care model. The partnership's key objective was to identify the most complex patients, and using the PRAPARE risk assessment model, develop cost-savings methods while maintaining and/or improving the overall quality of care. Central to the success of this effort was a well-planned balance of people (the extended care team), processes (member assessment, primary care, care managers, integration with external resources), and IT (GuidingCare™).



The Importance of Risk Assessment Data

The Aloha Care/Waianae partnership recognized the importance of a SDoH-based algorithm that quantifies the relative impact each social determinant factor has on a patient's risk for poor outcomes. For example, the value of the customized risk score can be associated with the relative amount of additional resources needed to support higher risk individuals. Examples of additional resources can include: nutritional resources and/or access to food, transportation resources, mental health services, and housing assistance. As the population level, the risk algorithm quantifies the relative impact social barriers can have on a population's disparate health outcomes, including the resultant predisposition to higher utilization levels and costs.[3]

Incorporating SDoH requires a comprehensive approach going beyond the EHR system. According to information from the U.S. Agency for Healthcare Research and Quality (AHRQ), current EHRs are not designed for population health management. To meet care planning requirements and fully incorporate risk assessments such as the PRAPARE tool, organizations need a true population health tool that also incorporates risk stratification and modeling tools. AlohaCare and Waianae recognized this early on and partnered with Altruista Health for the pilot PRAPARE program. The partnership chose Altruista's GuidingCare solution because it is a holistic care management solution providing information sharing across all involved stakeholders. GuidingCare was built specifically to accommodate the patient's view of the safety net population and the corresponding complex care coordination needs.

GuidingCare also includes a predictive modeling tool that stratifies members into risk levels based on:

- Tailored assessment data, such as SDoH, and based on this data
- The probability of complications, and
- The related costs of care.

GuidingCare uses a combination of health plan claims data, clinical data from an EHR, and pharmacy claims to feed data into a risk modeling tool in conjunction with the PRAPARE assessment. This complete picture provides a holistic risk score, which is used by the care managers to develop a comprehensive care plan dictating the level of care and/or community services interventions that are required. For patients with moderate to high risk scores, the care manager is notified through the GuidingCare system to implement a more through health assessment and incorporate this information into the detailed care plan.

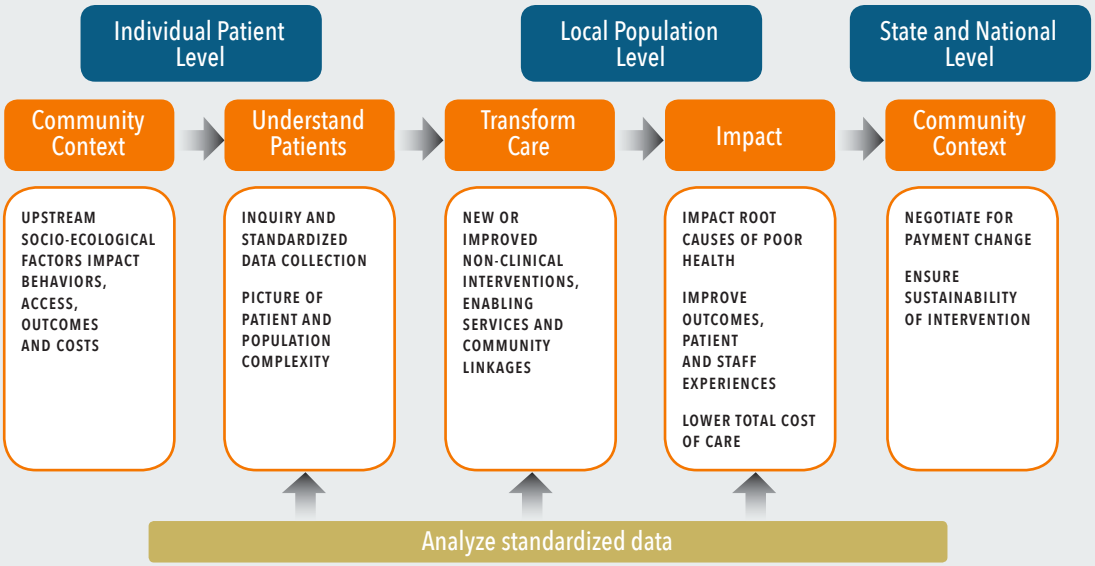
The Future of SDoH in Care Delivery and Payment Models

SDoH is increasing in importance for the treatment of holistic health, the enablement of a true primary care medical home care delivery model, and emerging value-based reimbursement (VBR) models in both government-sponsored and private sector lines of business. A SDoH assessment such as PRAPARE provides a better picture of risk than just claims and clinical data alone. Including the assessment of SDoH into a population health management program enables:

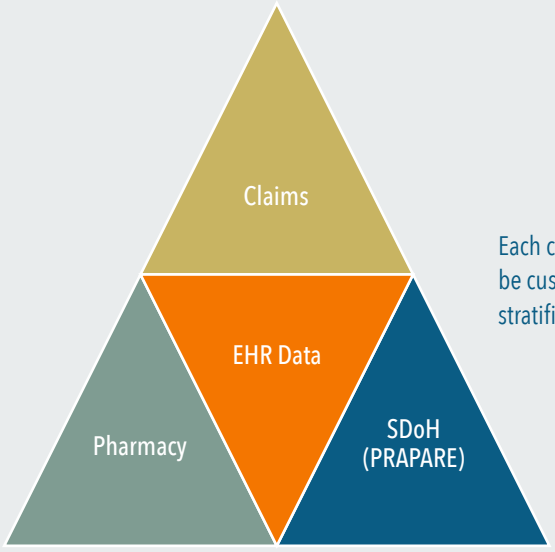
- a more comprehensive assessment of individual and population health needs
- a model for predicting which individuals are at the highest risk for developing chronic disease, poor outcomes, and preventable utilization of high cost health services
- a roadmap for bringing in community and other services providers (i.e., mental health, nutrition, transportation, child care) and involving them in care plan management
- coordination between providers and payers to ensure a patient centered medical home model is adequately reimbursed, based upon the comprehensive assessment, risk modeling, and outcomes information produced
- evaluation of the impact specific interventions can have on individual and population health.

Additionally, SDoH screening and risk modeling tools are becoming increasingly important because of the increasing adoption of VBR models. According to a recent publication from the National Academies Press, VBR schemes shift greater financial risk to providers. Because current VBR programs do not account for SDoH for poor health outcomes, these programs may underestimate the quality of care provided by providers disproportionally serving socially at-risk populations. Consequently, these providers may be more likely to fare poorly on quality rankings.[3]

Integrating SDoH Data to Support New Payment Modules



Risk Stratification Model



Each category's weight can be customized within the risk stratification model

Altruista's GuidingSigns™ module was designed to use a risk stratification tool to incorporate customized algorithms based on SDoH and customized component weighting. The AlohaCare/Waianae partnership yielded a "blended score" based on:

- 50% risk score weight based on medical and pharmacy claims data combined with clinical information
- 50% risk score weight based on patient data from the PRAPARE assessment tool.

GuidingSigns' incorporated risk modeler is the Chronic Illness and Disability Payment System (CDPS), a diagnostic classification system Medicaid programs can use to make health-based capitated payments. GuidingSigns' flexibility enables it to accommodate any risk modeler tool a health plan or provider may require.

The Aloha/Waianae partnership recognized early on the importance of a solution featuring a workflow process and a risk stratification tool to completely capture and automate SDoH assessment data. GuidingCare captures and automates the following:

- Social and family history templates and ICD-10 codes imported from an EHR application
- "No wrong door" – all care providers and coordinators are connected to a shared care plan, empowering them to function as agents of change in a patient's care
- Use of customized codes in the GuidingCare application, including Risk of Admission, Hospitalization Usage, Total Costs of Care, and Severe Emotional Disturbance / Severe Mental Illness (SED/SMI) codes.
- Capturing PRAPARE data into the workflow in an EHR that includes prompts for the care team alerting them to incomplete assessment screening, and/or high risk screening criteria.

Customizing an Assessment Tool to Population Cohorts

Customizing a tool such as PRAPARE to identify and provide context for SDoH factors is an important step for population health and care managers. The assessment of SDoH factors can be a subjective process at times and WCCHC medical leadership fine-tuned their final questionnaire based on the specific population characteristics they needed to address. Key population characteristics the provider and payer partnership had to address included the following:

- The highest number of Hawaiian households receiving financial aid and food stamps
- The highest rate of adults with obesity, diabetes and tobacco use
- The highest cancer and heart disease mortality rates
- A high school dropout rate of 22% and an on-time graduation rate of 74%.

The initial cohort for the study included 500 adult, non-pregnant Medicaid patients from WCCHC. Patients had diabetes and/or cardiovascular disease (CVD) and were in care coordination programs since 2013. Using the PRAPARE data, the patients were stratified into various risk levels based on the probability of complications and cost, using a combination of claims and predictive modeling data. One of the key lessons learned was the importance of conducting validation between claims-based and SDoH-based scores for more effective risk stratification.[4]

Conclusion

Effective population health management requires a thorough assessment of the holistic picture of an individual's health, including population-specific SDoH factors such as those captured by the PRAPARE tool. Each population group may require slightly different assessment tool questions to identify and analyze specific determinant factors. For this safety net population example, the PRAPARE tool provided a meaningful foundation for developing a more comprehensive population health program, including the roadmap for an effective risk stratification tool enabled by GuidingCare. Population health managers need to manage the complex interplay between care interventions, risk assessments, and automation tools. GuidingCare's seamless care plan and risk stratification capabilities enable providers and payers to create a more comprehensive picture of patient health and identify potential risks for future chronic conditions.

Citations (Appendix)

1. PRAPARE is a multi-year effort between the National Association of Community Health Centers, The Association of Asian Pacific Community Health Organizations, the Oregon Primary Care Association, and the Institute for Alternative Futures.
2. "Using Data to Identify Social Determinants of Health", as presented by Vija Sehgal, MD, MPH, PhD, Chief Quality Officer, Waianae Coast Comprehensive Health Center, to the AANHPI Health Summit; May 24, 2016.
3. "Accounting for Social Risk Factors in Medicare Payment Data". A report from the National Academies of Sciences, Engineering, Medicine. National Academies Press, Washington, D.C. 2016.
4. "PRAPARE Implementation and Action Toolkit". Accessed on October 10, 2016 via the National Association of Community Health Centers (NACHC). www.nachc.org.

About Altruista Health

Altruista Health delivers population health management solutions that support value-based and person-centered care models. Our GuidingCare technology platform integrates care management, care coordination and quality improvement programs through a suite of sophisticated yet easy-to-use web applications. Founded in 2007 and headquartered in the Washington, D.C. area, Altruista Health has grown into a recognized industry leader, culminating in a spot on Deloitte's 2015 Technology Fast 500. Health plans and healthcare providers in more than 35 states use GuidingCare to transform their processes, reduce avoidable expenses and improve patient health outcomes. For more information, visit www.altruistahealth.com

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