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MARCH 2020 ■ Integrating Social Determinants of Health in Care Delivery

In This Issue

MHA
MISSOURI HOSPITAL ASSOCIATION

Research Summary

Research has shown that addressing both clinical and nonclinical factors of health is an important step in promoting health for everyone.[i] While the U.S. spends the most in health care compared to other affluent nations, it ranks 27th in life expectancy, fourth in infant mortality and sixth in maternal mortality, and it has the highest number of drug-related deaths.[ii] Missouri, on the other hand, ranks 40 out of 50 overall in national health rankings, and ranks 40th in premature deaths and preventable hospitalizations, 41st in cancer and cardiovascular deaths, 37th in diabetes, and 35th in heart disease.[iii]

Research further reveals that geography is a better predictor of an individual's health than is their genetic code.[iv] Data derived from exploreMOhealth.org[+] — a platform designed to assist community health stakeholders assess the health of their communities — depicts that disparities in health are evident between ZIP codes separated only by a few miles.[v] Minority groups often are more affected by health disparities than dominant groups. For instance, a study conducted by the Centers for Disease Control and Prevention showed that individuals of race and ethnic minority groups have a significantly higher prevalence of chronic diseases, such as diabetes, compared to non-Hispanic whites.[vi]

[+] The Hospital Industry Data Institute, in collaboration with the Missouri Foundation for Health, University of Missouri's Center for Applied Research in Engagement Systems, Washington University School of Medicine and Robert Wood Johnson Foundation, worked to develop and implement the innovative exploreMOhealth platform. The data are designed to inform community health needs assessments and help organizations better understand and improve community health using precision analytics at the ZIP code level.

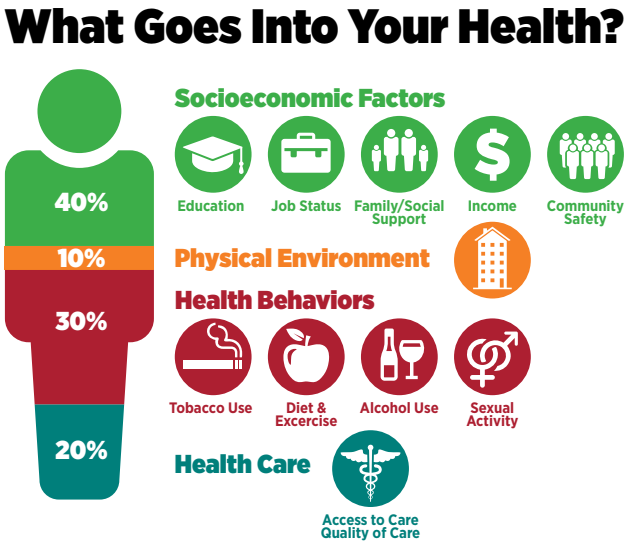
Introduction and Background

As the landscape in health care continues to change from volume to value, health care organizations are faced with mounting pressure to address social determinants of health during patient interactions as a care redesign model that seeks to improve health outcomes while reducing costs. This strategy is important in reducing health disparity while promoting health equity. Most innovative models call for the utilization of SDOH screening tools and referral platforms to connect individuals with their needs, thus closing the referral loop. The Center for Medicare & Medicaid Innovation strongly advocates for health care organizations to screen for high-impact, nonclinical factors, such as housing, food, transportation, utility assistance and interpersonal safety.[vii] Educating care delivery teams about the importance of accurately collecting and acting on SDOH data is critical in addressing upstream health factors that drive downstream health outcomes along the continuum of care. Federal and state policymakers still are trying to understand the potential impact of SDOH on value-based purchasing to ensure a fair balance may be struck that will continue to promote the Triple Aim approach of improving the patient experience of care, improving the health of populations and reducing the per capita cost of health care. Early programs like the Hospital Readmissions Reduction Program resulted in safety-net providers being subjected to significantly higher financial penalties, driven primarily by patients with higher social complexity.[viii] Hospitals treating patients with lower socioeconomic advantage were penalized disproportionately due to a lack of risk adjustment for SDOH in models designed to assess readmissions performance. The U.S. Department of Health and Human Services released a report highlighting the linkage of SDOH to Medicare pay-for-performance payment models to help organizations and providers understand how to incorporate these factors in the payment equation.[ix]

Efforts to improve health while promoting health equity will require the adoption of care redesign models that recognize everyone can reach their full health potential. Defined by CDC as SDOH, the environments where people live, learn, work and play affect a wide range of health risks and outcomes.[x] The distinctive disparity between those who have the means and those who don't creates the needed urgency for hospitals and health care organizations to work beyond the four walls to address the nonclinical factors of health in collaboration with their local partners.[v] Clinical care, which accounts for approximately 20% of the modifiable factors of health, is not enough to improve health outcomes without addressing the associated health-related behaviors, and socioeconomic and environmental factors, which account for the remaining 80% of health. Establishing clinical community linkages that close the feedback loop during transitions of care will require effective communication, as well as an understanding of SDOH and their potential implications on health outcomes.[xi] Incorporating clinical and nonclinical data into the care plan for patients will lead to the transformation of the current clinical practice, resulting in improved outcomes at a lower cost.

Financial Implications

Recently, hospitals have made major strategic changes to their care models to be successful under value-based care, while still addressing the clinical and nonclinical needs of their patients. CMMI was implemented to help pilot payment and service delivery models, as outlined by Section 1115A of the Social Security Act. The findings of these pilots will be used as a basis for future pay-for-performance models. The changing health care environment will require providers to improve health outcomes at lower costs while integrating population health activities to remain viable as they move toward pay-for-performance models that seek to improve the quality, efficiency and overall value of health care. Achieving these noble components will lead to care transformation while meeting the Triple Aim approach of optimizing health system performance. A hospital's ability to meet alternative payment arrangements will require understanding the nonclinical needs of their patients and connecting them with appropriate community-based organizations. Given the increasing interest in addressing SDOH, payers are considering writing contracts with payment structures that will favor providers and consistently deliver services beyond traditional clinical needs. Some state Medicaid programs already have implemented innovative models that incorporate population-based models that incentivize providers to integrate SDOH to Medicare beneficiaries.



Source: Institute for Clinical Systems Improvement, *Going Beyond Clinical Walls: Solving Complex Problems* (October 2014), Adapted from The Bridgespan Group

Source: Robert Wood Johnson Foundation, 2017

Policies Impacting SDOH

From a legislative lens, S. 2986 of the Social Determinants Accelerator Act recently was introduced and will be important in addressing social factors that impact individuals and communities. It will help provide the much-needed funding and adaptive support to address the needs of high-need Medicaid patients. This legislation is built on the notion that all stakeholders must work collaboratively while developing innovative strategies to address complex issues facing communities.

Working collaboratively with nonhealth sectors to adopt policies focusing on health and health equity is a first step in addressing common challenges facing communities.[xxvii] For instance, promoting local policies that advocate for the availability and accessibility of transportation in low-income neighborhoods will allow individuals to get to work and the grocery store as well as to receive health care services — all drivers of health. Nutrition-related policies in schools and other institutions will encourage the consumption of healthy foods, thus promoting health and wellness.

The Power of ZIP Code–Level Health Outcomes Data

Utilizing ZIP code-level data to identify gaps in health outcomes is important given that geography now is a better predictor of health than genetic markers.[x] According to the Robert Wood Johnson Foundation, "Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care."[xiii] Using the power of precision analytics, hospitals, health systems and community organizations will be able to better understand their community's unique needs. This will guide their decisions when implementing programs or initiatives as opposed to using a standard blanket approach, which has proven unresourceful over time. There is overwhelming evidence that meeting individuals where they are is a proven strategy of promoting health equity.[xiv]

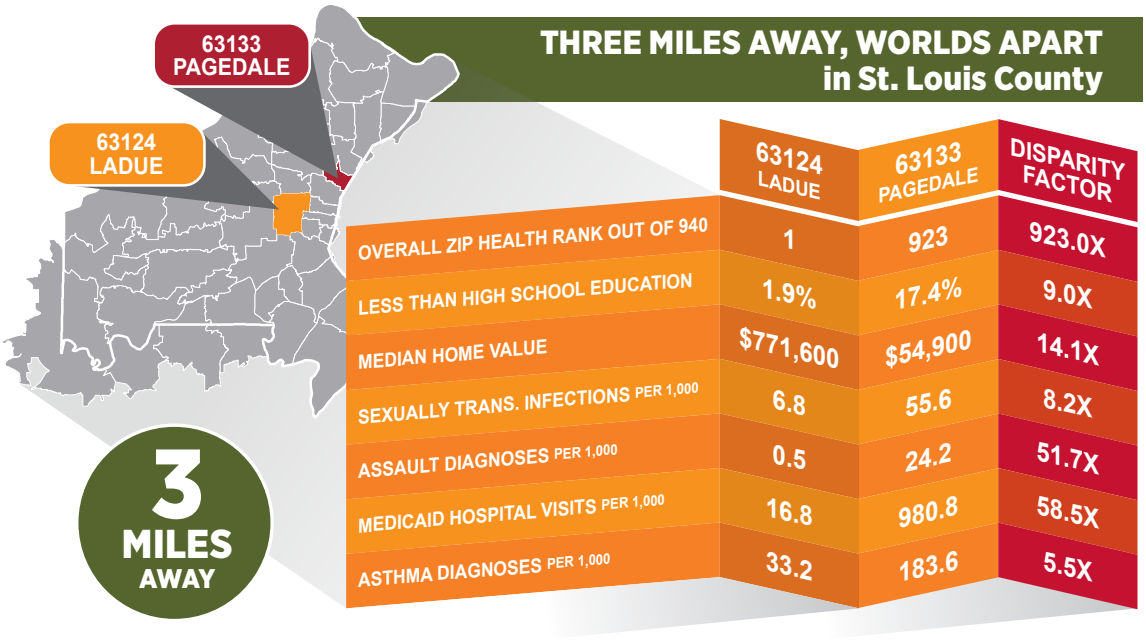
Coding for SDOH

Coding SDOH at the right place and at the right time is important in capturing and addressing nonclinical issues impacting an individual's health. Establishing a process that ensures the information gathered is relayed and acted upon quickly is the key to addressing the root causes of health.

Recent changes to the ICD-10-CM Official Guidelines for Coding and Reporting authorize hospital staff — including care managers, social workers, community health workers, patient navigators, medical assistants, nurses, discharge planners and others — to document SDOH in the electronic health record and administrative claims-based coding systems. The American Hospital Association recently published an updated version of the SDOH-related ICD-10 Z codes and associated risk factors.[xv]

ICD-10-CM Code Categories

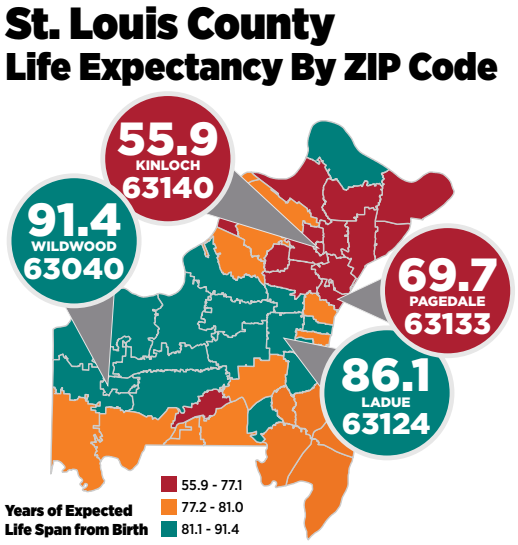
ICD-10-CM Code Category	Problems/Risk Factors Included in Category
Z55 — Problems related to education and literacy	Illiteracy, schooling unavailable, underachievement in a school, educational maladjustment and discord with teachers and classmates.
Z56 — Problems related to employment and unemployment	Unemployment, change of job, threat of job loss, stressful work schedule, discord with boss and workmates, uncongenial work environment, sexual harassment on the job, and military deployment status.
Z57 — Occupational exposure to risk factors	Occupational exposure to noise, radiation, dust, environmental tobacco smoke, toxic agents in agriculture, toxic agents in other industries, extreme temperature, and vibration.
Z59 — Problems related to housing and economic circumstances	Homelessness, inadequate housing, discord with neighbors, lodgers and landlord, problems related to living in residential institutions, lack of adequate food and safe drinking water, extreme poverty, low income, insufficient social insurance and welfare support.
Z60 — Problems related to social environment	Adjustment to life-cycle transitions, living alone, acculturation difficulty, social exclusion and rejection, target of adverse discrimination and persecution.
Z62 — Problems related to upbringing	Inadequate parental supervision and control, parental overprotection, upbringing away from parents, child in welfare custody, institutional upbringing, hostility towards and scapegoating of child, inappropriate excessive parental pressure, personal history of abuse in childhood, personal history of neglect in childhood, Z62.819 Personal history of unspecified abuse in childhood, Parent-child conflict, and sibling rivalry.
Z63 — Other problems related to primary support group, including family circumstances	Absence of family member, disappearance and death of family member, disruption of family by separation and divorce, dependent relative needing care at home, stressful life events affecting family and household, stress on family due to return of family member from military deployment, alcoholism and drug addiction in family.
Z64 — Problems related to certain psychosocial circumstances	Unwanted pregnancy, multiparity, and discord with counselors.
Z65 — Problems related to other psychosocial circumstances	Conviction in civil and criminal proceedings without imprisonment, imprisonment and other incarceration, release from prison, other legal circumstances, victim of crime and terrorism, and exposure to disaster, war and other hostilities.



Impact of SDOH in Missouri

According to exploreMOhealth.org, Ladue and Pagedale, both in St. Louis County, have significant disparities in multiple categories as shown above.[v] Understanding the unique differences that exist between these two ZIP codes — and others like them across the state — will help hospitals, health systems and community-based organizations strategically target interventions with much-needed specificity, as opposed to deploying a blanket approach that has proven to be unresourceful in addressing root causes of illnesses.

A review of life expectancy data for these ZIP codes shows the true impact of disparity factors. Ladue has a life expectancy of 86.1 years compared to 69.7 years in Pagedale, which accounts for a 16.4-year difference. Two other ZIP codes separated by approximately 20 miles show even more disparity. Kinloch has a life expectancy of 55.5 years compared to 91.4 years in Wildwood, accounting for a difference of 35.5 years.[xvi]



Source: 2010 Decennial Census, U.S. Census Bureau; 2010 MICA, Missouri Dept. of Health & Senior Services; Centers for Disease Control and Prevention; Methodolody Adapted from For the Sake of All (http://forethesakeofall.org/).

Similar disparities are evident in other Missouri cities and counties, and across the nation. It is extremely important for all community stakeholders, such as hospitals and health systems, community health centers, health commissions, health departments, and local organizations, to collaborate to address common challenges facing their respective communities. Establishing clinical-community linkages to convene stakeholders who are representative of the communities they serve and who act as catalysts of the much-needed changes will pave the way for improved health outcomes. While addressing SDOH will impact health outcomes in a positive way, reducing disparities may help alleviate the systemic social and economic burdens that have impacted certain groups for generations.

According to the January 2020 *HIDI HealthStats*, Z Codes for Social Determinants of Health, the frequency of Z code utilization among Missouri hospitals gradually has increased from October 2015 to March 2019.[xvii] A review of current data further shows that psychiatric and substance use disorder patients admitted in nonacute settings had the highest percentage of SDOH code documentation compared to those admitted in acute care settings. Further analysis of inpatient and emergency department data for Missouri hospitals revealed that psychiatric hospitals had the highest frequency of SDOH capture followed by Prospective Payment System, post-acute, children's and critical access hospitals, respectively.[xvii] While Missouri has seen an increase in Z code capture since 2015, there is much work to be done to emphasize the critical importance of capturing this information to ensure a holistic approach in care delivery.

Call to Action for Patients and Communities

To ensure viability in the changing health care environment, hospitals and health care systems should seek adoption of innovative care redesign models that incorporate evidence-based SDOH assessment tools to identify patients with nonclinical needs. Social referral platforms to connect people to services, collaborate with community-based organizations and identify sustainable funding to support nonmedical services also should be provided. Deliberate effort in establishing clinical-community partnerships — and sharing and maximizing available data to guide efforts — will result in deploying best practice solutions to address SDOH.

SDOH Standardized Screening Tools

Improving the health of individuals and communities at large will require hospitals and health systems to utilize standardized processes for screening, documenting and coding for SDOH. Integrating screening tools when treating patients ensures that more holistic care is provided as a first step in identifying nonmedical barriers to a patient's health, while addressing associated gaps. This strategy focuses on disparities while promoting health equity. Commonly used SDOH screening tools include the following.

- Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences (PRAPARE)
- American Academy of Family Physicians Social Needs Screening Tool
- CMS Accountable Health Communities Health-Related Social Needs Screening Tool
- Center for Health Care Strategies, Inc. OneCare Vermont: Self-Sufficiency Outcomes Matrix
- Roots to Health Survey

Hospitals' use of ICD-10 Z codes to record SDOH has been sporadic due to knowledge gaps, and challenges of who can document and when to code SDOH.[xviii]

According to the Missouri Hospital Association's September 2018 Policy Brief, Decoding Social Determinants of Health, Missouri hospitals have increased their capture rate of Z codes since October 2015.[xviii] MHA continues to educate hospitals on the importance of collecting and documenting this data to help providers deliver care based on each patient's unique needs. Compared to the first quarter of 2018, there was a 22% increase in the number of Missouri hospitals documenting SDOH Z codes during the first quarter of 2019.[xvii]

Truman Medical Centers/University Health Physicians

In 2018, Truman Medical Centers/University Health Physicians, a safety-net hospital and academic medical center located in the core of Kansas City, embarked on a journey to better understand and provide support to its patients by addressing SDOH. With its focus on serving the most vulnerable patients and community members, TMC/UH committed to three guiding factors in their work.

- Decisions need to be data-driven and formative in nature, looking at the data generated from a dual lens: micro (patient level) and macro (community/population health level).
- The voice of both internal and external stakeholders needs to drive the process.
- Shared decision-making, both internally between departments and with community members, is essential.

Nearly 100 patients were interviewed individually to determine their perspective regarding which social determinants were affecting them most, as well as which determinants they believed most affected their community at large. This feedback then was compared with data available from public data sources, such as exploreMOhealth.org and the CDC, to garner information about health behaviors, and socioeconomic and environmental factors. From this data, the team identified food insecurity, transportation barriers, financial strain and housing as the four areas of highest need.

With the knowledge that TMC/UH's Behavioral Health Department already was involved in efforts to address housing through the *500 in 5* program, the SDOH team began focusing on screening and offering resources around the remaining three highest indicators of need: food, transportation and finances (as related to being able to afford medications).

Armed with this data, a multidisciplinary team developed and implemented a process to screen and connect patients who indicated a positive need with community resources that may assist in meeting the need. The team decided to initiate the work within the clinic setting, as well as to offer a resource table at one of the main entrances of the hospital, allowing patients and visitors the opportunity to access a "walk-up" area for assistance.

The program takes into consideration the special needs of individuals with limited English proficiency, as well as immigrant and refugee populations who, due to language barriers and other factors, require additional assistance to navigate the resources provided. These patients may enlist the assistance of a cultural health navigator who will assist patients with needs, such as making appointments, arranging transportation, etc.

Currently, TMC/UH screens approximately 4,500 patients per month. Data from the screenings indicate a high amount of variance in need between clinics — varying at times by nearly 30%. The SDOH planning team uses this data, along with city, county and state data, to assist in its planning of population health initiatives.

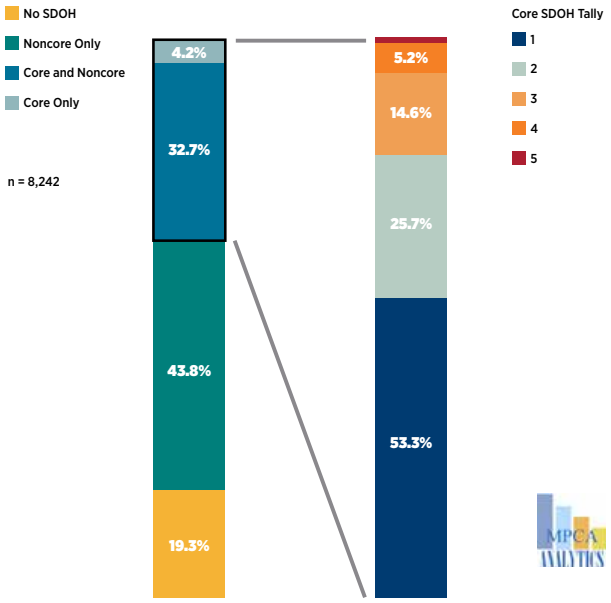
Each step of the maturation process regarding implementation of SDOH screening and assistance involves and affects multiple stakeholders within the organization and the community at large. Open lines of communication and the ability to look at and consider multiple perspectives are imperative to the success of the project. Additionally, understanding this is an evolving process means being comfortable with change, constantly referring to the data and taking action when the data indicates the need to do so.

Missouri Primary Care Association

Efforts to address and influence health outcomes while reducing health care costs have focused historically on access to clinical health care services delivered by a primary care provider, hospital system or specialty provider within the four walls of the provider's office or hospital. The health care environment is transitioning away from the traditional encounter-based delivery of care and payments to a system that places greater emphasis on population health, high-quality patient-centered care and value-based cost-effective care. This evolution is resulting in providers increasingly being held accountable for meeting health outcomes goals while delivering cost-effective care for diverse patient populations with complex needs that often complicate delivery of health care services.

Literature has shown that access to clinical health care services accounts for only 20% of the impact on health outcomes for patients, and the remaining impact is from social and economic factors, physical environments, and health behaviors. These outside factors, or SDOH, are defined by Healthy People 2020 as conditions in the environments in which people are born, live, learn, work, play, worship and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.[xx]

Distribution of Screened MO HealthNet Patients by SDOH Status



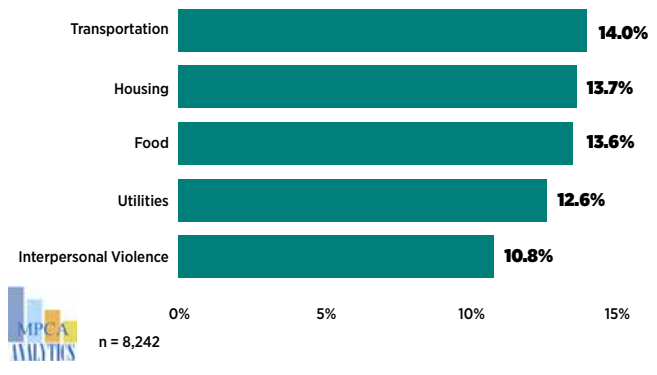
A growing number of organizations and sectors, including health care, community partners, nonprofits, faith-based, payers and foundations, are joining forces and working collaboratively to identify and address SDOH needs of individual patients, which can lead to improved health outcomes, higher quality of life and decreased cost. Diverse stakeholders are beginning to understand their critical role and the need to focus on policy, payment and program efforts at the local, regional, state and national levels to impact the upstream root causes of SDOH.[xxi]

Federally Qualified Health Centers throughout Missouri and nationally have begun to utilize a standardized SDOH screening tool, PRAPARE, that was developed by the National Association of Community Health Centers, Association of Asian Pacific Community Health Organizations, Oregon Primary Care Association and Institute for Alternative Futures. It also was tested and validated by FQHCs, state and regional primary care associations, and health center-controlled networks.[xxii] PRAPARE currently is available in 10 languages other than English, with additional translations being reviewed/tested. The tool is available via EHR templates, and implementation guides exist for six common vendors, including Cerner, Epic, eClinicalWorks, GE Centricity, Greenway Intergy and NextGen.[xxi] The PRAPARE tool not only is being utilized by FQHCs, it is being utilized by other health care organizations and is the most commonly used SDOH screening tool by Medicaid managed care organizations across the country, according to the Institute for Medicaid Innovation's annual survey of plans.[xxiii]

Utilization of PRAPARE by Missouri FQHCs is contributing to the increase in national screening rates for provider offices for all five of CMS' unmet social needs of food insecurity, housing instability, utility needs, transportation needs and experience with interpersonal violence.[xxiv] Missouri FQHCs began collecting PRAPARE data in mid-2018 and have worked throughout 2019 to refine screening workflows, structure documentation in EHRs, and map population health tools. PRAPARE screening processes and workflows are continuously reviewed and refined as needed. The graphs at left and below show SDOH information for patients with MO HealthNet coverage that were screened utilizing PRAPARE in calendar year 2019 at one of Missouri's 29 FQHCs.

Missouri FQHCs are utilizing all PRAPARE measures to assess patient SDOH needs.[xxi] A community health workforce is being developed to assist patients in addressing identified SDOH needs to more actively engage patients in their care while utilizing EHRs and population health management tools. The information gathered through PRAPARE is used to inform delivery of high-quality, patient-centered care; previsit planning; health outcomes; cost; utilization; and risk stratification of the FQHC's patient population. FQHCs also are partnering with community organizations to identify SDOH needs and available resources to develop and advocate at the local, regional, state and national levels for needed policies, programs and funding to find a solution to lessen the impact of SDOH in communities across Missouri.

Percent of Screened MO HealthNet Patients by Core Social Need



Incorporating Z Codes in Community Health Needs Assessments

A comprehensive review of Missouri hospitals' community health needs assessments identified the following priority issues.

- access to health care
- heart disease
- diabetes
- mental health
- cancer
- substance misuse/opioids

MHA continues to provide education to hospitals and health systems regarding the importance of documenting Z codes to help inform CHNA work.

Top issues identified through Missouri's CHNA process were linked with SDOH Z codes to help hospitals in their implementation journey. These Z codes were selected based on their frequency of use by Missouri hospitals, as well as how organizations utilize them to address these priority issues.

The table below provides an example of social factors represented by Z codes that lie along causal pathways of specific health outcomes. (Note: This is not an exhaustive list.) There are many other codes aside from the four listed per domain that influence each of the six outcomes.[xxv, xxvi, xxvii]

Access to Health Care	Heart Disease	Diabetes	Mental Health	Cancer	Substance Use/ Opioids
Problems related to education and literacy, unspecified (Z559)	Problems related to education and literacy, unspecified (Z559)	Problems related to education and literacy, unspecified (Z559)	Problems related to education and literacy, unspecified (Z559)	Problems related to education and literacy, unspecified (Z559)	Problems related to education and literacy, unspecified (Z559)
Insufficient social insurance and welfare support (Z597)	Lack of adequate food and safe drinking water (Z594)	Lack of adequate food and safe drinking water (Z594)	Personal history of physical and sexual abuse in childhood (Z62810)	Occupational exposure to toxic agents in other industries (Z575)	Personal history of adult physical and sexual abuse (Z91410)
Other problems related to housing and economic circumstances (Z598)	Patient's noncompliance with other medical treatment and regimen (Z9119)	Patient's noncompliance with other medical treatment and regimen (Z9119)	Problems related to primary support group, unspecified (Z639)	Patient's noncompliance with other medical treatment and regimen (Z9119)	Problems related to primary support group, unspecified (Z639)
Unemployment, unspecified (Z560)	Patient's other noncompliance with medication regimen (Z9114)	Patient's other noncompliance with medication regimen (Z9114)	Personal history of psychological abuse in childhood (Z62811)	Patient's other noncompliance with medication regimen (Z9114)	Personal history of psychological abuse in childhood (Z62810)

Social Referral Platforms

While gathering SDOH data at the point of care is an important step in understanding barriers to an individual's health, ensuring the infrastructure for bidirectional referrals and care coordination is essential in closing the gap between clinical and nonclinical needs. It is worth noting that while screening for SDOH provides an understanding of the individual's barriers to health, it defeats the purpose if the resources sought cannot be provided to meet the need. Commonly used social referral platforms include the following.

- Aunt Bertha
- CharityTracker
- First Call Technology
- Healthify
- Signify Community
- CrossTX

While each of these platforms have both pros and cons, ensuring that they are user-friendly and regularly updated is an important consideration when making the decision on which platform to utilize.

National and State Models of SDOH

Place-based initiatives are becoming a common strategy to improve health outcomes of individuals and communities as more studies continue to support the idea that one's ZIP code is a better predictor of their health than is their genetic code.[iv] For instance, the Harlem Children's Zone project utilizes the place-based model to focus efforts within a 100 block area of central Harlem, given their significantly higher prevalence rate of chronic conditions and infant mortality. This area is characterized by high rates of poverty and unemployment compared to surrounding areas, thereby drawing a direct linkage of the impact of social factors to health outcomes. This place-based model seeks to address the clinical and nonclinical factors of health using a holistic approach to alleviate current gaps in health among residents of central Harlem. Such models are becoming common as communities gain access to precision analytics at the ZIP code level. In Missouri, the exploreMOhealth platform provides hospitals, health systems and community-based organizations with information on the health and social well-being of populations living in all Missouri ZIP codes.

The Health in All Policies model calls for the inclusion of health considerations when making decisions on policies across different sectors. It seeks to engage stakeholders to collaborate with the common goal of improving health outcomes while promoting health equity.[xxvii] This approach especially is valuable in that it focuses on both clinical and nonclinical factors that may affect individual and community health. The Affordable Care Act established a group that convenes leaders to implement a national prevention strategy that strongly supports and promotes inclusive policies and programs vital in promoting health and wellness. Adapting such an approach at the local level can help lay a solid foundation that will benefit patients throughout the entire community.

CMMI Accountable Health Communities was formed by the ACA under the auspices of CMMI to link Medicare and Medicaid beneficiaries with needed resources in their communities. CMMI provides funding to screen Medicare and Medicaid patients for SDOH, referring them to needed social services. This approach provides vital information to determine the actual impact of SDOH on health care cost.[xxviii] In the last few years, CMS has funded multiple pilots to better understand care coordination strategies that are critical in improving health outcomes at a lower cost.

The CMMI State Innovation Model is focused on the provision of financial and adaptive support for interested states to pilot innovative payment and service delivery models that seek to improve health performance and improve quality of care at a lower cost. The second phase entails prioritizing and improving population health while establishing clinical-community linkages. For instance, Ohio's Comprehensive Primary Care Program encourages providers to connect patients identifying nonclinical needs to appropriate social services and community-based prevention programs. Connecticut's State Innovation Model, on the other hand, seeks to improve individual and community health by promoting an Advanced Medical Home Glide Path that targets SDOH.[xxix] Similarly, other CMMI state grantees have adopted models that develop local or regional collaboratives with efforts geared toward identifying and addressing population health needs while closing the referral loop. Washington State implemented the Accountable Communities of Health Model, which is a regional collaborative that convenes stakeholders to identify gaps and promotes the formation of regional health improvement projects focused on addressing agreed-upon issues.[xxx] Delaware's Healthy Neighborhoods Model targets high-impact SDOH priority health areas identified through a review of available data. This model is driven at the local level by community stakeholders who guide the conversations deemed important to their constituents.[xxx] Idaho's Regional Health Collaboratives model was designed and developed to support local providers in patient-centered medical home transformation by closing the loop in health care coordination while connecting patients to needed social services.[xxx]

States are implementing Medicaid payment and delivery models to address SDOH while promoting community engagement and collaboration.

States are implementing Medicaid payment and delivery models to address SDOH while promoting community engagement and collaboration. For example, Oregon's Coordinated Care Organization calls for each participating entity to develop an advisory body comprised of stakeholders representing the community they serve. They also are required to conduct a CHNA to identify priority issues to help inform their implementation strategy. Under this model, each CCO receives a fixed prepayment to cover each enrolled beneficiary. This provides the needed flexibility to be creative in their care delivery strategy, resulting in improved quality at lower costs.[xxxi] Some CCOs have employed community health workers to help connect patients with needed resources to promote health. Community health workers have played an integral part in promoting individual and community health through a variety of ways such as social support, education and linkage to the needed resources.

Conclusion

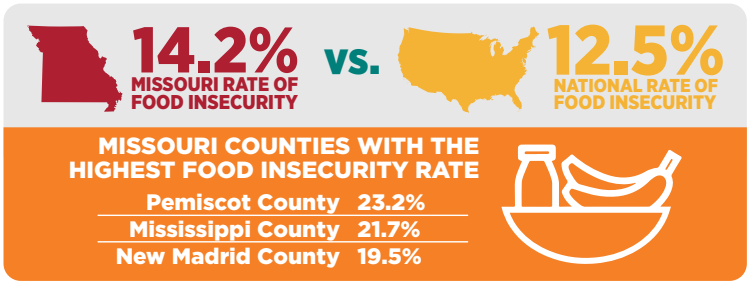
Deploying innovative care redesign strategies to address underlying SDOH that impact an individual's health is important to resolve the problem at its core. Identification of such factors using best practice social assessment tools, while utilizing social referral platforms to connect individuals with needed resources, ultimately will help tame disparities, thereby improving health outcomes while promoting health equity. Utilizing innovative platforms like exploreMOhealth to identify disparities at the ZIP code level will help community stakeholders identify gaps with more specificity, thus helping them design place-based programs and initiatives appropriate to meet the demands of their communities. This, by itself, will help community stakeholders steer already scarce resources where they are needed most while bridging the gap that has led to health disparities among vulnerable populations. Promoting collaboration across health and social services; adopting interoperable systems; and establishing standardized approaches of collecting, measuring and reporting will be critical in addressing the complexities that drive downstream health outcomes.

Most can agree that social determinants have a considerable impact on health outcomes — particularly for the most vulnerable population of patients. The question becomes, "How can we come together as a health care sector to build a more comprehensive system for the communities that we serve?" It is crucial to continue to explore how specific programs and policies impact patients throughout the continuum of care, and to make changes based on SDOH interactions while staying informed on federal and state policy that encourages care redesign.

Research

The U.S. ranks highest in health care spending, but ranks at the bottom in major measures of health compared to other affluent nations.[ii] By 2020, the U.S. health care system will consume about 20% of the gross domestic product.[xxxii] Studies have shown that while medical care is essential to improving health outcomes, social factors play a critical role in an individual's and population's health, and should be addressed to ensure a holistic approach in treating patients.[i]

Research has shown that addressing SDOH is important in improving the health of individuals, communities and populations. Enacting sound policies and designing effective programs is critical in improving an individual's well-being and overall health outcomes.[xxxiii] Such policies especially are important in promoting health equity. Collaborations between clinical and nonclinical stakeholder groups to discuss and develop strategies to address barriers of their community's health is an important step in the right direction. Soliciting input from community members is necessary to help consider burning issues, thus helping collaboratives focus on what really matters as part of their strategy. Many published studies support the notion that one's health is dependent on their social and economic situation. This is because it determines their ease of accessing health care and social support networks, among other SDOH, which are key drivers of health outcomes. Ensuring that everyone has a fair allocation of resources, access to education, safe environment, food and access to health care is crucial in addressing health disparities while promoting health equity.[i]



Meta studies on SDOH demonstrate that minorities tend to have a higher reported number of unmet needs compared to the general population. Identifying and addressing these needs is an important step in improving the well-being of individuals, communities and populations. For instance, vulnerable populations report limited access to healthy foods due to costs associated with transporting it to their local stores, lack of transportation to seek healthier options outside their neighborhood and a lack of healthy food options at their local neighborhood stores.[xxxiv] African American urban neighborhoods have significantly fewer chain supermarkets compared to similar white neighborhoods.[xxxv] The high concentration of fast food chain restaurants in minority neighborhoods provides access to unhealthy food options, which makes them more susceptible to chronic conditions such as diabetes and heart disease, as well as others.[xxxvi] According to 2017 overall food insecurity data published by Feeding America, 40,044,000 Americans were considered food insecure, which represents approximately 12.5% of the U.S. population. In Missouri, 865,400 people, or 14.2% of the population, reported food insecurity, which is slightly higher than the national rate of 12.5%. Most rural counties in the southeast reported higher food insecurity rates compared to other regions of the state. The three Missouri counties with the highest food insecurity rates are Pemiscot County — 23.2%, Mississippi County — 21.7%, and New Madrid County — 19.5%. According to the most recent data available through exploreMOhealth, these three counties have some of the highest rates of diabetes, chronic obstructive pulmonary disease, asthma and depressive disorders.

An individual's geographical location can impact their health, as depicted by the April 2019, *HIDI HealthStats*, Miles Away, Worlds Apart: Assessing Community Health Needs with exploreMOhealth. Built-in environments, such as availability of sidewalks and parks, are essential in promoting a healthy lifestyle.[xxxvii] Communities that lack access to transportation, employment, schools and housing suffer the consequences in the long term. This especially is magnified among vulnerable populations, such as minority groups, people located in rural areas and inner-city neighborhoods. Being aware of the unique circumstances and barriers that these groups face is important when designing interventions in order for them to be successful.

According to a recent study by the CDC, individuals of race and ethnic minority groups have a significantly higher prevalence of chronic diseases compared to non-Hispanic whites.[xxxviii, vi] The study further revealed that out of the 15 states participating, areas with a higher population of African Americans were more prevalent for diabetes, obesity, physical inactivity and low educational attainment. Understanding the depth and breadth of these underlying issues may hold the key to formulating the right solution for disparities facing similar communities. Using place-based models in designing and developing interventions will be critical in developing practical solutions that seek to address the disparities that continue to persist.

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