Hospital Spotlight:

Integrating Social Needs Data into Electronic Health Records

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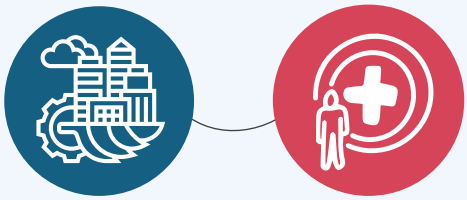
INTRODUCTION

The way in which communities and individuals experience health and health care is influenced by nonmedical factors that affect health and well-being.[1] These factors include social determinants of health ("SDOH")[2] and associated health-related social needs ("HRSN") (collectively referred to as "social needs") that extend beyond access to care and affect people before, during, and after they interact with the health care system (Figure 1).[3] Research indicates that an estimated 80 percent of health outcomes stem from socioeconomic, environmental, and behavioral factors, which are associated with chronic illness, mental health issues, acute hospitalizations, and higher costs of care. Acute care hospitals collect social needs data to identify and address such factors that influence the health and wellness of their patients and communities.[4] Social needs data supports clinical decision-making, discharge planning, referrals to social service organizations, community needs assessments, and other population health and equity initiatives.[5]

Approaches to collect and integrate HRSN data into the electronic health record ("EHR") system vary based on the patient population, available resources within a clinical setting, clinician training, and the unique social needs within communities. Screening tools can be designed for a comprehensive assessment while others screen for select HRSN. Questions are developed by considering population

Figure 1:

The Interplay Between SDOH and HRSNs



SDOH are community-level factors defined as conditions in the environments where 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.

HRSN are individual-level factors that are impacted by SDOH and can include lack of stable or affordable housing and utilities, financial strain, lack of access to healthy food, personal safety, and barriers to transportation. HRSN put individuals at risk for worse health outcomes and increased health care use.

The interplay of SDOH and HRSN can lead to health disparities -- for example, a low-income household (individual-level HRSN) located in an area with poor economic conditions (community-level SDOH).[1]

Source: Centers for Medicare & Medicaid Services

demographics, including languages spoken and literacy levels.[6] The integration of HRSN data into EHRs improves understanding of a patient's social circumstances to inform clinical decision making.[7] However, screening is generally not a standard practice[8] in part because strategies to collect HRSN are evolving and there is no mature data standard to improve how providers use and share these data with community-based organizations.[9, 10]

This spotlight provides a broad overview of hospitals' use of technology to screen for HRSN and how the data supports patient and population health. The information includes notable observations from an analysis conducted by the Maryland Health Care Commission ("MHCC") using responses to the annual *Hospital Health Information Technology Survey* ("survey") in 2023 and 2024. The survey was completed by 18 health systems[11] with one or more acute care hospitals operating in Maryland (Appendix A).[12] The analysis categorizes respondents by multi-hospital systems (two or more hospitals within a system) and single diversified hospital systems (one hospital within a system);[13] some data are presented by emergency department ("ED") and inpatient settings. National comparison data is noted, where applicable.[14]

SCREENING PATIENTS FOR HEALTH-RELATED SOCIAL NEEDS

All Maryland hospitals screen patients for HRSN in the inpatient setting.[15] Screening approaches more often target select patients (Table 1). Nationally, about 88 percent of hospitals collect data on patients' HRSN.[16] In general, screening may be conducted based on visual observations, insurance status, specific health conditions, etc.[17] Consensus on how, when, and where patient screening should be conducted is limited (including who should be screened, how often, by whom, and in which settings).[18] Screening can be more challenging in the ED setting due to its fast pace and need for rapid decision-making in contrast to more controlled environments and longer patient stays in the inpatient setting.[19] Notably, patients with HRSN are more likely to have limited access to care and use the ED more frequently.[20]

Table 1. Screening for Health-Related Social Needs
Maryland Hospitals, 2023

	Multi-Hospital System (n=37)	Single Diversified Hospital System (n=6)	All Hospitals (N=43)
Emergency Department	%	%	%
Select Patients	54	50	53
All Patients	35	50	37
Total	**89**	**100**	**90**
Inpatient	%	%	%
Select Patients	62	50	60
All Patients	38	50	40
Total	**100**	**100**	**100**

All Maryland hospitals routinely use a structured electronic screening tool to identify HRSN (Table 2). Non-electronic methods are less common and may be used for patients who prefer completing a paper form for comfort or privacy.[21] Nationally, about 87 percent of hospitals use a structured electronic screening tool. Screening tools range from customized, home-grown questionnaires to externally established instruments. Use of a structured format supports consistent HRSN data capture in the EHR, which makes it easier to integrate the data into clinical decision support tools and use it for population health and community needs purposes.[22] A care team – including physicians, nurses, social workers, community health workers, case managers, and patient navigators – ask patients about their HRSN; patients may also voluntarily self-report certain information during an encounter.[23] Screening tools, such as PRAPARE,[24] map responses to Z codes in the ICD-10-CM[25] coding system (Figure 2), which can be added to a patient's problem or diagnostic list in the EHR.[26] Z codes present opportunity to standardize and improve social needs data collection and research.

Table 2. Method to Collect Information on Health-Related Social Needs

%

	Maryland, 2024						Nation, 2022	
	Multi-Hospital System (n=35)		Single Diversified Hospital System (n=6)		All Hospitals (N=42)		Hospitals[27]	
	Routinely	Not Routinely	Routinely	Not Routinely	Routinely	Not Routinely	Routinely	Not Routinely
Structured electronic screening tool	100	0	100	0	100	0	87	52
Non-electronic methods	25	25	33	30	26	29	15	29

Maryland hospitals screen across multiple domains; housing instability, interpersonal violence, and transportation are most common across all hospitals. Multi-hospital systems generally cover more HRSN domains compared to single diversified hospital systems (Table 3). Higher rates of screening are generally associated with the adoption of strategies to address a HRSN (Appendix B).[28] In August 2023, the Centers for Medicare & Medicaid Services ("CMS") issued a final rule requiring hospitals to screen patients in the inpatient setting for utility needs, food insecurity, housing instability, transportation needs, and interpersonal safety.[29, 30] Mandated screening aims to get all hospitals to systematically integrate social needs data into health care delivery to enable meaningful collaboration between providers and community-based organizations.[31] The first reporting deadline is May 2025 for data from calendar year 2024.[32] Hospitals have flexibility in how the data is collected and may self-select a screening tool.

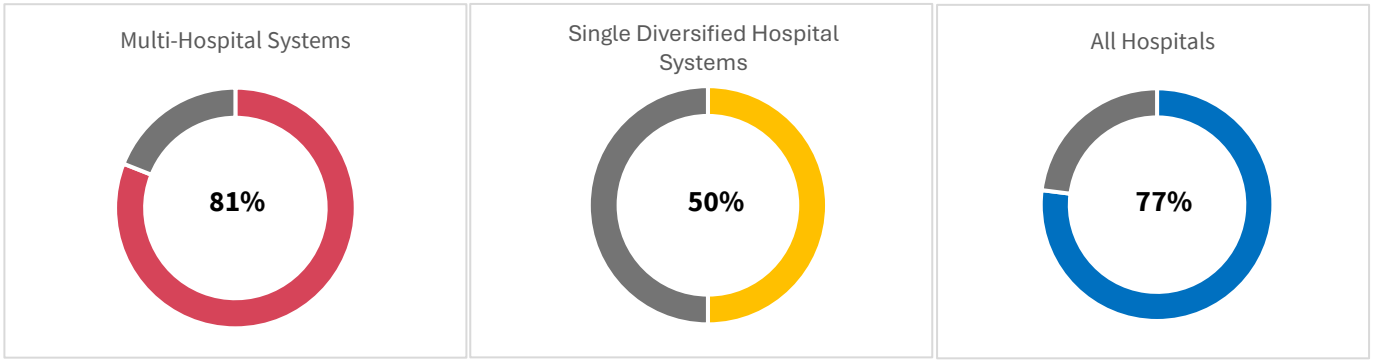
Table 3. Screening by Health-Related Social Needs Domains Maryland Hospitals, 2023			
	Multi-Hospital System (n=37)	**Single Diversified Hospital System** (n=6)	**All Hospitals** (N=43)
Emergency Department	%	%	%
Housing instability/ homelessness	95	83	93
Interpersonal violence	95	83	93
Family and social supports	95	50	88
Transportation	92	50	86
Food insecurity (hunger and nutrition)	92	50	86
Income	73	50	70
Education	54	50	53
Employment	49	67	51
Utility needs	43	33	42
Inpatient	%	%	%
Housing instability/ homelessness	97	83	95
Interpersonal violence	100	67	95
Family and social supports	97	83	95
Transportation	97	67	93
Food insecurity (hunger and nutrition)	97	50	91
Income	76	50	72
Education	59	67	60
Employment	54	83	58
Utility needs	46	33	44

Maryland hospitals largely use social needs resource directories developed in-house (39 percent) followed by 2-1-1 (28 percent) and FindHelp (21 percent). Hospital maintained databases of local, community-based organizations offering social services are used to guide clinical decision making, referrals, and discharge planning. In-house solutions can be supplemented with national platforms like FindHelp,[33] a comprehensive, public-facing directory of resources that leverages existing databases (e.g., 2-1-1) and pulls in data from the web.[34] Findhelp can integrate with various EHR systems making the directory accessible within clinical workflows.

LEVERAGING SOCIAL NEEDS DATA TO SUPPORT CARE DELIVERY AND POPULATION HEALTH

More than three quarters of hospitals incorporate HRSN data into care coordination activities. Use of HRSN information to coordinate patient care is about 30 percent higher among multi-hospital systems than single-diversified hospital systems (Figure 2). Care teams are uniquely positioned to educate and connect patients to available community resources; however, tracking referrals can be challenging, particularly for certain social needs that require ongoing touchpoints with community-based organizations (e.g., housing and job training).[35] Health and social services collect and share data using different technology systems with varying capabilities making it difficult for care teams to identify the most appropriate resource(s), communicate available options to the patient, schedule an intervention, and track if the patient's non-medical needs were met (also known "closing the loop"[36]).[37] The ability to make and manage referrals seamlessly depends on the adoption of standards to accommodate varying workflows and system capabilities.[38]

Figure 2: Use of HRSN Data for Care Coordination in Inpatient Settings – Maryland Hospitals, 2023



Maryland hospitals have policies that incorporate social needs into discharge planning procedures (Table 4). Accounting for social needs in treatment and discharge planning supports the increasing momentum to implement comprehensive frameworks to identify and address social needs in ways that serve patients holistically, improve health outcomes, and reduce health disparities.[39] Social needs data is leveraged by all single diversified hospitals in other ways to inform patient and population health decision making (Table 4). Community needs assessments identify key health needs and issues; this process often includes social needs data to inform health equity initiatives.[40] Nationally, more hospitals use social needs data for discharge planning compared to other uses[41] (Table 4). In addition to data collection activities governed by CMS and the Office of the Assistant Secretary for Technology Policy and Office of the National Coordinator for Health Information Technology, accrediting bodies like the Joint Commission on Accreditation of Healthcare Organizations[42] have incorporated health equity into its accreditation standards, which includes designating a leader responsible for activities to reduce health disparities and assessing patient's social needs, among others.[43, 44]

Table 4. Use of Social Needs Data %				
	Maryland, 2024			Nation, 2023
	Multi-Hospital System (n=36)	Single Diversified Hospital System (n=6)	All Hospitals (N=42)	Hospitals[45] (N=2,775)
Population health	92	100	93	50
Community needs assessment	94	100	95	49
Discharge planning	100	100	100	79
Clinical decision making	86	100	88	73

CONCLUSION

Hospitals play a key role in supporting population health and health equity. Addressing non-medical factors that impact the health and well-being of patients and communities requires a coordinated, cross-sector effort to achieve meaningful impacts on health equity. Policies to identify and address social needs are advancing, and emerging technology aims to improve coordination across health and social sectors.[46, 47] Hospitals are making laudable progress using EHRs to screen for HRSN and developing community-based partnerships to facilitate referrals to social services. As health care interventions to address unmet social needs continue to evolve, so must efforts to refine social needs data capture and metrics to better inform ways to improve health equity and the shift from volume to value-based care.

DATA SUPPLEMENT – COMING SOON

The MHCC will conduct an analysis of medical claims data using Maryland's All Payer Claims Database ("APCD") in Q1 2025. The analysis will identify non-medical factor frequently reported among private and government payers.

APPENDIX A

Maryland Health Systems		
Count	**System Name**	**# of Maryland Acute Care Hospitals**
Multi-Hospital Systems		
1	Adventist Healthcare	3
2	Ascension Saint Agnes	1
3	ChristianaCare Union Hospital	1
4	West Virginia University Health System Garrett Regional Medical Center	1
5	Johns Hopkins	4
6	LifeBridge Health	3
7	Luminis Health	2
8	Mercy Medical Center	1
9	Medstar Health	7
10	University of Pittsburgh Medical Center Western Maryland	1
11	University of Maryland Medical System	11*
12	TidalHealth Peninsula Regional	1
13	Trinity Health Holy Cross	2
Single Diversified Hospital Systems		
14	Atlantic General Hospital	1
15	Calvert Health Medical Center	1
16	Frederick Health Hospital	1
17	Greater Baltimore Medical Center	1
18	Meritus Medical Center	1
	Total	**43***

Note: All 18 health systems completed MHCC's *Hospital Health Information Technology Survey* in 2023 and 2024. University of Maryland Harford Memorial Hospital converted to a freestanding medical facility on February 2, 2024. There are now 42 acute care hospitals in Maryland.

APPENDIX B

Most hospitals collect social needs data to enhance patient-centered care delivery, even when resources are limited to address an unmet social need.[48] Interventions can vary widely by community and type of social need[49] and must be understood in a broader context and optimized through complementary cross-sector partnerships and policies.[50]

Table 5. Strategies to Address Social Needs – Areas of the Focus
Maryland Hospitals, 2024
%

	Multi-Hospital System (n=36)	Single Diversified Hospital System (n=6)	All Hospitals (N=42)
Food insecurity	100	100	100
Housing insecurity	92	100	93
Transportation	94	100	95
Interpersonal violence	86	83	86
Utility needs	86	67	83
Education	50	50	50
Social support	36	83	43
Employment and income	42	33	41

ENDNOTES

[1] Centers for Medicare & Medicaid Services (CMS), *Understanding Social Drivers of Health and Health-Related Social Needs*. Available at: www.cms.gov/priorities/innovation/key-concepts/social-drivers-health-and-health-related-social-needs#:~:text=The%20specific%20factors%20that%20impact,lack%20of%20access%20to%20transportation.
[2] Also referred to as social determinants of health. Examples of SDOH include: safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; polluted air and water; and language and literacy skills.
[3] See n. 1, *Supra*.
[4] American Hospital Association (AHA), *2024 Environmental Scan*, Available at: www.aha.org/system/files/media/file/2023/12/Environmental_Scan_2024.pdf.
[5] *Ibid.*
[6] Agency for Healthcare Research and Quality (AHRQ), *Identifying and Addressing Social Needs in Primary Care Settings*, May 2021. Available at: www.ahrq.gov/sites/default/files/wysiwyg/evidencenow/tools-and-materials/social-needs-tool.pdf.
[7] Cantor MN, Thorpe L. Integrating Data On Social Determinants Of Health Into Electronic Health Records. *Health Affairs* 2018 Apr;37(4):585-590. doi: 10.1377/hlthaff.2017.1252.
[8] Vilendrer S, Thomas SC, Belnap T, et al. Screening for Social Determinants of Health During Primary Care and Emergency Department Encounters. *JAMA Netw Open.* 2023;6(12):e2348646. doi:10.1001/jamanetworkopen.2023.48646.
[9] HIMSS Electronic Health Record Association, *Closed-Loop Referrals for Health-Related Social Needs: Barriers and Recommendations*, September 2024. Available at: www.ehra.org/sites/ehra.org/files/Closed-Loop%20Referrals%20for%20Health-Related%20Social%20Needs%20Barriers%20and%20Recommendations%20September%202024.pdf.
[10] CIVITAS Networks for Health, *Standardizing Social Determinants of Health Data to Transform Equity*, November 2023. Available at: www.civitasforhealth.org/social-determinants-of-health-data-sharing/
[11] A health system, as defined by AHRQ, includes at least one hospital and at least one group of physicians providing comprehensive care, including primary and specialty care, who are connected with each other and with the hospital through common ownership or joint management.
[12] Responses were not audited for accuracy.
[13] Multi-hospital systems and single diversified hospital systems are defined by AHA. More information is available at: www.aha.org/infographics/2021-01-15-fast-facts-us-health-systems-infographic.
[14] National data from the Office of the Assistant Secretary for Technology Policy and Office of the National Coordinator for Health Information Technology (ASTP/ONC) data brief, *Social Needs Screening among Non-Federal Acute Care Hospitals (2022)*. The brief used nationally representative survey data from the 2022 American Hospital Association Information Technology supplement. More information is available at: www.healthit.gov/data/data-briefs/social-needs-screening-among-non-federal-acute-care-hospitals-2022.
[15] *Ibid.*
[16] Chelsea Richwine, Vaishali Patel, Jordan Everson, Bradley Iott, The role of routine and structured social needs data collection in improving care in US hospitals, *Journal of the American Medical Informatics Association,* 2024; doi: 10.1093/jamia/ocae279/7879494.
[17] National Committee for Quality Assurance, *Social Determinants of Health Resource Guide*, September 2020. Available at: https://wpcdn.ncqa.org/www-prod/wp-content/uploads/2020/10/20201009_SDOH-Resource_Guide.pdf.
[18] Kreuter, M. W., Thompson, T., McQueen, A., & Garg, R. (2021). Addressing Social Needs in Health Care Settings: Evidence, Challenges, and Opportunities for Public Health. *Annual Review of Public Health, 42*, 329–344. doi.org/10.1146/annurev-publhealth-090419-102204.
[19] Diagnosis (e.g., trauma) or anticipated transfer to an inpatient setting can be reasons why patients are not screened. More information is available at: www.cdc.gov/pcd/issues/2020/19_0339.htm.
[20] See n. 8, *Supra.*
[21] Patient Perspectives on Technology-Based Approaches to Social Needs Screening. (2023). *The American Journal of Managed Care,* 29(1). doi.org/10.37765/ajmc.2023.89309.
[22] See n. 16, *Supra.*
[23] Magoon, V. (2022). Screening for Social Determinants of Health in Daily Practice. *Family Practice Management*, 29(2), 6–11. Available at: pubmed.ncbi.nlm.nih.gov/35290006/
[24] The Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) is a standardized patient social risk assessment tool and collection of resources to identify and act on SDOH. Developed by the National Association of Community Health Centers. More information is available at: prapare.org/
[25] Z codes are a subcategory of the International Classification of Diseases, Clinical Modification (ICD-CM) system that identify a range of non-medical factors, such as education and literacy, employment, housing, access to food or safe drinking water, and occupational exposure to toxic agents, dust, or radiation. More information is available at: www.cms.gov/files/document/z-codes-data-highlight.pdf.

[26] National Association of Community Health Centers, *PRAPARE, Frequently Asked Questions*, April 2024. Available at: prapare.org/wp-content/uploads/2024/04/FAQ_Inventory-April-2024-2.pdf.
[27] See n. 14, *Supra*.
[28] Richwine, C., & Meklir, S. (2024). Hospitals' collection and use of data to address social needs and social determinants of health. *Health Services Research*. Advance online publication. Available at: onlinelibrary.wiley.com/doi/10.1111/1475-6773.14341
[29] The FY 2024 Medicare hospital inpatient prospective payment system (IPPS) and long-term care hospital prospective payment system (LTCH PPS) final rule requires hospitals to report on two new measures to the Hospital Inpatient Quality Reporting Program. The measures include 1) Screening for Social Drivers of Health (i.e., how many patients admitted were screened) and 2) Screen Positive Rate for Social Drivers of Health (i.e., of those patients screened, how many were identified as having one or more HRSN). Reporting was voluntary in 2023. The submission deadline for the required reporting period (January 1, 2024 – December 31, 2024) is May 15, 2025.
[30] The Hospital Inpatient Quality Reporting Program is a pay-for-reporting program for acute care hospitals. Hospitals are required to submit data on quality measures to CMS each year. More information is available at: www.cms.gov/medicare/quality/initiatives/hospital-quality-initiative/inpatient-reporting-program.
[31] Medisolv. *An Intro to CMS's SDOH Measures*, October 2022. Available at: blog.medisolv.com/articles/intro-cms-sdoh-measures.
[32] Hospitals must report SDOH measures annually via the Hospital Quality Reporting system; SDOH-1 requires reporting the denominator (inpatients) and numerator (those screened), while SDOH-2 involves submitting rates for five domains. Hospitals are permitted to use various data sources including claims, clinical records, assessments, or surveys.
[33] Previously known as Aunt Bertha.
[34] Cartier Y, Fichtenberg C, & Gottlieb L. Community Resource Referral Platforms: A Guide for Health Care Organizations. San Francisco, CA: *Siren*; 2019: Available at: sirenetwork.ucsf.edu/sites/default/files/wysiwyg/Community-Resource-Referral-Platforms-Guide.pdf.
[35] See n. 9, *Supra*.
[36] Closed loop referrals are workflows that use technology to track and confirm patients receive social services. More information is available at : www.ehra.org/sites/ehra.org/files/Closed-Loop%20Referrals%20for%20Health-Related%20Social%20Needs%20Barriers%20and%20Recommendations%20September%202024.pdf
[37] Public Health Solutions, *Integrating Human Services and Clinical Services with Clients at the Center,* November 2020. Available at: www.healthsolutions.org/wp-content/uploads/2020/12/PHS_Symposium_Series_Part_One_Summary.pdf
[38] See n. 9, *Supra*.
[39] HIMSS, *Addressing Social Determinants of Health (SDOH) in Healthcare Part 2*, August 2023. Available at: legacy.himss.org/resources/addressing-social-determinants-health-sdoh-healthcare-part-2.
[40] Conducting A More Equitable Community Health Needs Assessment", Health Affairs Forefront, January 2, 2025. DOI: 10.1377/forefront.20250101.365506.
[41] See n. 16, *Supra*.
[42] The Joint Commission is an independent, not-for-profit organization and the oldest and largest standards-setting and accrediting body in health care. More information is available at: www.jointcommission.org/who-we-are/.
[43] American Health Information Management Association, *Regulatory Requirements for Social Determinants of Health Data*, April 2024. Available at: www.ahima.org/media/umidg4oj/d4bh-faq_on_sdoh_requirements.pdf.
[44] Barrins, *Joint Commission Health Care Equity Requirements*, October 2022. Available at: barrins-assoc.com/tjc-cms-blog/hospitals/joint-commission-health-care-equity-requirements/.
[45] National data is from the 2023 IT Supplement to the AHA Annual Survey.
[46] In July 2022, ASTP/ONC)released the United States Core Data for Interoperability (USCDI) Version 3. USCDI is a standardized baseline of health data classes and elements for the exchange, access, and use of electronic health information. Version 3 expands data elements to encompass social and environmental factors. More information is available at: www.healthit.gov/sites/default/files/page/2022-07/Standards_Bulletin_2022-2.pdf.
[47] Center for Health Care Strategies, *Tech-Enabled Solutions as a Tool to Address Health-Related Social Needs in Medicaid: Opportunities and Policy Considerations*, January 2024. Available at: www.chcs.org/media/Tech-Enabled-Solutions-as-a-Tool-to-Address-HRSN-in-Medicaid-Opportunities-and-Policy-Considerations.pdf.