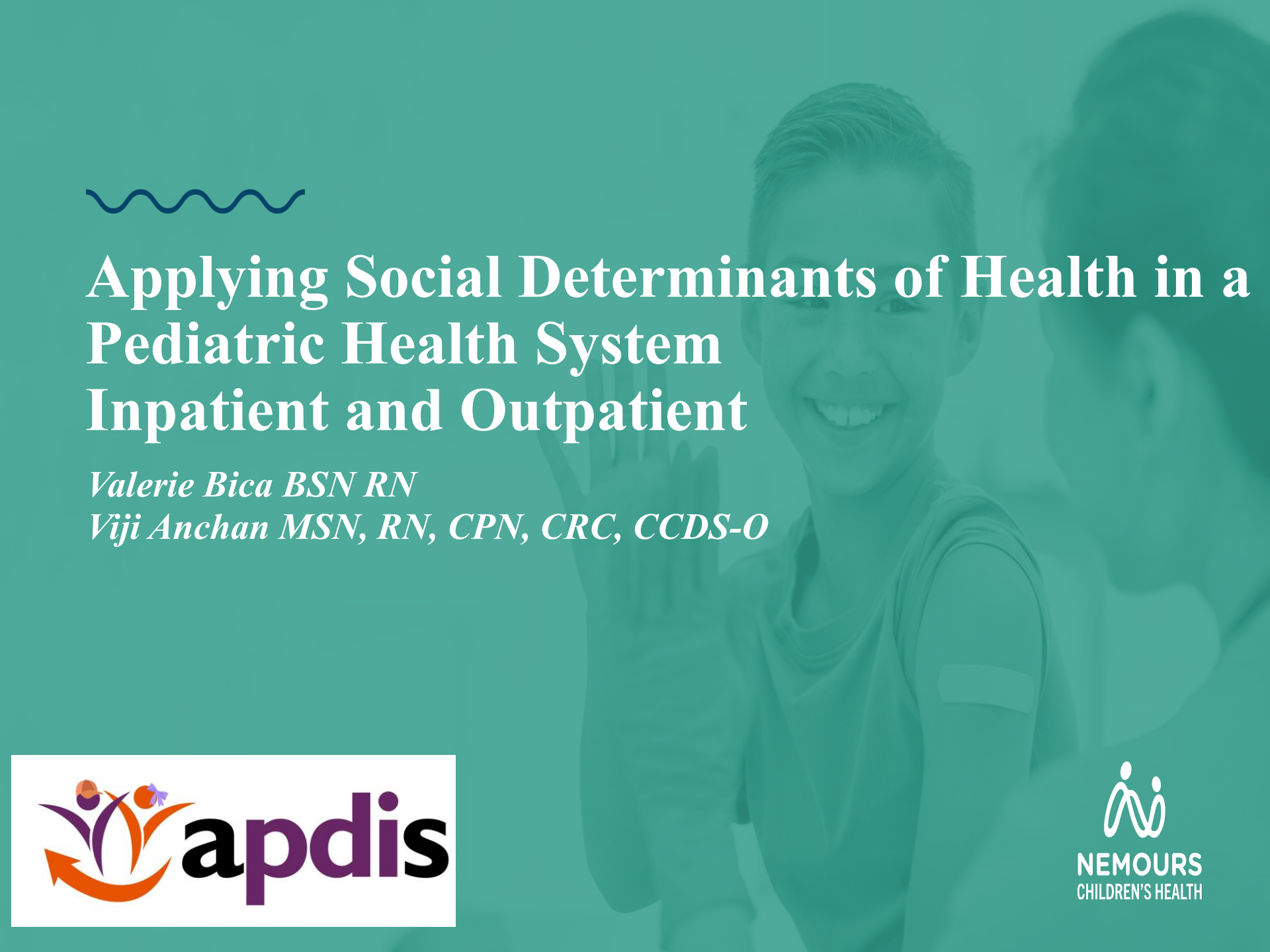
Applying Social Determinants of Health in a Pediatric Health System Inpatient and Outpatient

Valerie Bica BSN RN
Viji Anchan MSN, RN, CPN, CRC, CCDS-O



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NEMOURS CHILDREN'S HEALTH

Presented By

Valerie Bica BSN RN

Lead Clinical Documentation Integrity Specialist

Nemours Children's Health System, Delaware

Valerie is the Lead CDI Specialist at Nemours Children's Health in Wilmington, Delaware. She has 40+ years of pediatric/NICU clinical nursing experience, the last 21 years at Nemours Children's Health. Background experience includes case management for managed Medicaid, Utilization Management. Clinical background in acute care inpatient pediatrics, pediatric ICU, neonatal ICU, and technology-dependent pediatric homecare. Valerie participated in establishing the CDI program for Nemours Children's Health- Delaware. She is a co-leader of APDIS, the Association of Pediatric Documentation Improvement Specialists, an Association of Clinical Documentation Integrity Specialists (ACDIS) professional networking group and served on the 2015-2016 ACDIS -Pediatric Respiratory Failure white paper workgroup and also the 2019 ACDIS pediatric heart failure white paper workgroup. She has presented topics at 6 national ACDIS conferences, and 3 Nursing of Children Network Conferences and helped to plan the 2015 ACDIS conference.

NEMOURS CHILDREN'S HEALTH

Presented By

Viji Anchan MSN, RN, CPN, CRC, CCDS-O

Lead-Outpatient Clinical Documentation Integrity Specialist
Nemours Children's Health System, Delaware

Viji is the Lead Outpatient Integrity Specialist at Nemours Children's Health, focused on risk adjustment and chronic condition recapture rates across 21 Nemours primary care sites in Delaware and Pennsylvania. With over 24 years of nursing experience spanning adult medical-surgical, geriatric, and pediatric care, Viji is valued for her expertise in clinical documentation and dedication to improving patient outcomes.

Viji is a passionate advocate for pediatric CDI and has shared her knowledge by presenting at the 2025 ACDIS Conference, at the 2024 ACDIS Outpatient Symposium, and at several Nursing of Children Network (NCN) conferences.

In addition to her professional work, Viji is deeply committed to promoting diversity, inclusion, and mental health awareness. As a member of the ACDIS Diversity and Inclusion Committee, she actively supports initiatives that foster equity and representation in healthcare. She is also the founding leader of the DESIaN Associate Resource Group at Nemours, which champions cultural and healthcare initiatives and mental health awareness in the south-Asian community.

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Learning Objectives

- Understand the significance of Social Determinants of Health (SDOH) in pediatric healthcare outcomes.
- Identify challenges and solutions in educating healthcare professionals and collecting SDOH data in pediatric settings.
- Discuss effective documentation and coding methods for SDOH in both inpatient and outpatient care.
- Learn best practices for integrating SDOH screening into clinical workflows to enhance patient evaluations.
- Discover opportunities to effectively capture SDOH information in the care of children.

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Nemours Children's Health System Delaware

Freestanding pediatric hospital

220 beds in single patient rooms

Inpatient CDI since 2010

Primary Care outpatient CDI from planning began in 2016

Began with 4 full-time CDI nurses- for inpatient and outpatient

Review all payors inpatient

Focus on APR-DRG inpatient

Focus on value-based care contracts and outpatient CDI began in 2015

Review all primary care sites and some specialty outpatient clinics

Definition CMS

Adapted from CDC Healthy People 2030

- Social drivers of health (SDOH): The 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.
- SDOH refers to community-level factors. They are sometimes called “social determinants of health.”

Adapted from CDC Healthy People 2030

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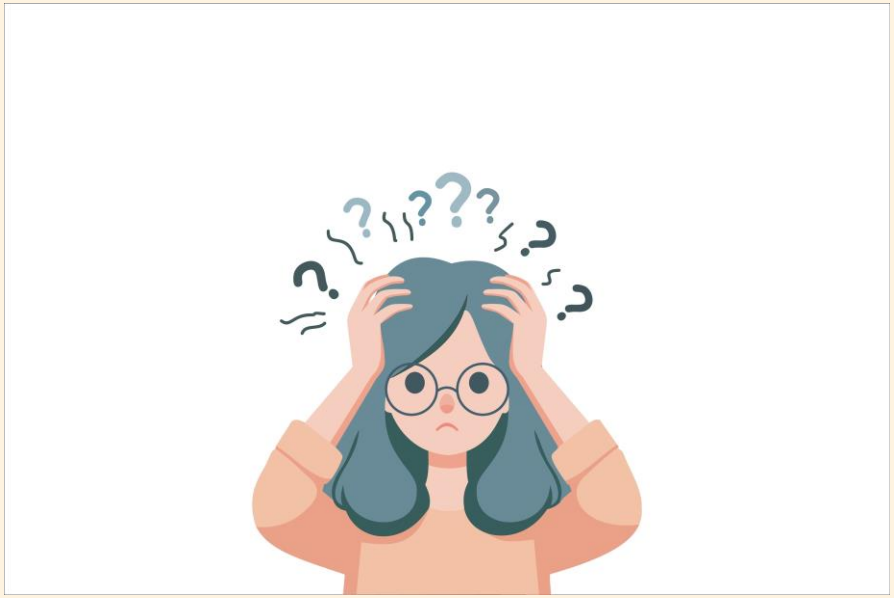
What's in a Name?



- Social determinants of health (SDOH)
- Social drivers of health (SDOH)
- Social indicators of health (SIOH)
- Health-related social needs (HRSN)

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How Far Back Did We Consider SDOH?

EARLY 19TH CENTURY, RESPONSE TO THE INDUSTRIAL REVOLUTION

SIGNIFICANT INCREASES IN DISEASE AND POVERTY

SCIENTIFIC COMMUNITY BEGAN TO EXPLORE THE ROOTS OF DISEASE NOT IN JUST THE BIOLOGICAL REALM, BUT THE SOCIAL AS WELL.

VIRCHOW, A GERMAN PHYSICIAN KNOWN FOR HIS WORK IN PATHOLOGY, SOCIAL MEDICINE, AND FORENSICS, FOLLOWING AN 1840S TYPHUS EPIDEMIC, WROTE ONE DAY: “IF MEDICINE IS TO FULFILL HER GREAT TASK, THEN SHE MUST ENTER THE POLITICAL AND SOCIAL LIFE. DO WE NOT ALWAYS FIND THE DISEASES OF THE POPULACE TRACEABLE TO DEFECTS IN SOCIETY?”

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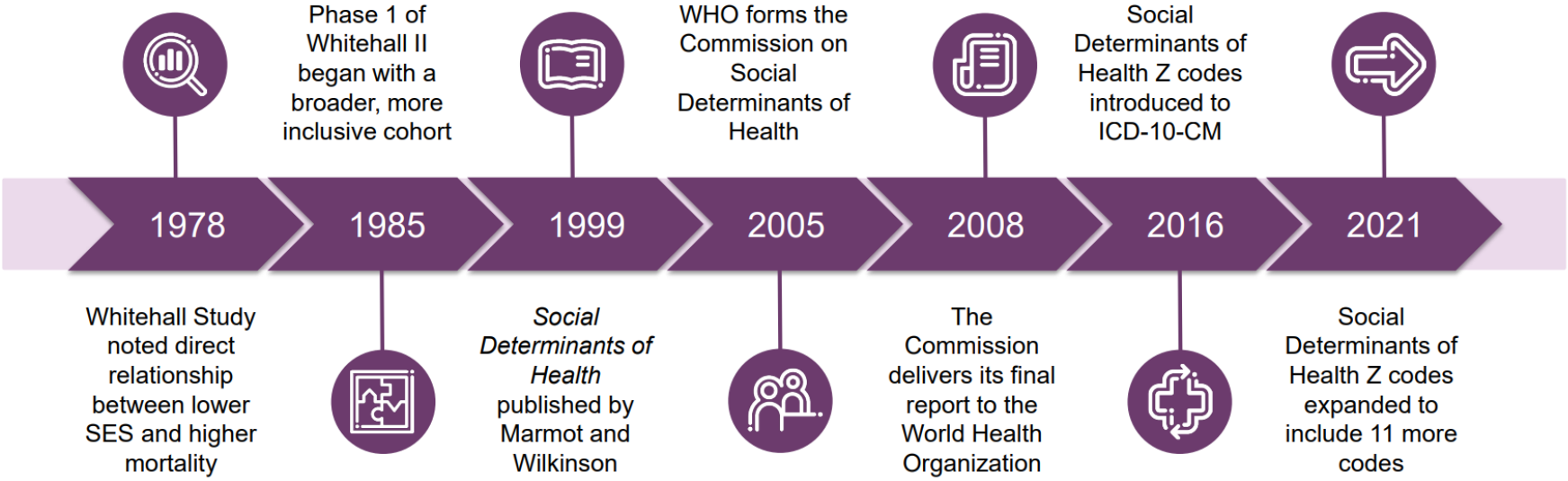
Timeline for Social Determinants

Historical Perspective



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Not Meeting the Requirements

- A 2019 cross-sectional survey in the *New England Journal of Medicine*, examined the screening of social needs by physician practices and hospitals.
- **Question:** What types of physician practices and hospitals self-report screening patients for food, housing, transportation, utilities, and interpersonal violence needs?
- **Findings:** In the study of US hospitals and physician practices, approximately 24% of hospitals and 16% of physician practices reported screening for food insecurity, housing instability, utility needs, transportation needs, and interpersonal violence. Federally qualified health centers and physician practices participating in bundled payments, primary care improvement models, and Medicaid accountable care organizations screened more than other hospitals, and academic medical centers screened more than other practices.
- **Meaning:** This study's findings suggest that most US physician practices and hospitals did not report screening patients for key social needs, and it appears that practices serving more economically disadvantaged populations report screening at higher rates.

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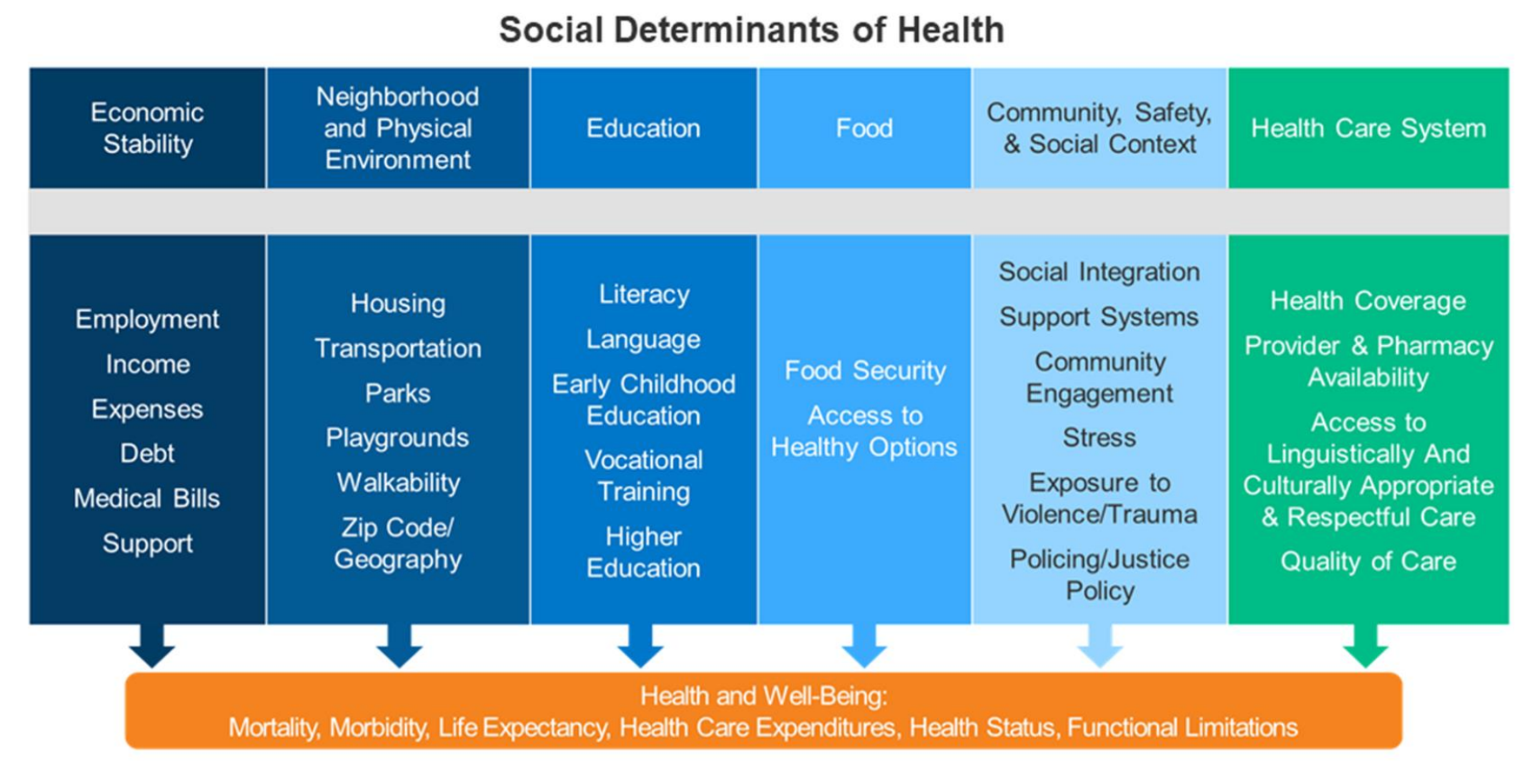
Impact of Monitoring Social Determinants



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Shift in CMS Framework

In 2022, CMS significantly shifted its framework to prioritize health equity as its primary pillar

Focuses on strengthening assessment infrastructure, creating synergies, and eliminating barriers in CMS-supported programs including Medicare and Medicaid

https://www.cms.gov/files/document/cms-framework-health-equity.pdf

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CMS Alignment With HHS Initiatives

Designed to align with the Department of Health and Human Services' (HHS) efforts to reduce health disparities in minority and underserved populations.

Incorporates Healthy People 2030 Framework, emphasizing that achieving health and well-being requires eliminating health disparities and improving health literacy.

Embeds health equity across CMS programs, including:

- HHS Rural Action Plan
- HHS Maternal Health Action Plan
- HHS National CLAS Standards (Culturally and Linguistically Appropriate Services)
- HHS National Quality Strategy
- HHS Strategic Plan for American Indian and Alaska Native health services

https://www.cms.gov/files/document/cms-framework-health-equity.pdf

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HHS Goals and Next Steps

HHS is ensuring that the actions we take will address key drivers of disparities in health outcomes among underserved and marginalized populations. Measuring and monitoring progress will be essential for HHS to assess what actions are working and what new actions may be needed to address SDOH to advance health equity. Examples of initial actions HHS will take to advance the 3 goals include:

Goal 1

- Establish interoperability standards to enhance collection of SDOH data and facilitate referrals between health and human service providers
- Use data to assess where program beneficiaries or communities are facing SDOH challenges and to develop strategies to help mitigate these challenges
- Advance research to identify evidence-based interventions that address SDOH

Goal 2

- Expand community health worker services to address SDOH including those exacerbated by COVID-19
- Expand the Community Health Aide Program nationwide to increase health care access for American Indian and Alaska Native populations in rural and underserved areas

Goal 3

- Partner with other federal departments to enhance access to safe and affordable housing, increase access to transportation, and increase access to healthy food and nutrition assistance
- Develop best practices and partner with stakeholders to braid funding sources for state and local governments and community-based organizations to address social needs and drivers of health outcomes

https://www.cms.gov/files/document/cms-framework-health-equity.pdf

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CMS Framework for Health Equity 2022-2032

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https://www.cms.gov/files/document/cms-framework-health-equity.pdf

Priority 1: Expand the Collection, Reporting, and Analysis of Standardized Data

Improved Data Collection

- Prioritize, understand and address SDOH
- Ensure consistent and standardized data collection
- Initiative aims to identify and address disparities in pediatric healthcare

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https://www.cms.gov/files/document/cms-framework-health-equity.pdf

Priority 2: Assess Causes of Disparities Within CMS Programs, and Address Inequities in Policies and Operations to Close Gaps

Addressing Disparities

- CMS is examining disparities in its programs to pinpoint inequities.
- The aim is to create targeted strategies to address identified issues.
- Focus on enhancing healthcare access and quality for children in underserved areas.
- Commitment to equitable healthcare for all children, irrespective of their background.

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https://www.cms.gov/files/document/cms-framework-health-equity.pdf

Priority 3: Build Capacity of Health Care Organizations and the Workforce to Reduce Health and Health Care Disparities

Building Capacity

- Equip healthcare professionals to screen for SDOH and connect patients to community resources
- Enhance communication with patients, families, and caregivers to understand social needs and coordinate care
- Identify and tackle systemic barriers in healthcare that contribute to health disparities

https://www.cms.gov/files/document/cms-framework-health-equity.pdf

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Priority 4: Advance Language Access, Health Literacy, and the Provision of Culturally Tailored Services

Advancing Language Access

- Focus on providing culturally competent care
- Address language barriers
- Tailor services to diverse cultural needs
- Improve language access and health literacy
- Possible strategies include:
  - Utilizing interpreters
  - Recruiting diverse healthcare staff
  - Developing culturally sensitive policies and procedures

https://www.cms.gov/files/document/cms-framework-health-equity.pdf

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Priority 5: Increase All Forms of Accessibility to Health Care Services and Coverage

Increasing Access

Focus on	Focus on making healthcare services available for individuals with various disabilities (physical, sensory, communication, intellectual)
Aim	Aim to reduce health disparities among underserved communities by improving access and addressing barriers (transportation, language, socioeconomic status)
Gather	Gather feedback from individuals with disabilities to adapt and improve healthcare services based on their experiences

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https://www.cms.gov/files/document/cms-framework-health-equity.pdf

Community Engagement

- CMS is committed to engaging with communities to ensure that our policies and programs adequately respond to the needs of children and families
- CMS prioritizes feedback from underserved populations to improve pediatric healthcare services quality and effectiveness

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Support for Safety Net Providers

- CMS will evaluate policies to support safety net providers, ensuring that pediatric healthcare services are accessible to all children, regardless of their socioeconomic status
- E.g: Medicaid can reimburse safety net providers for services that address SDOH
- For example, states can require managed care plans to pay providers to screen for socioeconomic risk factors

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Social Determinants of Health

Health Care Administrators

Understand how SDOH data can be gathered and tracked using Z codes.

- Select an SDOH screening tool.
- Identify workflows that minimize staff burden.
- Provide training to support data collection.
- Consider EHRs that facilitate data collection and coding.
- Decide what Z code data to use and monitor.

Develop a plan to use SDOH Z code data to:

- Enhance patient care.
- Improve care coordination and referrals.
- Support quality measurement.
- Identify community/population needs.
- Support planning and implementation of social needs interventions.
- Monitor SDOH intervention effectiveness.

Health Care Team

Use a SDOH screening tool.

- Follow best practices for collecting SDOH data in a sensitive and HIPAA-compliant manner.
- Consistently document standardized SDOH data in the EHR.
- Refer individuals to social service organizations and appropriate support services through local, state, and national resources.

Coding and Other Professionals

Follow the ICD-10-CM coding guidelines.[3]

- Use the CDC National Center for Health Statistics ICD-10-CM Browser tool to search for ICD-10-CM codes and information on code usage.[4]
- Assign all relevant SDOH Z codes to support quality improvement initiatives.

Z code Categories

- **Z55** – Problems related to education and literacy
- **Z56** – Problems related to employment and unemployment
- **Z57** – Occupational exposure to risk factors
- **Z58** – Problems related to physical environment
- **Z59** – Problems related to housing and economic circumstances
- **Z60** – Problems related to social environment
- **Z62** – Problems related to upbringing
- **Z63** – Other problems related to primary support group, including family circumstances
- **Z64** – Problems related to certain psychosocial circumstances
- **Z65** – Problems related to other psychosocial circumstances

This list is subject to revisions and additions to improve alignment with SDOH data elements.

[3] https://www.cms.gov/medicare/icd-10/2024-icd-10-cm
[4] https://www.cdc.gov/nchs/icd/icd-10-cm.htm

Revision Date: June 2023

go.cms.gov/omh

USING Z CODES:

The **Social Determinants of Health (SDOH)** Data Journey to Better Outcomes

What are **Z codes**

SDOH-related Z codes ranging from Z55-Z65 are the ICD-10-CM diagnosis codes used to document SDOH data (e.g., housing, food insecurity, transportation, etc.).

SDOH are the 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.

Step 1 Collect SDOH Data

Any member of a person's care team can collect SDOH data during any encounter.

- Includes providers, social workers, community health workers, case managers, patient navigators, and nurses.
- Can be collected at intake through health risk assessments, screening tools, person-provider interaction, and individual self-reporting.

Step 2 Document SDOH Data

Data are recorded in a person's paper or electronic health record (EHR).

- SDOH data may be documented in the problem or diagnosis list, patient or client history, or provider notes.
- Care teams may collect more detailed SDOH data than current Z codes allow. These data should be retained.
- Efforts are ongoing to close Z code gaps and standardize SDOH data.

Step 3 Map SDOH Data to Z Codes

Assistance is available from the ICD-10-CM Official Guidelines for Coding and Reporting.[1]

- Coding, billing, and EHR systems help coders assign standardized codes (e.g., Z codes).
- Coders can assign SDOH Z codes based on self-reported data and/or information documented by any member of the care team if their documentation is included in the official medical record.[2]

Step 4 Use SDOH Z Code Data

Data analysis can help improve quality, care coordination, and experience of care.

- Identify individuals' social risk factors and unmet needs.
- Inform health care and services, follow-up, and discharge planning.
- Trigger referrals to social services that meet individuals' needs.
- Track referrals between providers and social service organizations.

Step 5 Report SDOH Z Code Data Findings

SDOH data can be added to key reports for executive leadership and Boards of Directors to inform value-based care opportunities.

- Findings can be shared with social service organizations, providers, health plans, and consumer/patient advisory boards to identify unmet needs.
- A Disparities Impact Statement can be used to identify opportunities for advancing health equity.

CMS

For Questions: Contact the **CMS Health Equity Technical Assistance Program**

[1] https://www.cms.gov/medicare/icd-10/2024-icd-10-cm

[2] https://www.aha.org/system/files/2018-04/value-initiative-icd-10-code-social-determinants-of-health.pdf

IMPROVING THE COLLECTION OF

Social Determinants of Health (SDOH) Data with ICD-10-CM Z Codes

What Are Z Codes?

- SDOH-related Z codes range from ICD-10-CM categories Z55-Z65 and are used to document SDOH data (e.g., housing, food insecurity, lack of transportation)
- Z codes refer to factors influencing health status or reasons for contact with health services that are not classifiable elsewhere as diseases, injuries, or external causes

What Are SDOH & Why Collect Them?

- SDOH are the conditions in the environment 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[1]
- The World Health Organization (WHO) estimates that SDOH accounts for **30-55% of health outcomes**[2]

Collecting SDOH can improve equity in health care delivery and research by:

- Empowering providers to identify and address health disparities (e.g., care coordination and referrals)
- Supporting quality measurement
- Supporting planning and implementation of social needs interventions
- Identifying community and population needs
- Monitoring SDOH intervention effectiveness for patient outcomes
- Utilizing data to advocate for updating and creating new policies

Using Z Codes for SDOH

- SDOH information can be collected before, during, or after a health care encounter through structured health risk assessments and screening tools
- These codes should be assigned only when the documentation specifies that the patient has an associated problem or risk factor that influences the patient's health
- Coding professionals may utilize documentation of social information from social workers, community health workers, case managers, or nurses, if their documentation is included in the official medical record

- SDOH information can be collected through person-provider interaction or self-reported, as long as it is signed-off on and incorporated into the medical record by a clinician or provider
- It is important to screen for SDOH information at each health care encounter to understand circumstances that may have changed in the patient's status

VIEW JOURNEY MAP

ICD-10-CM Z Codes Update

- New SDOH Z codes may become effective each April 1 and October 1. New codes are announced prior to their effective date on CDC website
- Use the CDC National Center for Health Statistics ICD-10-CM Browser tool to search for all the current Z codes.
- Join the public process for SDOH code development and approval through the ICD-10-CM Coordination and Maintenance Committee

[1] Healthy People 2030 [2] World Health Organization

go.cms.gov/OMH

For Questions Contact: The CMS Health Equity Technical Assistance Program | ICD-10-CM Official Guidelines for Coding and Reporting FY 2024

/medicare/icd-10/2024-icd-10-cm

https://www.cms.gov/files/document/cms-2023-omh-z-code-resource.pdf

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IMPROVING THE COLLECTION OF

Social Determinants of Health (SDOH) data with ICD-10-CM Z Codes

Exhibit 1. Recent SDOH Z Code Categories and New Codes

Z55 – Problems related to education and literacy

- Z55.5 – Less than a high school diploma (Added, Oct. 1, 2021)
- NEW • Z55.6 – Problems related to health literacy

Z56 – Problems related to employment and unemployment

Z57 – Occupational exposure to risk factors

Z58 – Problems related to physical environment (Added, Oct. 1, 2021)

- Z58.6 – Inadequate drinking-water supply (Added, Oct. 1, 2021)
- NEW • Z58.8 – Other problems related to physical environment
  - NEW • Z58.81 – Basic services unavailable in physical environment
  - NEW • Z58.89 – Other problems related to physical environment

Z59 – Problems related to housing and economic circumstances

- Z59.0 – Homelessness (Updated)
  - Z59.00 – Homelessness unspecified (Added, Oct. 1, 2021)
  - Z59.01 – Sheltered homelessness (Added, Oct. 1, 2021)
  - Z59.02 – Unsheltered homelessness (Added, Oct. 1, 2021)
- Z59.1 – Inadequate Housing (Updated)
  - NEW • Z59.10 – Inadequate housing, unspecified
  - NEW • Z59.11 – Inadequate housing environmental temperature
  - NEW • Z59.12 – Inadequate housing utilities
  - NEW • Z59.19 – Other inadequate housing
- Z59.4 – Lack of adequate food (Updated)
  - Z59.41 – Food insecurity (Added, Oct. 1, 2021)
  - Z59.48 – Other specified lack of adequate food (Added, Oct. 1, 2021)
- Z59.8 – Other problems related to housing and economic circumstances (Updated)
  - Z59.81 – Housing instability, housed (Added, Oct. 1, 2021)
    - Z59.811 – Housing instability, housed, with risk of homelessness (Added, Oct. 1, 2021)
    - Z59.812 – Housing instability, housed, homelessness in past 12 months (Added, Oct. 1, 2021)
    - Z59.819 – Housing instability, housed unspecified (Added, Oct. 1, 2021)
  - Z59.82 – Transportation insecurity (Added, Oct. 1, 2022)
  - Z59.86 – Financial insecurity (Added, Oct. 1, 2022)
  - Z59.87 – Material hardship due to limited financial resources, not elsewhere classified (Added, Oct. 1, 2022; Revised, April 1, 2023)
  - Z59.89 – Other problems related to housing and economic circumstances (Added, Oct. 1, 2021)

Z60 – Problems related to social environment

Z62 – Problems related to upbringing

- Z62.2 – Upbringing away from parents
  - NEW • Z62.23 – Child in custody of non-parental relative (Added, Oct. 1, 2023)
  - NEW • Z62.24 – Child in custody of non-relative guardian (Added, Oct. 1, 2023)
- Z62.8 – Other specified problems related to upbringing (Updated)
  - Z62.81 – Personal history of abuse in childhood
    - NEW • Z62.814 – Personal history of child financial abuse
    - NEW • Z62.815 – Personal history of intimate partner abuse in childhood
  - Z62.82 – Parent-child conflict
    - NEW • Z62.823 – Parent-step child conflict (Added, Oct. 1, 2023)
  - Z62.83 – Non-parental relative or guardian-child conflict (Added Oct. 1, 2023)
    - NEW • Z62.831 – Non-parental relative-child conflict (Added Oct. 1, 2023)
    - NEW • Z62.832 – Non-relative guardian-child conflict (Added Oct. 1, 2023)
    - NEW • Z62.833 – Group home staff-child conflict (Added Oct. 1, 2023)
  - Z62.89 – Other specified problems related to upbringing
    - NEW • Z62.892 – Runaway [from current living environment] (Added Oct. 1, 2023)

Z63 – Other problems related to primary support group, including family circumstances

Z64 – Problems related to certain psychosocial circumstance

Z65 – Problems related to other psychosocial circumstances

https://www.cms.gov/files/document/cms-2023-omh-z-code-resource.pdf

Nemours' Initiatives to address SDOH

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Nemours Delaware Inpatient: Enhancing SDOH Integration

Collaboration with Social Work:	Partnering to enhance the assessment process.
Redesign of the Biopsychosocial Assessment Tool:	Incorporated structured sections to address key SDOH.
Intentional SDOH Integration:	Added designated sections aligned with broad SDOH categories.
Optional Code Inclusion:	SDOH code numbers included as a reference but not mandatory.
Social Work Engagement:	Engaged social workers to address these sections during patient interviews.
Coder Education & Involvement:	Provided education for coding professionals to review assessments for potential SDOH documentation.
Ongoing Progress & Challenges:	Identifying and addressing implementation challenges as part of continuous improvement.

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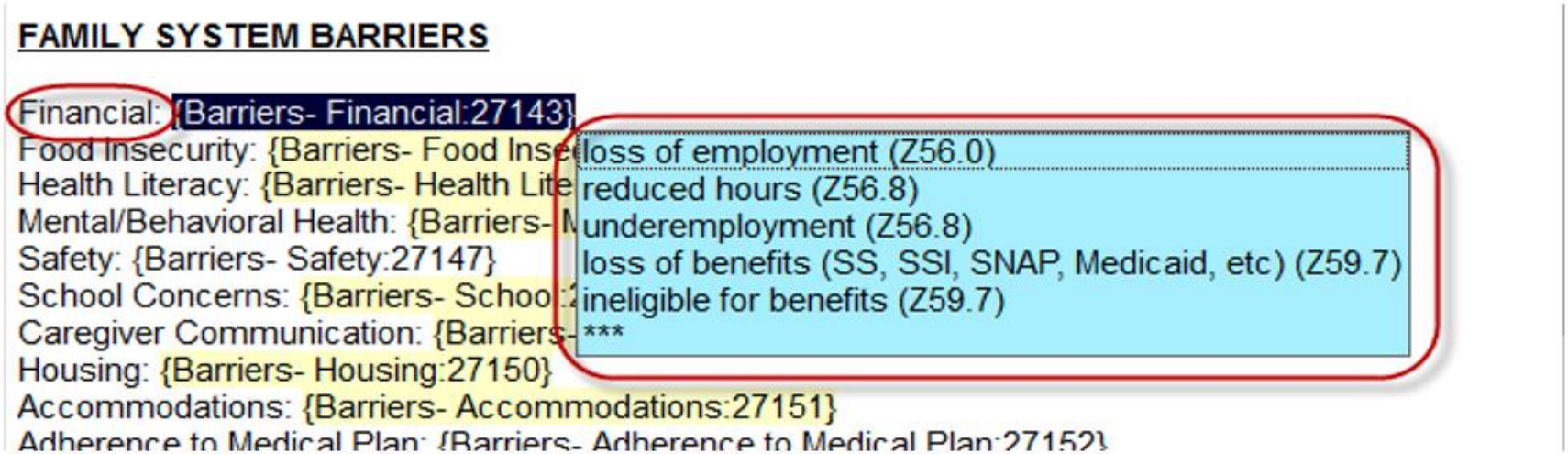
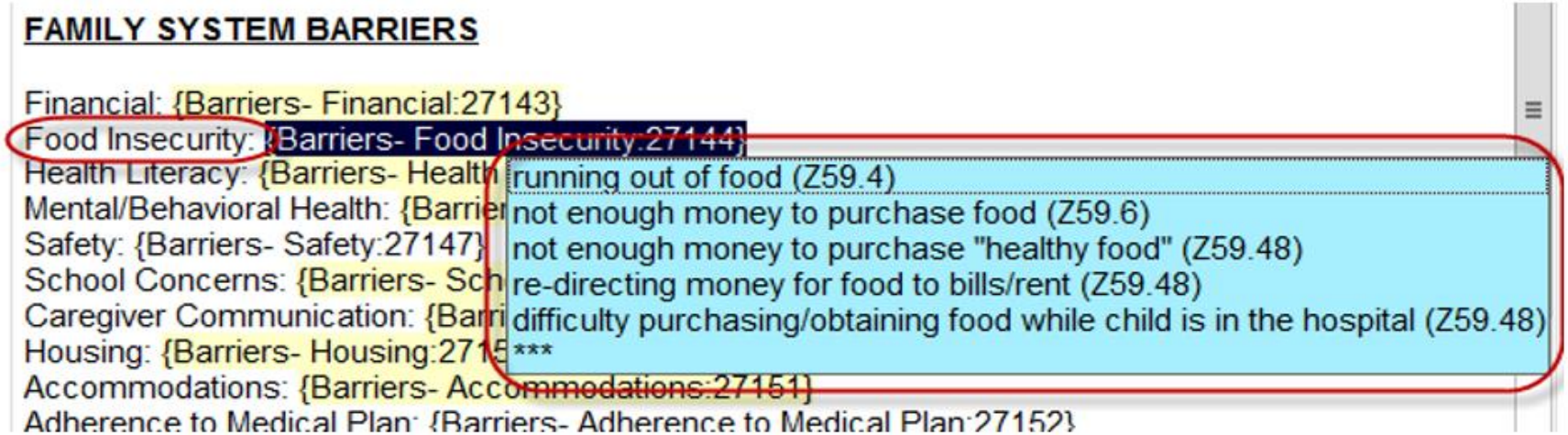
SW Biopsychosocial Assessment

Financial:



Food Insecurity:



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SW Biopsychosocial Assessment

Food insecurity

- ☐ Running out of food
- ☐ Not enough money to purchase food
- ☐ Not enough money to purchase "healthy food"
- ☐ Re-directing money for food to bills/rent
- ☐ Difficulty purchasing/obtaining food while child in the hospital
- ☐ Other: _____

Health Literacy Concerns

- ☐ Related to understanding of specific medical condition
- ☐ Related to self-management of medical condition once patient is home
- ☐ Other: _____

Mental/behavioral health concerns

- ☐ In need of outpatient mental health services
- ☐ Community lacks mental health resources that the patient/family needs [Applied Behavioral Analysis (ABA), Functional Family Therapy (FFT), etc.]
- ☐ Prefers in-person mental health services, limited availability
- ☐ Does not engage/limited engagement with virtual mental health services
- ☐ Unable to secure a pediatric psychiatrist
- ☐ On wait list for mental health services
- ☐ Substance use
- ☐ None reported by family
- ☐ None reported by family. However, medical team/SW observes needs in this area.
- ☐ Other: _____

Safety

- ☐ Crib safety (Does the patient have a safe space to sleep?)
- ☐ Gun safety
- ☐ Over-the-Counter (OTC) and prescription medication secured
- ☐ Abuse/neglect
- ☐ Domestic violence
- ☐ Elopement concerns
- ☐ Human/sex trafficking
- ☐ Transportation or car seat safety
- ☐ Home/community environment: _____ (explain)
- ☐ Other: _____

Nemours Children's Health Publishes Social Needs Screening Guide as Part of Commitment to White House Conference on Hunger, Nutrition and Health

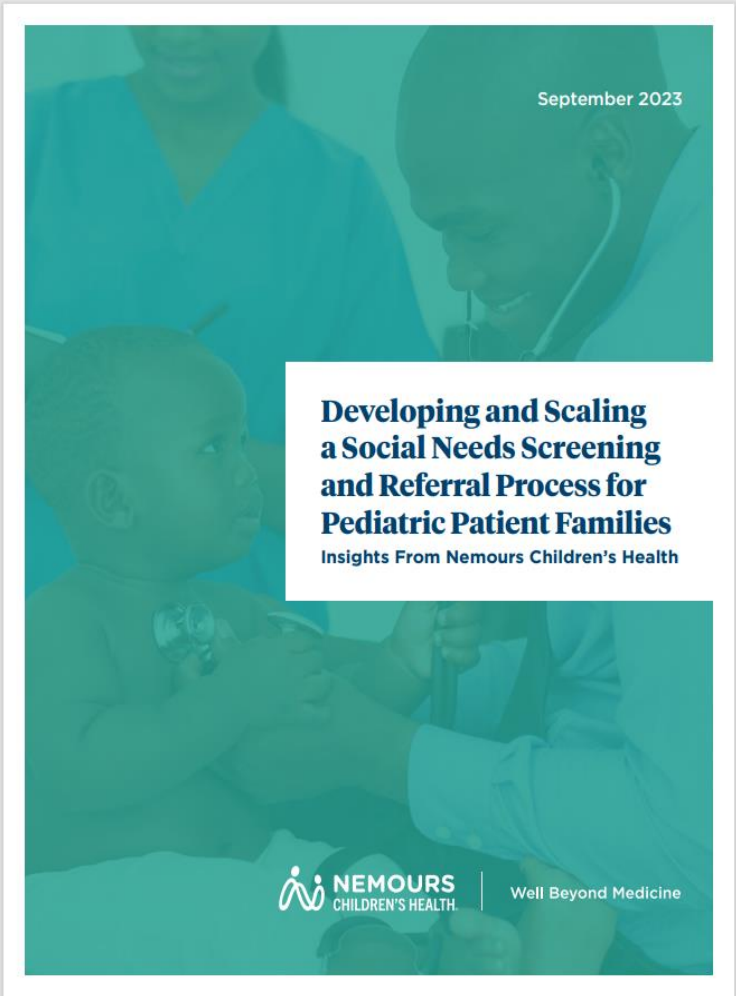
Screening guide, new webpage provide resources for families and providers

WASHINGTON, DC (December 6, 2023) -- As part of the Nemours Children's Health commitment to the White House's goal of ending hunger and increasing healthy eating and physical activity by 2030, the leading pediatric health system has created a guidance document to help other health systems identify and address health-related social needs, such as food insecurity, and utilize data to enhance primary prevention efforts and policy work.

The implementation guide - a combined case study and guidance resource to inform the work of health systems, particularly children's health systems - offers lessons from the Nemours Children's experience creating and implementing a social needs screening process tailored for a pediatric population. The guide and screening tool help providers better understand and address the social needs of the communities they serve.

NemoursChildrens_SocialNeedsScreeningToolkit_Web.pdf

SDOH Guidance Document Publication September 2023



- Purpose:
  - Address social determinants of health (e.g., housing, food, transportation) impacting pediatric patient outcomes.
- Integration in Care:
  - Social needs screening embedded within clinical workflows.
  - Use of digital tools (e.g., EHR integration) for streamlined assessments.
- Collaboration:
  - Partnerships with community organizations and multidisciplinary teams.
- Outcomes:
  - Increased referrals to appropriate services.
  - Improved holistic care and reduced social barriers affecting health.
- Scaling Strategies:
  - Expansion through collaboration, process standardization, and digital innovations.

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NemoursChildrens_SocialNeedsScreeningToolkit_Web.pdf

Study by Nemours Florida Published in the Journal “Hospital Pediatrics” November 2024: Volume-14

https://doi.org/10.1542/hpeds.2023-007434

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RESEARCH ARTICLE

Characteristics Associated With Positive Social Determinants of Health Screening in Patients Admitted to Pediatric Hospital Medicine

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BACKGROUND AND OBJECTIVE: There is limited research on screening for social determinants of health (SDOH) in hospitalized pediatric patients. In this article, we describe patient characteristics related to SDOH screening in the hospital setting and examine relationships with acute care metrics.

METHODS: This is a retrospective cohort study. From July 2020 to October 2021, a 14-question SDOH screener was administered to families of patients admitted or transferred to the hospital medicine service. Information was collected regarding screen results, demographics, patient comorbidities, patient complexity, and acute care metrics. Unadjusted and multivariable analyses were performed using generalized estimation equation logistic regression models.

RESULTS: Families in 2454 (65%) patient encounters completed SDOH screening, with ≥1 need identified in 662 (27%) encounters. Families with significant odds for positive screening results in a multivariable analysis included primary language other than English (odds ratio [OR] 4.269, confidence interval [CI] 1.731–10.533) or Spanish (OR 1.419, CI 1.050–1.918), families identifying as "Black" (OR 1.675, CI 1.237–2.266) or Hispanic (OR 1.347, CI 1.057–1.717) or having a child on the complex care registry (OR 1.466, CI 1.120–1.918). A positive screening result was not associated with increased length of stay, readmission, or 2-year emergency department or acute care utilization.

CONCLUSIONS: In hospitalized pediatric patients, populations at the greatest odds for positive needs include families with primary languages other than English or Spanish, those that identified as certain races or ethnicities, or those having a child on the complex care registry. A positive SDOH screening result in this study was not associated with an increase in length of stay, readmission, or acute care utilization.

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Dr Kopsombut conceptualized and designed the study, drafted the initial manuscript, and critically reviewed and revised the manuscript; Drs Rooney-Otero, Keyes, McCann, Werk, and Brogan and Ms Craver, Ms Quach, Ms Shiwmangal, Ms Bradley, Drs Ajjegowda, and Mr Koster contributed to the conception and design and acquisition of data, conducted the initial analysis, and drafted the article; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Study Overview

There is limited research on screening for SDOH in hospitalized pediatric patients.

The study titled “Characteristics Associated With Positive Social Determinants of Health Screening in Patients Admitted to Pediatric Hospital Medicine” was published in *Hospital Pediatrics* on November 1, 2024.

The research aimed to identify patient characteristics linked to positive SDOH screenings in hospitalized pediatric patients and to examine the relationship between these screenings and acute care metrics.

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The Objectives of the Study

- **Identify key patient characteristics:**

Determine demographic, social, and clinical factors linked to positive SDOH screenings in hospitalized pediatric patients

- **Assess impact on clinical outcomes:**

Explore the relationship between positive SDOH screenings and acute care metrics, including length of stay, readmissions, and ED visits

- **Evaluate screening effectiveness:**

Measure participation rates and the effectiveness of SDOH screening in identifying actionable social needs

- **Support health equity:**

Provide data to guide targeted interventions and reduce health disparities in pediatric care

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Methodology

A retrospective cohort study was conducted from July 2020 to October 2021

A 14-question SDOH screener was administered to families of patients admitted or transferred to the hospital medicine service

Data collected included screen results, demographics, patient comorbidities, patient complexity, and acute care metrics

Analyses were performed using generalized estimation equation logistic regression models

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Domain	Question	Adopted/Adapted From:
Food Insecurity	1. In the past 12 months, have you worried your food would run out before you got money to buy more? ☐Yes, Often ☐Yes, Sometimes ☐No, Never ☐Don't Remember	Hunger Vital Signs
Food Insecurity	2. In the past 12 months, were there times the food you bought didn't last and you didn't have money to buy more? ☐Yes, Often ☐Yes, Sometimes ☐No, Never ☐Don't Remember	Hunger Vital Signs
Financial Insecurity	3. In the past 12 months, have you ever had trouble paying for a doctor, dentist, or medicine for you or your child? ☐Yes ☐No	BMTS PRAPARE
Transportation	4. In the past 12 months, did your child ever go without medicine or miss a medical appointment because you didn't have a way to get to the pharmacy or doctor? ☐Yes ☐No	HealthLeads BMTS PRAPARE
Utilities	5. In the past 12 months, has your utility company ever shut off your service because you were unable to pay your bill (electric, gas, water, heat, or phone)? ☐Yes ☐No	WeCare PhilaKids
Housing/ Shelter	6. In the past 12 months, have you or your child ever had to stay in a shelter, stay with others, in a hotel, live outside on the street, on a beach, in a car, or in a park, even for 1 night? ☐Yes ☐No	BMTS PRAPARE
Housing	7. Currently, do you have problems with any of the following in the place you live? (Pests such as bugs, ants or mice, Mold, Lead paint or pipes, Lack of heat, Lack of air conditioning, Oven or stove not working, Smoke detectors missing or not working, Water leaks from roof, windows or pipes, Other repair issues? ☐Yes ☐No	PhilaKids
Social Support	8. Do you have someone you can call when you need help with you or your child (such as with transportation or childcare)? ☐Yes ☐No	PRAPARE
Legal Status	9. Do you have any concerns about your fostering/kinship or custody arrangement or your family's immigration status? ☐Yes ☐No	PhilaKids BMTS
Personal Safety	10. In the past 12 months, have you or any other family member been hit, threatened, abused, or bullied? ☐Yes ☐No	PhilaKids WeCARE PRAPARE
Neighborhood Safety	11. Do you have any of these concerns about your neighborhood? (Safety, Gun Violence, Cleanliness, Crime, None of the above) ☐Yes ☐No	WeCARE
Health Literacy	12. Do you sometimes have a hard time understanding what your doctor or nurse is telling you about your child's health or medications? ☐Yes ☐No	
Health Literacy	13. Do you sometimes have a hard time understanding doctor instructions and medical paperwork? ☐Yes ☐No	
Health Literacy	14. Do you need help with medical paperwork or applications for programs (ex WIC, SNAP, FMLA)? ☐Yes ☐No	

Column one indicates the SDOH domain. Column two presents question from 2019 version of the Nemours SDOH screening tool. Column three indicates sources from which questions were adopted or adapted. Abbreviations: BMTS – Boston Medical Thrive Screening

Nemours Children's Health SDOH screening tool (v2019)

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Key Findings

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Screening Participation:

- Out of 2,454 patient encounters, 65% of families completed the SDOH screening, with 27% identifying at least one need.

Demographic Associations:

- Families with higher odds of positive screenings included those with primary languages other than English (OR 4.269) or Spanish (OR 1.419), those identifying as Black (OR 1.675) or Hispanic (OR 1.347), and those with a child on the complex care registry (OR 1.466).

Acute Care Metrics:

- A positive SDOH screening result was not associated with increased length of stay, readmission, or two-year emergency department or acute care utilization.

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Pediatrics Facts on SDOH

The scope of pediatric poverty (2019):

- 12.2 million children (17%) in the U.S. lived in poverty
- 16.4 million (23%) of children were dependent on public assistance

Professional organizations encourage action

- Organizations such as the American Academy of Pediatrics and the Academic Pediatric Association advocate for routine SDOH screenings in healthcare settings.

Addressing SDOH Through Healthcare Encounters:

- Every patient encounter presents an opportunity to identify and address social needs that may impact health, both positively and negatively

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Where and When to Screen for SDOH

Ambulatory care settings:

- Time constraints (<30 min) and competing clinical priorities limit comprehensive screening
- Limited expertise or resources may hinder follow-up interventions

Emergency department encounters:

- Effective for identifying urgent social needs and implementing immediate interventions
- However, time remains a key barrier to comprehensive screening

Hospital admissions:

- Ideal setting for thorough SDOH screening due to longer patient interactions
- Provides opportunities to connect families with appropriate interventions and community resources

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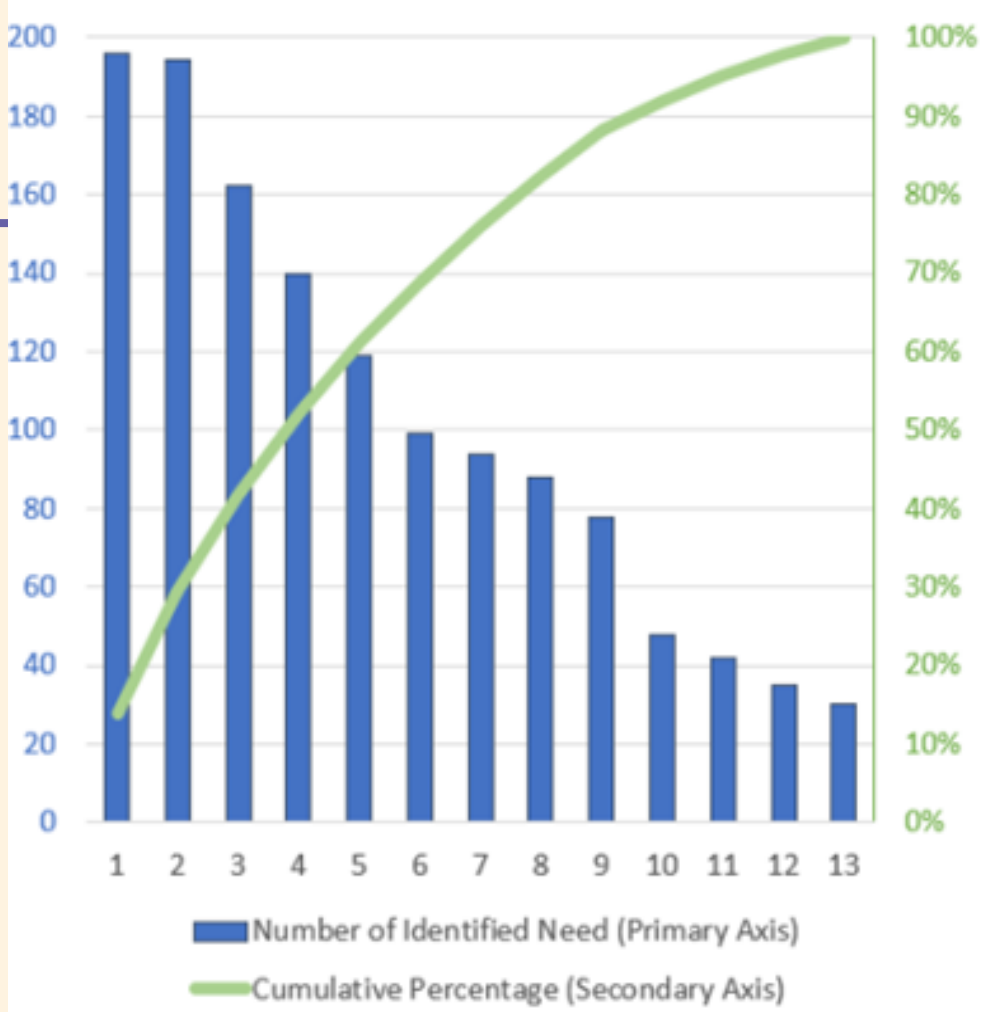
Most Frequent Needs Identified



#	SDOH Need	*n*	%
1	Food Insecurity	196	14.8%
2	Assistance Program Paperwork	194	14.6%
3	Financial Insecurity	162	12.2%
4	Lack of Social Support	140	10.6%
5	Health Literacy (Verbal)	119	9.0%
6	Health Literacy (Written)	99	7.5%
7	Utilities	94	7.1%
8	Housing	88	6.6%
9	Transportation	78	5.9%
10	Legal Status	48	3.6%
11	Housing/Shelter	42	3.2%
12	Neighborhood Safety	35	2.6%
13	Personal Safety	30	2.3%

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Study Strengths

Comprehensive screening approach:

- Patients were screened during all hours of admission by a multidisciplinary team (hospitalists, nurse practitioners, residents, and medical students)
- Achieved a sustained 70% screening rate as part of the social history

Key strengths:

- Screening results were not affected by patient insurance status, race, or language (English vs. non-English speakers)
- Addressed selection bias through consistent team-based screening
- Included publicly insured and diverse populations to provide comprehensive insights

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Screening Tool Concerns

Variability in tools:

- Lack of standardized screening tools makes comparisons across populations difficult

US Preventive Services Task Force (2020):

- Advocated for consolidated, validated tools to improve research and outcomes

Lack of a national standard:

- The American Academy of Pediatrics has not recommended a universal screening tool

Institutional challenges:

- Institutions often develop their own tools or adapt existing ones

- Differences in screening domains can lead to variations in positivity rates

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Underscreening in Complex Cases

Children with medical complexity (CMC):

- Comprise 6% of the pediatric population but account for ~40% of pediatric healthcare spending
- Present a key opportunity for cost savings through effective screening

Underscreening Identified:

- More common in children with high severity of illness (SOI) and risk of mortality (ROM)
- Likely due to intensive care transfers, bypassing initial screening through direct admissions (e.g., transfer notes instead of full history and physicals)

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Nemours Enterprise Initiative to Standardize SDOH Tool

Identified Issues:	The screening tool used in NCH-DE primary care sites was too long and led to parental dissatisfaction.
Response:	Nemours Children's Health System decided to standardize tools and processes for all providers. A multidisciplinary workgroup found screening already occurring in multiple family interaction points.
Goal:	Simplify the screening tool to enhance effectiveness and user satisfaction.

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Nemours Standardization Process (2018-2023)

Cultural shift:

- Changing screening processes required organizational adaptation and growth

Fact-finding (2018-2019):

- Conducted assessments to identify gaps and solutions

Developing and scaling:

- Created a comprehensive social needs screening and referral system for pediatric patients and families

Workgroup collaboration:

- Formed a multidisciplinary team to address stakeholder needs

Pilot implementation (2019):

- Tested the new tool to assess effectiveness

Adjustments (2019-2020):

- Refined the tool based on family and staff feedback, incorporating changes due to COVID-19 interventions

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Expanding SDOH Screening (2021-2024)

Expand Implementation

Roll out the social needs screening tool to additional clinical locations

Continuous Assessment:

- Utilize the “Plan, Do, Study, Act” approach to review and improve screening workflows

Technology Integration:

- Explore options to implement a closed-loop referral platform integrated with Epic for streamlined resource tracking

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Collaboration Highlights

- Shift from internal to external guidance
- Engaged external experts to enhance the initiative
- Participated in and received input from the disparity leadership program at Mass General Hospital Disparities Solutions Center
- Incorporated feedback from external partners to improve the screening tool
- Reviewed and refined decisions on social needs domains based on expert recommendations

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Choosing Domains to Survey

Goal:

Develop a brief, targeted screening tool focused on children, youth, and families.

Gather broad information while ensuring ease of completion during routine visits.

Process:

Conducted a literature review of existing tools.

Gathered input from team experiences, conferences, and professional groups.

Simplified the tool by incorporating elements from various sources to fit within normal clinical workflows.

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Selected SDOH Domains

- Chose 10 key domains to comprehensively assess social determinants of health:

  - ❑Utilities
  - ❑Housing
  - ❑Transportation
  - ❑Social support
  - ❑Exposure to violence
  - ❑Neighborhood
  - ❑Health literacy
  - ❑Legal concerns
  - ❑Food insecurity
  - ❑Financial security

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It Is A Process

Began with 10 key domains for screening

Added two social needs questions to assess immediate challenges

Included two self-determination questions to empower families:

"Would you like to complete the form?"	"Are you interested in receiving information to address these needs?"

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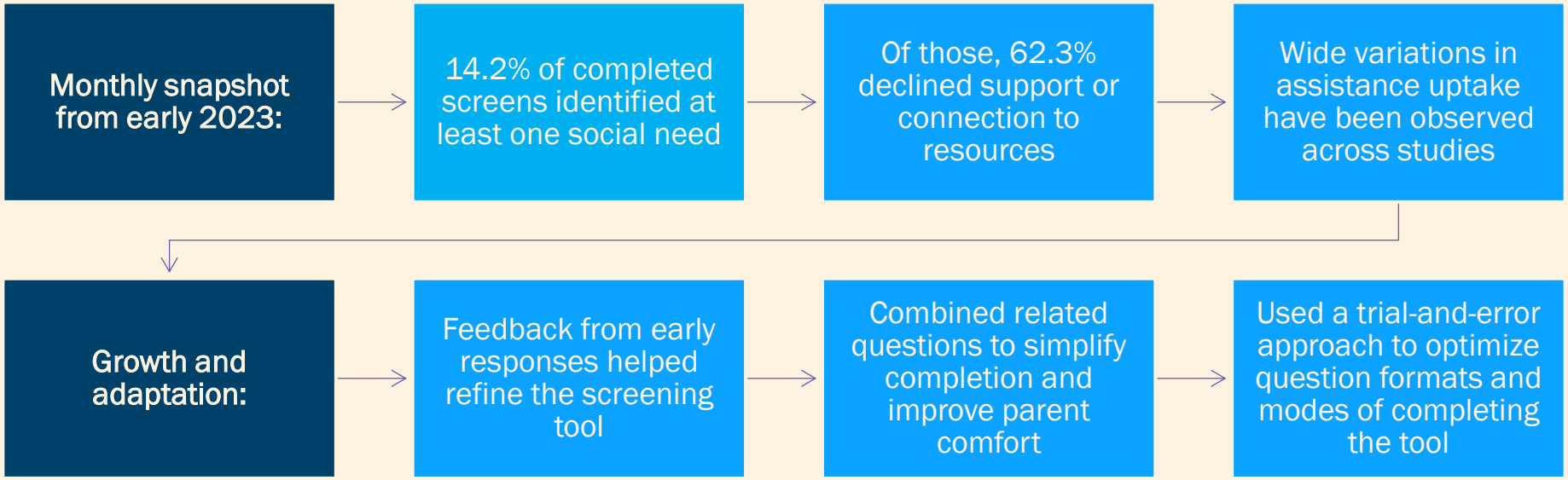
Early Outcomes and Adaptation



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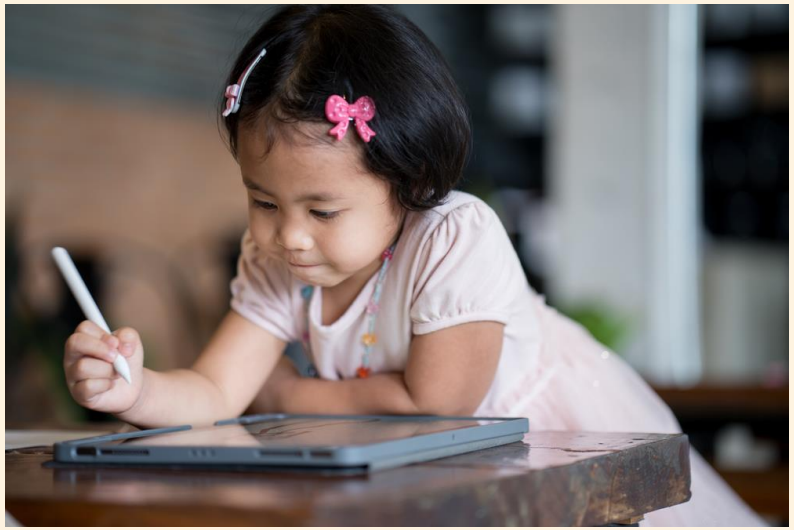
Available Screening Methods at Nemours



1. Via the Nemours app:

- Complete the screening before the visit

2. Paper-based screening:

- Available in 9 languages (English, Spanish, Arabic, Haitian Creole, Hindi, Portuguese, Russian, Chinese, Turkish)
- Responses are entered into the EHR by medical assistants/nurses

3. On-site electronic screening:

- Available on Nemours-owned devices in exam rooms while waiting for the physician

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Most Current Version of the Nemours SDOH Tool [English]

Help us improve your care.

Patient's Name:_____Date of Birth:_____Today's Date:_____

At Nemours Children's Health, we want to provide the best possible care for your child and your family. Many things in your life can impact your child's health, like what you eat, how difficult it may be to get here, your job, and whether you are able to pay for medicine or medical treatment. With these questions, we are learning how we can better serve children and families. These questions may be personal, but like all your medical records, anything you share will be kept private and confidential. We are required by law to report any abuse. **Would you like to complete the form?** ❑Yes ❑No

1. In the past 6 months, were there times when you didn't have money to buy enough food? ❑Yes ❑No
2. In the past 6 months, have you ever had trouble paying for a doctor, dentist or medicine for you or your child? ❑Yes ❑No
3. In the past 6 months, has your utility company ever shut off your service because you could not pay your bill (electric, gas, water, heat, or phone)? ❑Yes ❑No
4. In the past 6 months, have you or your child ever had to stay in a shelter, stay with others, in a hotel, live outside on the street or somewhere else, even for one night? ❑Yes ❑No
5. Currently, do you have any problems in the place where you live like mold, bugs, ants or mice; lead paint or pipes; lack of heat or air conditioning; lack of smoke detectors, oven or stove; water leaks or other repair issues? ❑Yes ❑No
6. Are you concerned about losing your housing? ❑Yes ❑No
7. In the past 6 months, have you or any other family member been hit, threatened, abused, or bullied? ❑Yes ❑No
8. In the past 6 months, did your child ever go without medicine or miss a medical appointment because you didn't have a way to get to the pharmacy or doctor's appointment? ❑Yes ❑No

Are you interested in receiving assistance from Nemours Children's staff or information about other professional resources on how to meet these needs? ❑Yes ❑No

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Current Version of the Nemours SDOH Tool [Spanish]

Ayúdanos a mejorar tu cuidado.

Nombre del paciente:_____Fecha de nacimiento::_____Fecha de hoy:_____

En Nemours Children's Health queremos darles el mejor cuidado posible a tu niño y a tu familia. Muchas cosas en tu vida pueden impactar la salud de tu niño, como lo que come, cuán difícil pueda ser llegar hasta aquí, tu trabajo, y si puedes pagar por la medicina o tratamiento médico. Con estas preguntas, estamos aprendiendo cómo podemos servir mejor a los niños y las familias. Estas preguntas pueden ser personales, pero, así como con todos tus expedientes médicos, cualquier cosa que compartas será privada y confidencial. Estamos obligados por ley a reportar cualquier abuso.

¿Deseas completar el formulario? ❑Sí ❑No

1. En los últimos 12 meses, ¿hubo algún momento donde no tuviste suficiente dinero para comprar alimentos? ❑Sí ❑No
2. En los últimos 6 meses, ¿alguna vez tuviste dificultad para pagar un médico, un dentista, o tus medicamentos o los de tu hijo? ❑Sí ❑No
3. En los últimos 6 meses, ¿te cortaron algún servicio público (electricidad, gas, agua, calefacción o teléfono) porque no pudiste pagar la factura? ❑Sí ❑N
4. En los últimos 6 meses, ¿tu o tu hijo, se tuvieron que quedar en un refugio, en la casa de otras personas, en un hotel, en la calle, o en algún otro lugar, aunque solo haya sido por una noche? ❑Sí ❑No
5. Actualmente, ¿tienes problemas en el lugar donde vives, como moho, insectos, hormigas o ratones; tuberías o pintura con plomo; falta de calefacción o aire acondicionado; detectores de humo, cocina u horno; filtraciones de agua u otros problemas que requieran reparación? ❑Sí ❑No
6. ¿Estás preocupado por perder tu vivienda? ❑Sí ❑No
7. En los últimos 6 meses, ¿tu o algún miembro de tu familia fue golpeado, amenazado, abusado u hostigado? ❑Sí ❑No
8. En los últimos 6 meses, ¿tu hijo se quedó alguna vez sin medicamentos o faltó a una cita médica porque no tenías manera de llegar a la farmacia o a la cita médica? ❑Sí ❑No

¿Estás interesado en recibir ayuda o información del personal de Nemours Children's sobre otros recursos profesionales y cómo cubrir estas necesidades? ❑Sí ❑No

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Physician View of The SDOH Screening Tool

- Surgical Hx:

Past Surgical History

- Birth Hx:

No birth history on file.

- Developmental Hx:
- Social Hx:

Social History

Social Drivers of Health Screening
Current screen completed in the last 6 months:
Social Drivers
Would you like to complete the form?: Yes
1. In the past 6 months, were there times when you didn't have money to buy enough food? : No
2. In the past 6 months, have you ever had trouble paying for a doctor, dentist or medicine for you or your child?: No
3. In the past 6 months, has your utility company ever shut off your service because you could not pay your bill (electric, gas, water, heat, or phone)?: No
4. In the past 6 months, have you or your child ever had to stay in a shelter, stay with others, in a hotel, live outside on the street or somewhere else, even for one night?: No
5. Currently, do you have any problems in the place where you live like mold, bugs, ants or mice; lead paint or pipes; lack of heat or air conditioning; lack of smoke detectors, oven or stove; water leaks or other repair issues? : No
6. Are you concerned about losing your housing?: No
7. In the past 6 months, have you or any other family member been hit, threatened, abused, or bullied?: No
8. In the past 6 months, did your child ever go without medicine or miss a medical appointment because you didn't have a way to get to the pharmacy or doctor's appointment?: No
- Sick contacts/travel: none/none
- Family Hx:

Family History

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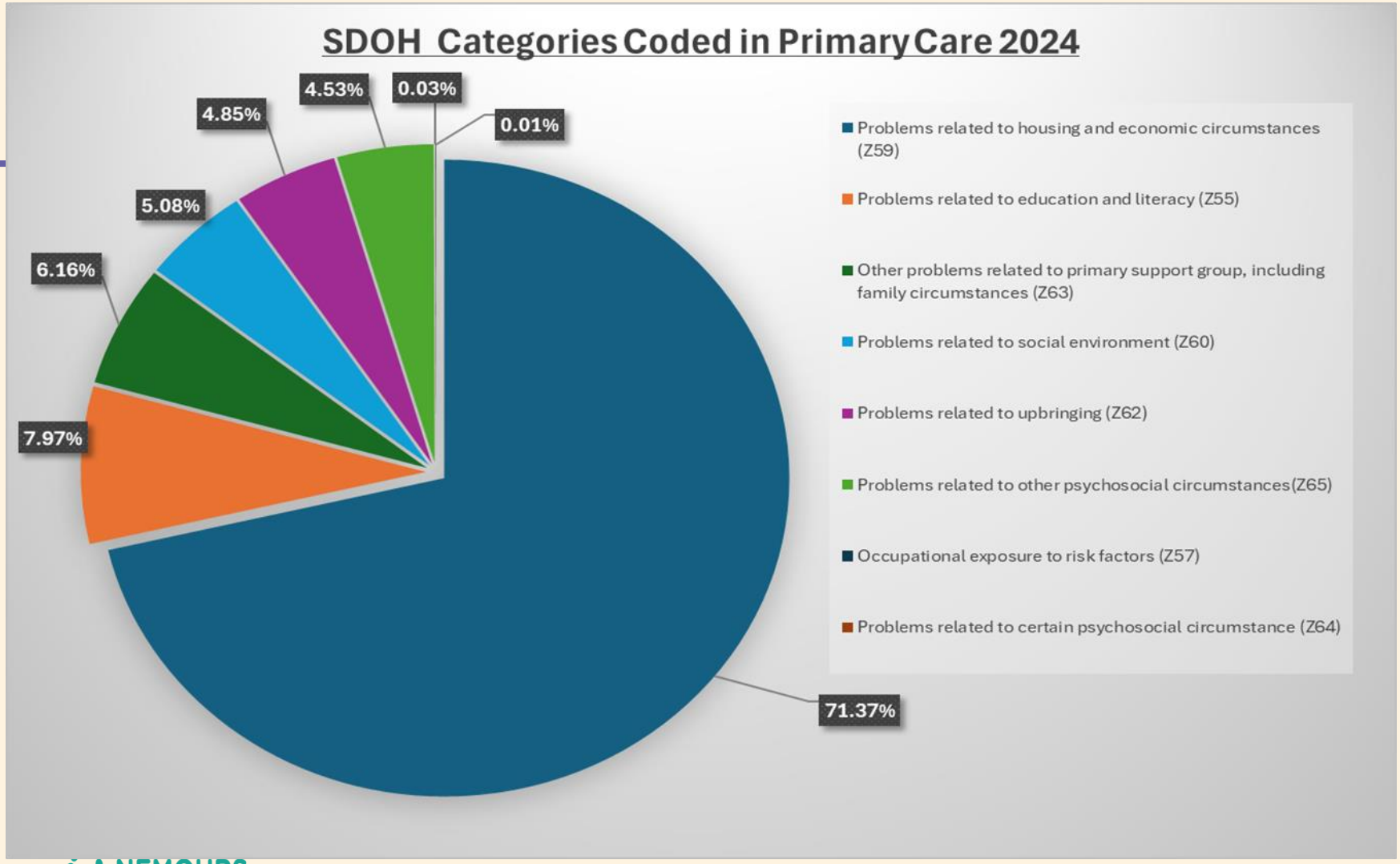
SDOH Documentation in Nemours Primary Care 2024



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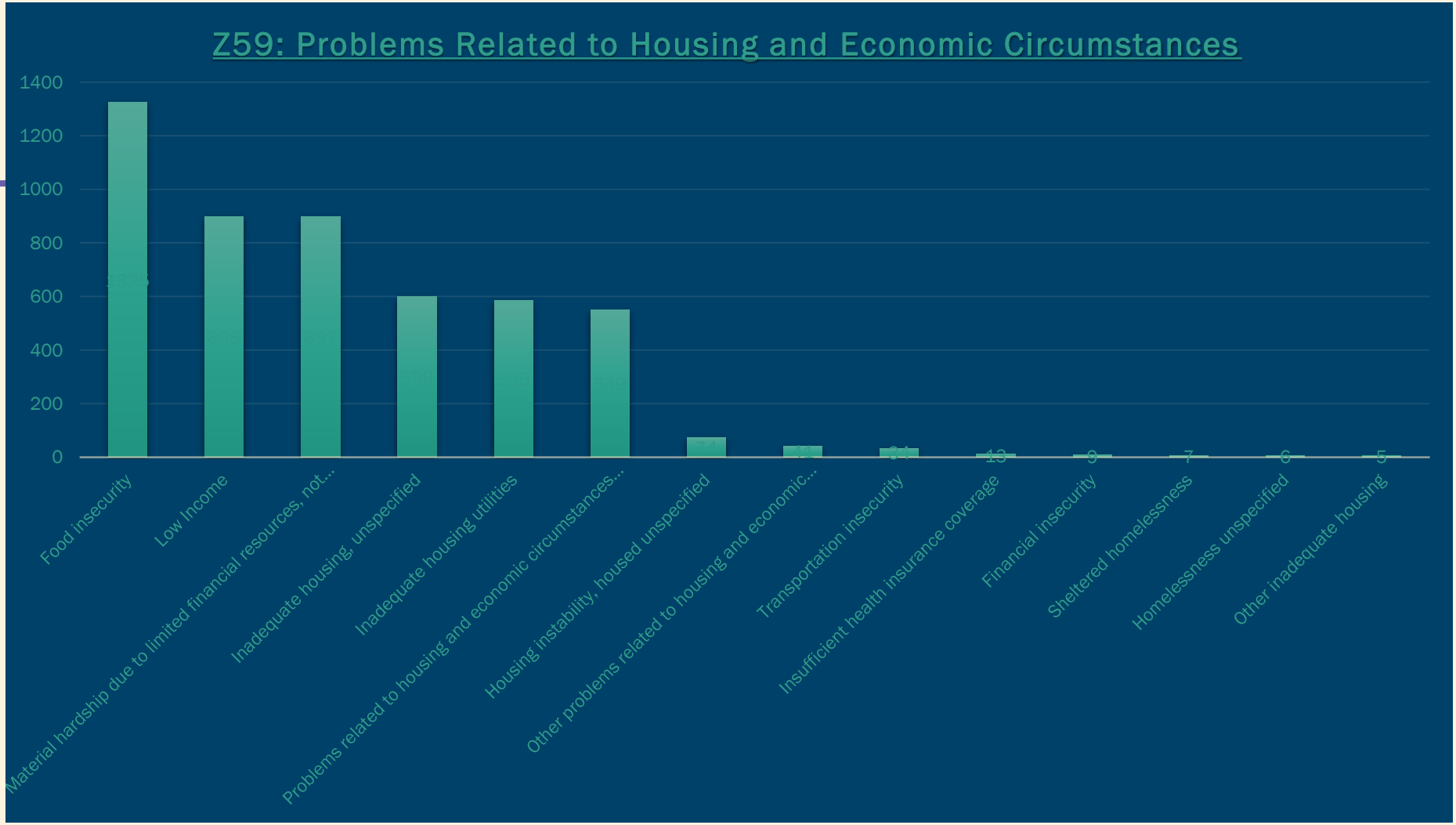
Top Primary Care SDOH Code Breakdown: Z59



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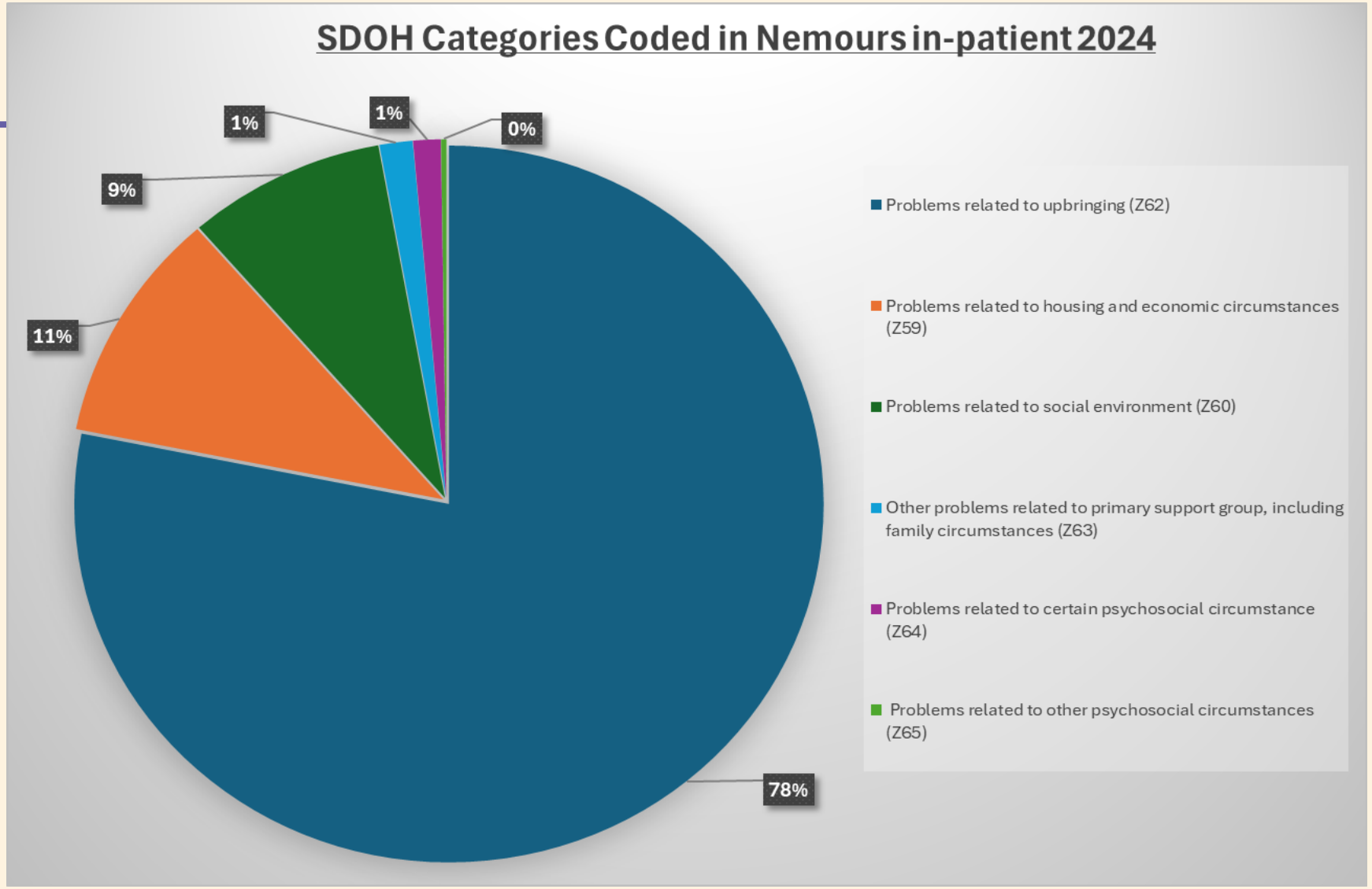
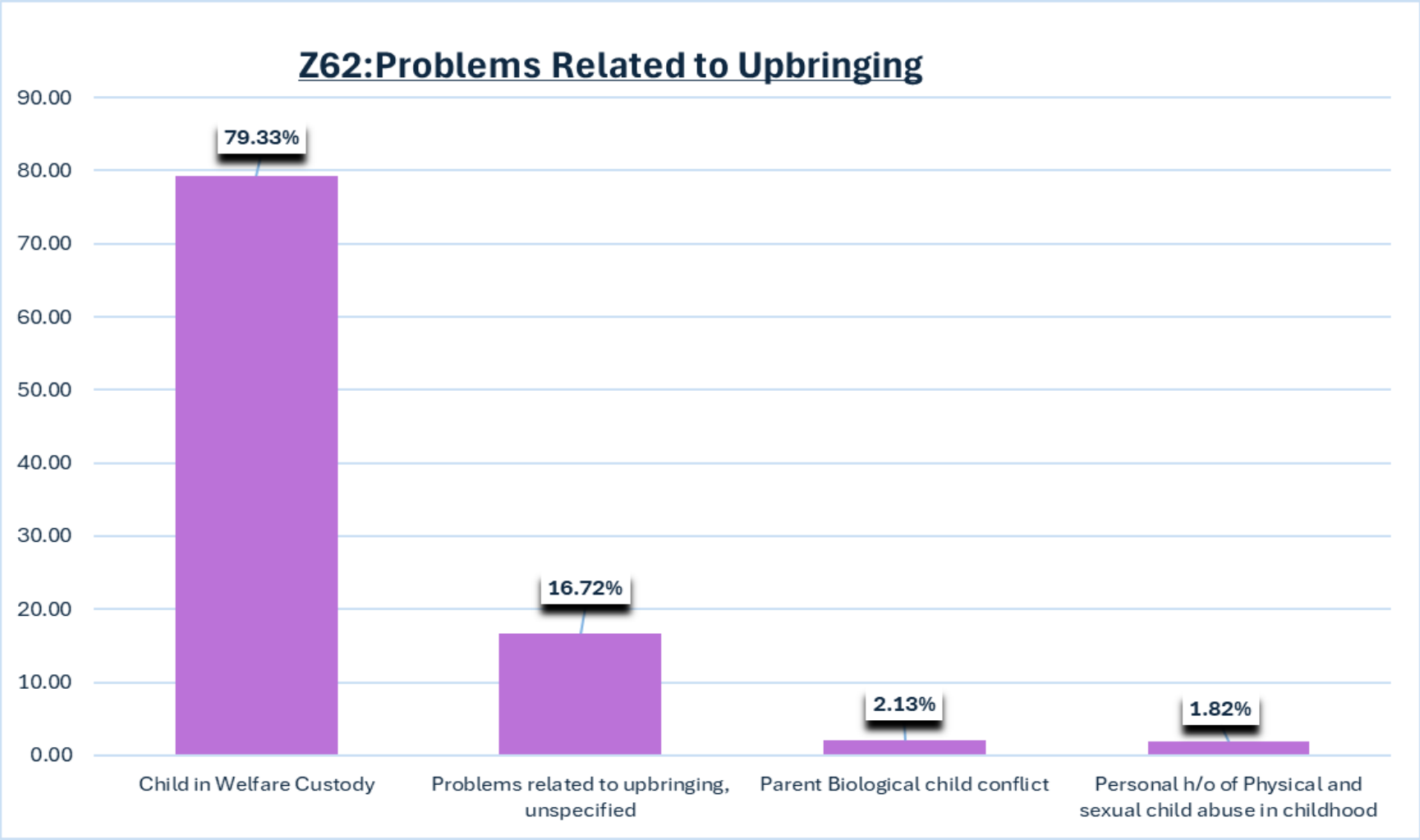
SDOH Documentation in Nemours In-patient 2024



Top In-Patient SDOH Code Breakdown: Z62



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SDOH: The Ever-Changing Landscape

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Sources

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- https://health.gov/healthypeople/objectives-and-data/social-determinants-health
- NemoursChildrens_SocialNeedsScreeningToolkit_Web.pdf
- Slides 58, 59, 60, and 61 SDOH Categories Coded in Primary Care and Nemours inpatient 2024 are based on the billing report generated by Nemours (2024). Graphic representation created by Viji Anchan

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Thank you. Questions?

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