

Documentation of Social Needs in Electronic Health Records

Z CODE ADOPTION BY MENDS DATA CONTRIBUTORS IS LIMITED, BUT INCREASING



[MENDS](#) is a distributed network that leverages electronic health record (EHR) data to generate timely prevalence estimates of chronic disease measures at national and local levels.

[Healthy People 2030](#) defines the social determinants of health (SDOH) as “the conditions in the environments where people are born, live, learn, play, worship, and age that affect a wide range of health, functioning and quality-of-life outcomes and risks.”

In a clinical setting, SDOH are expressed by patients as needs for resources—such as stable housing, transportation, or social support—the absence of which limit patients’ ability to access healthcare and adhere to health promotion and treatment recommendations.

During 2022, the Centers for Medicare & Medicaid Services (CMS) created and adopted a set of SDOH quality measures to [track healthcare quality using an SDOH lens](#). Later in 2023, CMS instructed hospitals to routinely assess patients’ social needs and [report screening efforts and outcomes](#), and more recently, CMS finalized a [SDOH risk assessment reimbursement rule](#).

In response to this increased emphasis on equity and social context in healthcare quality, providers are working toward:



Implementing social needs assessment standards



Recording social needs in the EHR using standardized coding, such as “**Z codes**,” and



Referring patients to community organizations for appropriate support.

Z codes ([ICD-10-CM Z55-Z65](#)) are standardized medical codes that can be used to document factors that influence health and access to health services, including the environmental, economic, and social conditions that affect patient well-being.

In addition to improving healthcare delivery and outcomes through social services referrals, more consistent documentation of social needs could provide public health departments with a [better understanding of how social factors affect risk for chronic illness](#), disease progression, and health outcomes. Z codes have historically been used in a small percentage of patient records, which limits their value for gleaning public health insights about SDOH.

Key Findings



Among the 4.3 million patients with records in MENDS partner sites who had a diagnosis coded during the year, **2.1%** had at least one Z code recorded during 2023, compared with 0.80% during 2022 and 0.7% during 2018.

The most frequently used Z codes pertaining to SDOH were:

- 1) Problems related to housing and economic circumstances (Z59)
- 2) Other problems related to primary support group, including family circumstances (Z63)
- 3) Problems related to social environment (Z60)

During 2023, **nearly one in two** Z codes were Z59—housing and economic situation—up from one in three during 2022.

Assessing Z Code Use by MENDS Data Contributors

During April 2024, MENDS queried all five partner sites to assess ICD10 codes Z55-Z65 use from 2018-2023. These codes pertain to social conditions, such as housing stability, food security, interpersonal safety, transportation, and social support. One MENDS partner uses SNOMED instead of ICD-10 coding and had to translate its social needs data into ICD-10 Z codes using the [National Library of Medicine diagnosis translation website](#).

Data requested were aggregated by year and included the total number of Z codes, total number of diagnostic codes, number of patients with at least one Z code, total number of patients with at least one diagnosis code within the year, and the number of uses for each Z code category (Z55-Z65) for each site.

These aggregate data were analyzed by site and year to assess patterns in current usage of Z codes and suitability of these data for understanding relationships between social needs and chronic disease prevalence and patterns in the future.

Z Code Use

Z code use **increased** during 2018-2023 from **0.7%** to **2.1%** (Figure 1).

The most notable increase occurred between 2022 and 2023, when the overall percentage of patients with Z codes **more than doubled**.

Sites varied in use of Z codes during 2023 from 0.2% to 3.6% of patients. Two of the five partner sites

were the primary drivers of this increase, with one site generally increasing over the study period and one site increasing primarily between 2022 and 2023.

Previous studies of Z code use show a similar percentage of patients with Z codes, ranging from 0.14% to 3.0% among diverse healthcare coverage types and geographic locations. These previous analyses—all prior to 2023—generally documented consistently low Z code use.¹⁻⁴

Z Code Frequencies

The most frequently used Z codes across all years were Z59, Z63, Z60, and Z65 (Figure 2). Of these, **Z59—problems relating to housing and economic circumstances**—was most common and use **increased by 58% between 2022 and 2023**. Housing-related Z codes—particularly Z50.0—homelessness, have commonly been used for the small percentage of patients who have documented social needs.^{1,5} Use of **Z60—problems related to social environment**—also increased, nearly doubling in frequency during 2023.

Figure 1. Use of Z codes **increased** during 2023

Percentage of patients with at least one diagnosis code that also had at least one Z code by site, 2018-2023

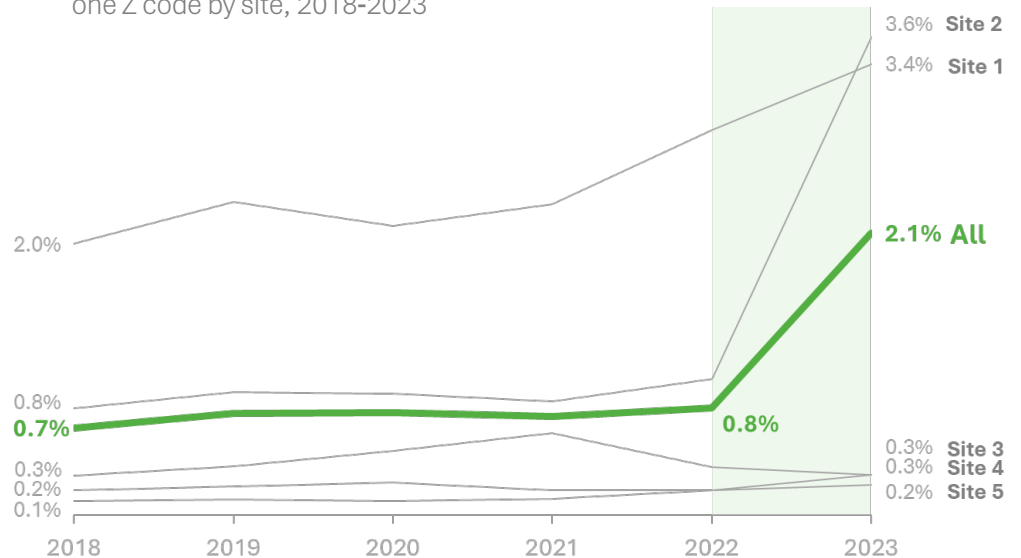
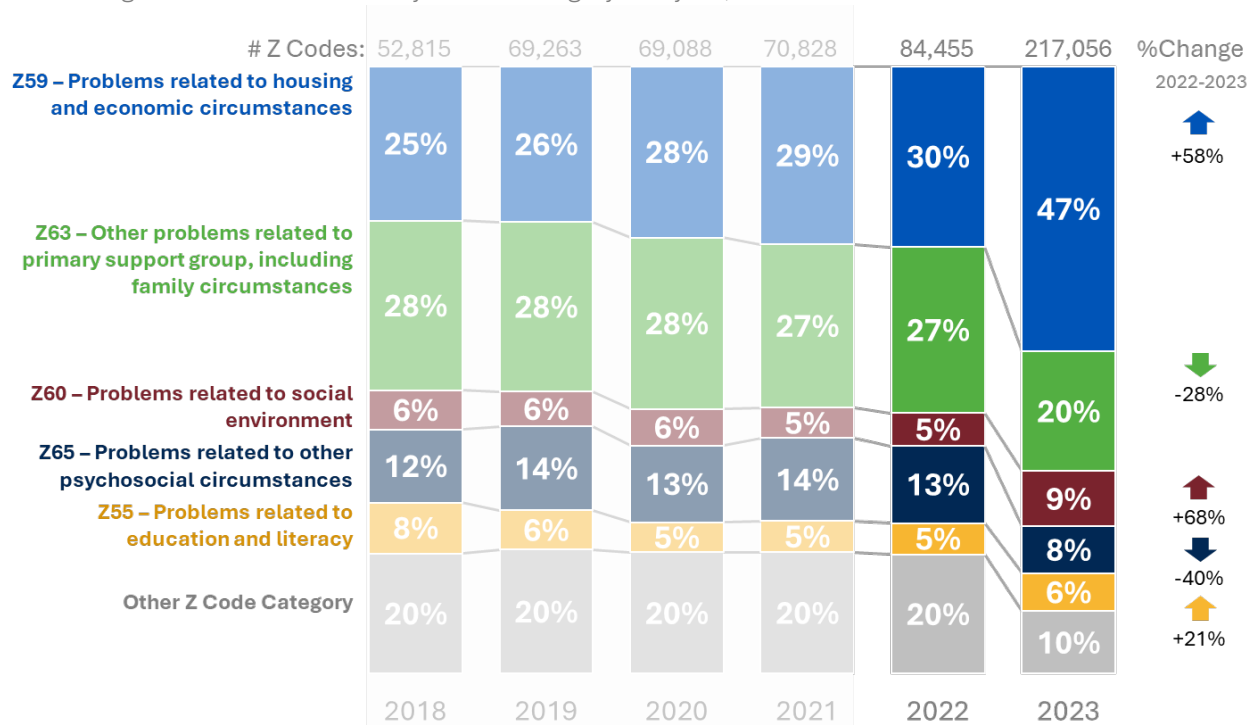


Figure 2. **Z59, housing and economic circumstances**, and **Z60, social environment**, were used more frequently during 2023 compared with 2022

Percentage of all medical codes by Z code category and year, 2018-2023



Conclusions

Use of Z codes to document, understand, and address the impacts of social needs on healthcare service delivery and outcomes is still a developing approach that would benefit from further study of best practices and incentives for Z code use and of how documented needs are being addressed. Adoption and trends in Z code use vary among MENDS partner sites, which draw data from multiple locations and healthcare systems, and these differences may reflect underlying differences in both patient population needs and local screening and documentation practices.⁵

The increase in the use of Z codes in MENDS between 2022 and 2023 is striking considering recent CMS changes to quality metrics and reporting requirements; however, a deeper analysis of this pattern over time is warranted to understand any direct impacts of those changes on health system policies and practices. Further, the dominance of housing-related codes may reflect the real proportion of needs patients are expressing or may indicate inconsistency in screening and documentation across patients. Implementation of standard screening tools may reveal other addressable social barriers to chronic disease prevention and management.

Z codes are not currently included in MENDS analyses of factors that may affect chronic disease prevalence and disparities. As documenting social needs becomes a more standard—and standardized—practice, MENDS may include SDOH variables in the available output or tools to allow public health users to explore the social context of chronic disease prevalence patterns.

1. Utilization of Z codes for social determinants of health among Medicare fee-for-service beneficiaries, 2019. <https://www.cms.gov/files/document/z-codes-data-highlight.pdf>
2. Provider documentation of social determinants continues to stall. <https://www.trillianthealth.com/insights/the-compass/provider-documentation-of-social-determinants-of-health-continues-to-stall>
3. Lee JS, MacLeod KE, Kuklina EV, Tong X, Jackson SL. Social determinants of health-related Z codes and health care among patients with hypertension. *AJPM Focus*. 2023; 2(2):100089. <https://doi.org/10.1016%2Fajpmfocus.2023.100089>
4. Gibbons JB, Cram P, Meiselbach MK, Anderson GF, Bai G. Comparison of social determinants of health in Medicaid vs commercial health plans 2023; 1(6):1-5. <https://doi.org/10.1093/haschl/qxad074>
5. Chang JE, Smith N, Lindenfeld Z, Weeks WB. Hospital use of common Z-codes for Medicare fee-for-service beneficiaries, 2017-2021. *Health Affairs Scholar*, 2024; 2(1):qxad086. <https://doi.org/10.1093/haschl/qxad086>