

BACKGROUND

Z codes are a set of ICD-10-CM codes used to report social, economic, and environmental determinants (SDoH) known to affect health outcomes and quality of life.¹ SDoH are the conditions in the environments where people are born, live, learn, work, play, worship and age.²

Z codes can be used in any health care setting and by any provider and can improve the quality, coordination, and experience of care. While Z codes have been integrated into EHRs—and despite the importance of documenting SDoH—their use has not been widely adopted by the medical community.³

Z codes Z55-Z73 are organized using the following SDoH domains:

- Education and literacy
- Employment and unemployment
- Occupational exposure to risk factors
- Physical environment
- Housing and economic circumstances
- Social environment
- Lifestyle
- Life management
- Upbringing
- Primary support group, including family circumstances
- Certain psychosocial circumstances
- Other psychosocial circumstances
- Counseling

OBJECTIVES

- Document use of Z codes (Z55-Z73) using a hospital-based, service level, all-payer, administrative database among adult patients with a hospital discharge between Jan 1, 2016 and Dec 31, 2021.
- Document most commonly used Z codes within and across SDoH domains.

METHODS

- Descriptive analysis, retrospective
- Adult patients (≥18 years) discharged from 1,047 U.S. hospitals with an inpatient or outpatient visit between January 2016 and December 2021
- Data source: HIPAA compliant, statistically de-identified PINC AI™ Healthcare Database (PHD)

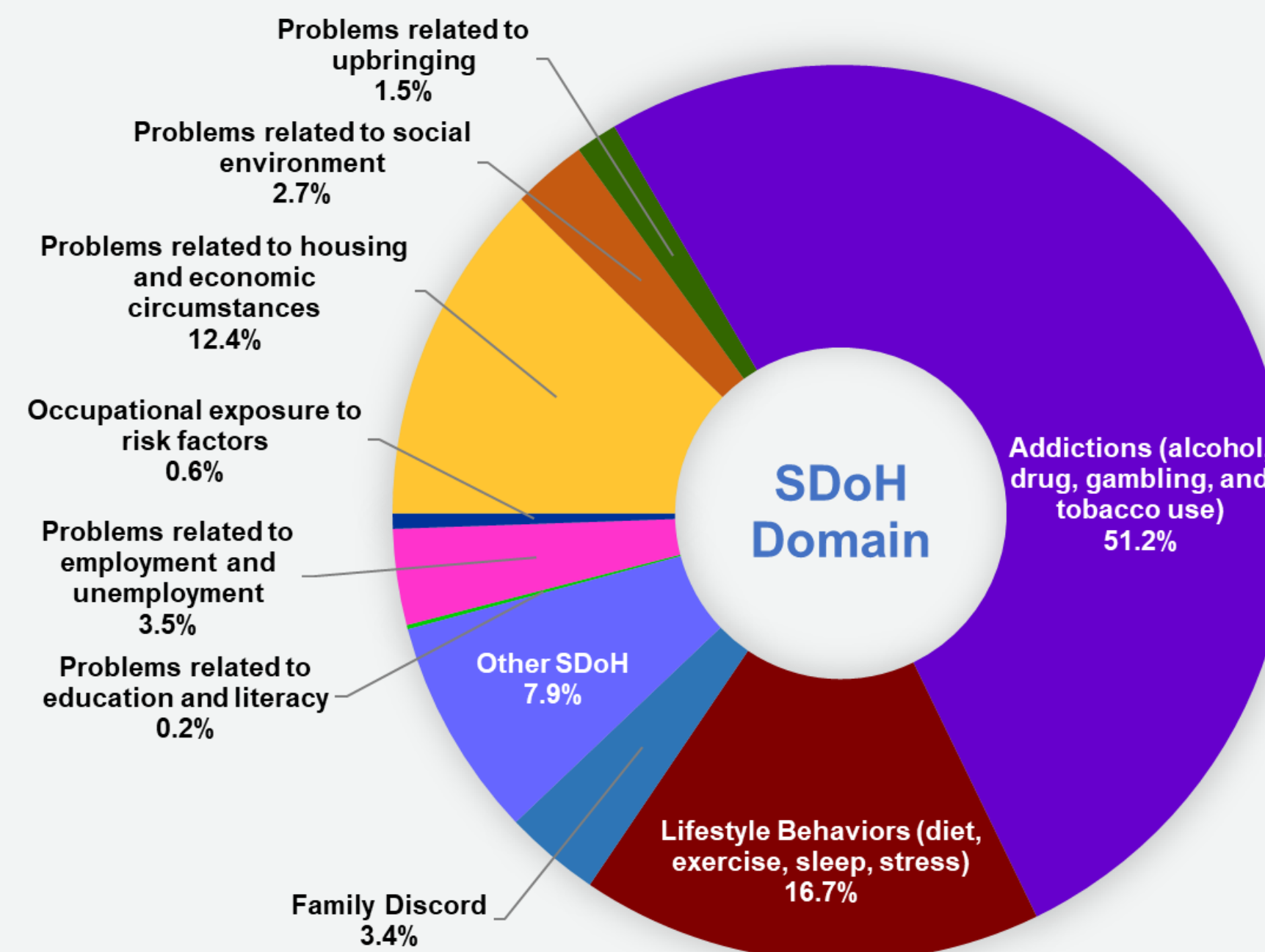
RESULTS



Where you live matters!

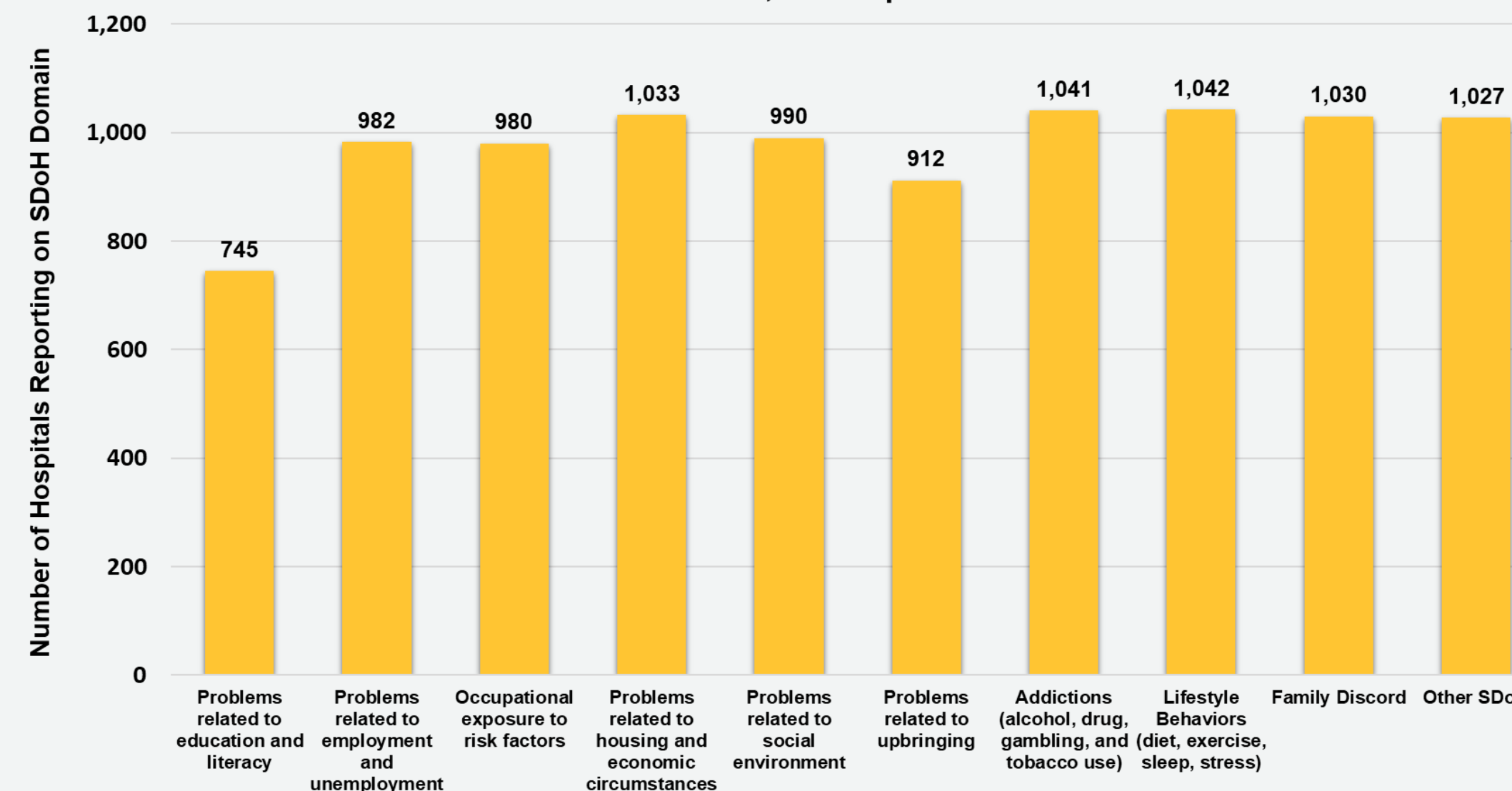


Distribution of Patients ≥ 18 Years of Age with Evidence of a Z Code by SDoH Domain
PINC AI™ Database, 2016-2021
N = 5,406,175 patients



- **Only 4.6%** ($n=5,406,175$) of patients had evidence of any Z code across 117,766,033 patients.
- Patients with evidence of Z codes were significantly more likely than the general population (all χ^2 p values $<.0001$) to be male (52% vs 42%), younger (72% vs 63% <60 years), single (62% vs 47%), African American (18% vs 14%), and to be covered by Medicaid (29% vs 15%).

Distribution of Premier Member Hospitals Reporting Z Codes for Adults by SDoH Domain
PINC AI™ Database, 2016-2021
N = 1,047 hospitals



- No differences by hospital characteristics were found (total beds, teaching status, urban vs. rural setting, geographic region of U.S.).
- The top three Z codes reported were tobacco use ($n=2.42$ million), homelessness ($n=617,843$), and dietary counseling and surveillance ($n=473,638$).

CONCLUSIONS

- Given the important contribution of SDoH to health outcomes, exploring variation in utilization of Z codes across patient, clinical, and hospital characteristics can be useful for informing increased adoption of Z code use.
- Understanding underutilization of Z codes can serve as points of intervention for increasing their use during patient encounters to improve care delivery and health outcomes.

TAKEAWAYS

Z codes continue to be **underutilized** by the medical community, although their use can help **improve the quality, coordination, and experience of patient care.**

Because **socioeconomic factors, physical environment, and health behaviors drive 80% of health outcomes**,⁴ it is important to continue to **encourage adoption of Z code use by clinicians** across healthcare settings.

NEXT STEPS

- Explore use of Z codes among populations with chronic conditions and their impact on clinical and cost outcomes.
- Integrate Z codes with other SDoH data sources (e.g., AHRQ's set of SDoH indicators) to better understand the impact of non-medical factors on health care resource utilization.

REFERENCES

- ¹ International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), Centers for Disease Control and Prevention, National Center for Health Statistics. Retrieved April 17, 2023, from <https://www.cdc.gov/nchs/icd/icd-10-cm.htm>.
- ² Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved April 17, 2023, from <https://health.gov/healthypeople/priority-areas/social-determinants-health>.
- ³ Maksud JL, Hodge C, Van CD, Razmi, A, & Khau MT. Utilization of Z Codes for Social Determinants of Health among Medicare Fee-For-Service Beneficiaries, 2019. Office of Minority Health (OMH) Data Highlight No. 24. Centers for Medicare and Medicaid Services (CMS), Baltimore, MD, 2021.
- ⁴ Hood, CM, Gennuso, KP, Swain, GR, & Catlin, BB. County Health Rankings: Relationships Between Determinant Factors and Health Outcomes. Am J Prev Med, 2016, 50(2):129-135. doi: 10.1016/j.amepre.2015.08.024.