

## Objective & Review Question:

The objective is to examine the available evidence on Social Determinants of Health (SDoH) (specifically, poverty/income and health literacy) to determine their influence on readmission and mortality rates in the cardiovascular-disease population.

In patients with Congestive Heart Failure, which SDoH (poverty/income and health literacy) are most likely to influence readmittance rates and mortality?

## Background:

Heart disease claims over 600,000 lives per year in the United States (U.S.) with over 50% of these patients dying from Congestive Heart Failure (CHF) (Center for Disease Control and Prevention [CDC], 2020); Lippi & Sanchis-Gomar, 2020; Virani et al., 2020)

Social determinants of health (SDoH) are considered non-medical reasons that affect health, treatment, recovery and negatively influence disease prevention (WHO, 2021).

Health illiteracy about acute CHF symptoms and treatment measures lead to poor medical management (Ziaecian & Fonarow, 2016).

Current studies showed patients with CHF in populations with low socioeconomic status have poorer self-management skills and higher mortality rates compared to more affluent cohorts (White-Williams et al., 2020).

Unaddressed psychosocial and socio-economic issues had an adverse impact on the health outcomes of acute CHF patients (Anand et al., 2016; Evans et al., 2021; Vámosi et al., 2020)

## Method:

A Systematic Review using Joanna Briggs Institute (JBI) methodology for prevalence and incidence

## Inclusion Criteria

**Participants:** Adult male and female patients ages 65 and older with a diagnosis of CHF who had been readmitted following hospitalization for the same diagnosis.

**Condition:** considered studies that reported the prevalence and/or incidence of readmission and mortality for congestive heart failure patients

**Context:** studies included patients of any country of origin, race, ethnicity, socioeconomic status, or educational level.

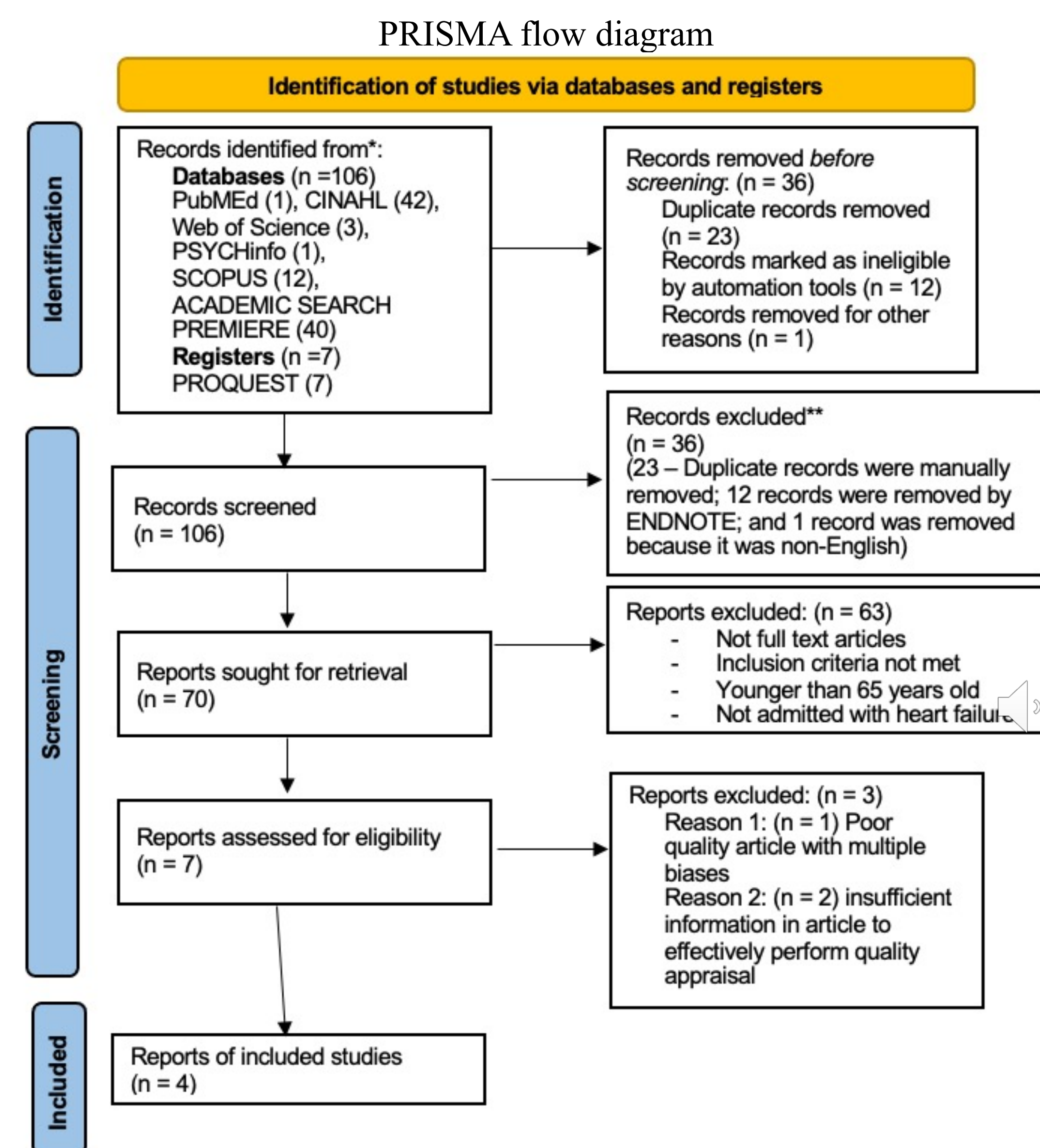
**Types of studies:** considered experimental and quasi-experimental study designs including randomized controlled trials (RCT), non-randomized controlled trials, analytical observational studies including prospective and retrospective cohort studies, case-control studies, and analytical cross-sectional studies. Studies published in English and full text.

## Exclusion Criteria

This review excluded other systematic review articles, qualitative studies and text and opinion articles.

## Search Strategy:

- Published/Unpublished studies**
  - Limited PubMed search**
  - Used text words to review Titles and Abstracts**
  - Index terms/Full search strategy**
  - Ancestry Search**
- Keywords Used:**
- Congestive Heart Failure
  - CHF
  - elderly
  - inadequate housing
  - health literacy
  - poverty
  - social determinants of health
  - readmission rates
  - mortality rates



## Methodological Quality:

Critical appraisals were performed by two independent reviewers using the JBI standardized critical appraisal forms cohort, analytical cross-sectional studies, and RCT study.

## Data Extraction

The Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI) database asks specific details about the condition, population, study methods, and proportions of interest to the review question and specific objectives

## Data Synthesis

Narrative summary of the four included studies was written due to insufficient quantitative data to complete a statistical meta-analysis because of lack of standard deviation

## Results:

### Study Inclusion and Findings

As presented in the PRISMA flow diagram details about the four articles that were included were analysed and agreed upon by two independent reviewers.

- Sample size: 32,446 patients with primary diagnosis of heart failure
- Three conducted in the US and one in Italy.
- Two studies reported mortality rates (Sterling, et al., 2020; Vaughn, et al., 2021).
- One study reported health literacy (Wu, et al., 2015)
- One study reported rehospitalization (Sterling, et al., 2020). Study done in Italy, reported that patients were more frequent users of Emergency Department services (ED) (Soma, et al., 2011)
- Using JBI level of Evidence guidelines:
  - One study was Level I; two studies were Level II, and one study was Level III

## Narrative Summary:

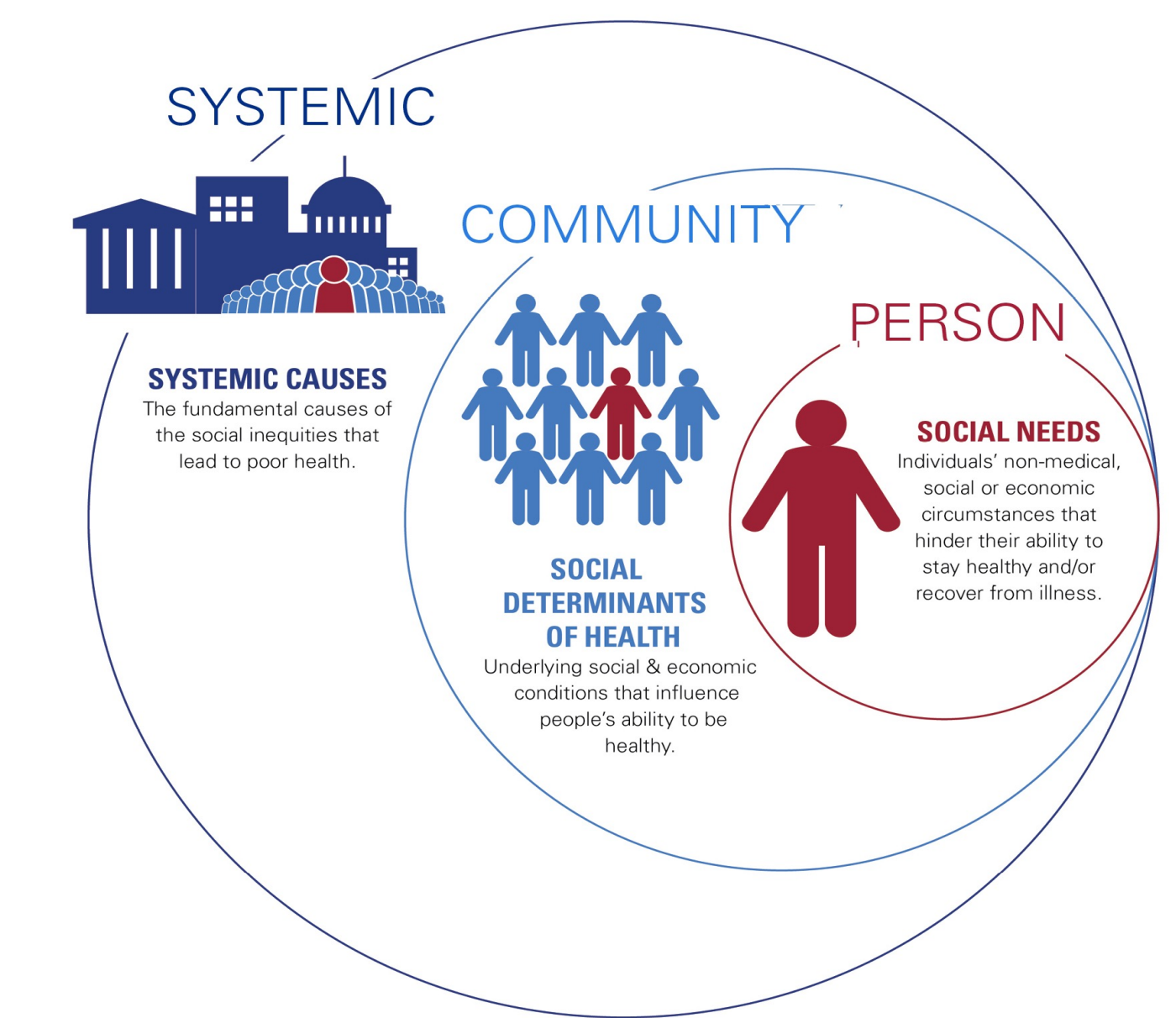
- In the United States, CHF mortality rates have recently increased following previous decades of declines.
- According to findings by Sterling et al. (2020) on the relationship between SDoH and hospitalization rates there was a connection between a patient having better SDoH with their improved health outcomes after hospitalization.
- Social Support
  - Determines how closely knit a society is and its impact of patient's recovery.
  - Interconnected societies have an adequate support system
- Economic Development
  - patients with low income and literacy levels were more likely to die of heart failure than other patients due to the lack of health information and their inability to afford better healthcare services.
- Age
  - Older population have a higher chance readmission

## Discussion:

- Findings expressed that ethnic/race differences across different counties explain why there were more heart failure cases in select ethnic counties compared to their cohorts.
- Heart failure was more prevalent in Blacks than Whites because of preexisting SDoH such as economic status and geographic area
- Support systems of those with CHF were critical to recovery
- Factors such as literacy, age, and economic stability influenced overall outcomes in heart failure mortality

## Conclusion:

- This review provided a greater understanding of the scope of healthcare determinants in society, including race, which is tied to economic issues
- Patients with heart failure over the age of 65 years, poverty was found to most influence readmittance rates and mortality rates, and a correlation was seen between low socioeconomic status and poor health literacy.

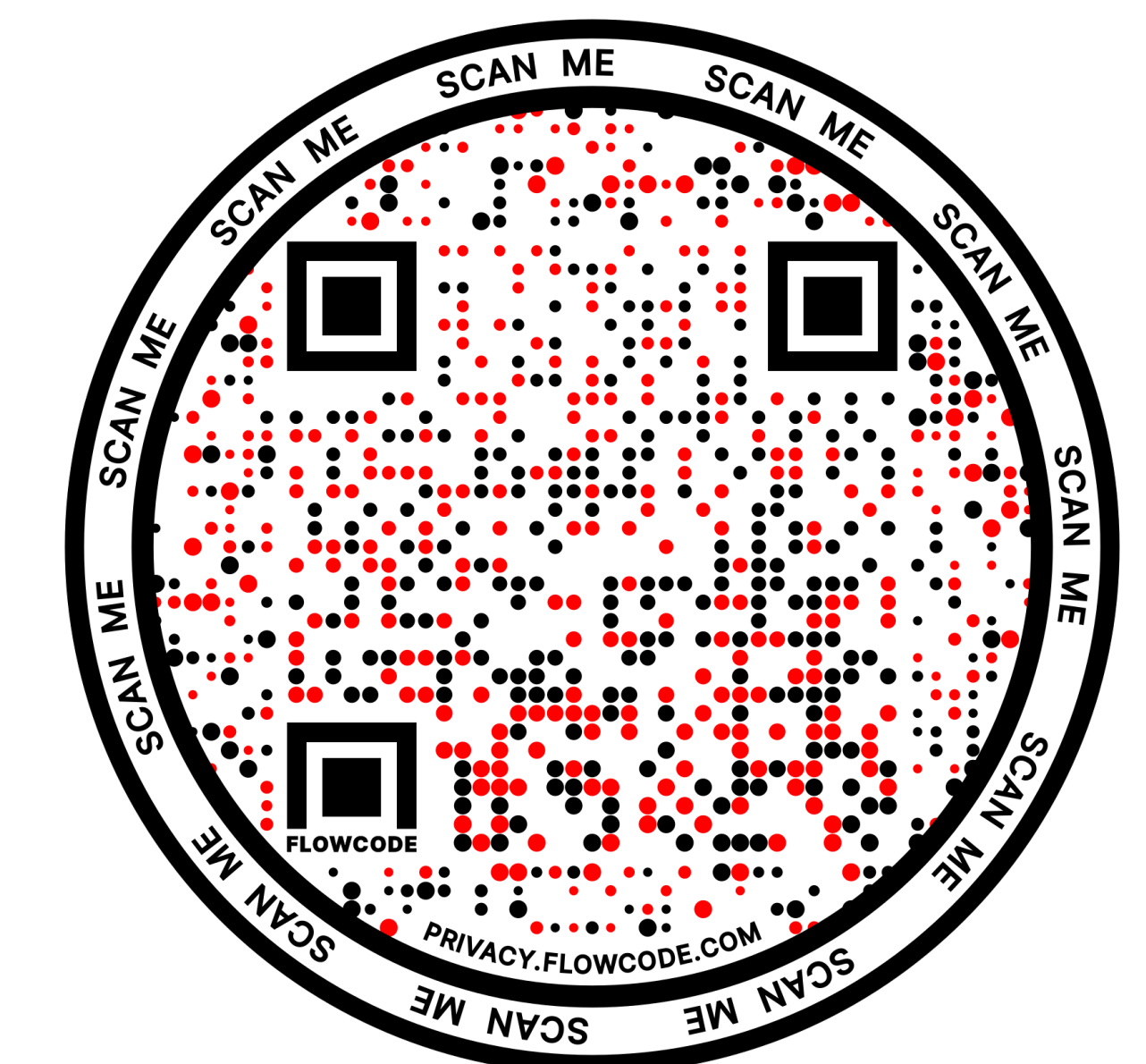


## Recommendations for Practice or Policy:

- Clinical Practice:** performing a full SDoH assessment paints a clear description of how a patient's life and mortality is impacted
- Healthcare Policy:** develop policies based on socioeconomic needs
- Quality & Safety:** providing quality care affects patient health outcomes
- Education:** health literacy determines patient outcomes; provide individualized care
- Economic:** hospital readmissions cost the US billions of dollars annually, address socioeconomic disparities

## REFERENCES:

Scan our QR code for references and Tables of Evidence for Included and Excluded articles



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