

# Define Problem /Problem Understanding

## Social or Business Impact

Team Id	NM2023TMID04415
Project Name	Block chain Technology For Electronic Health Records

### Data sources and searches:

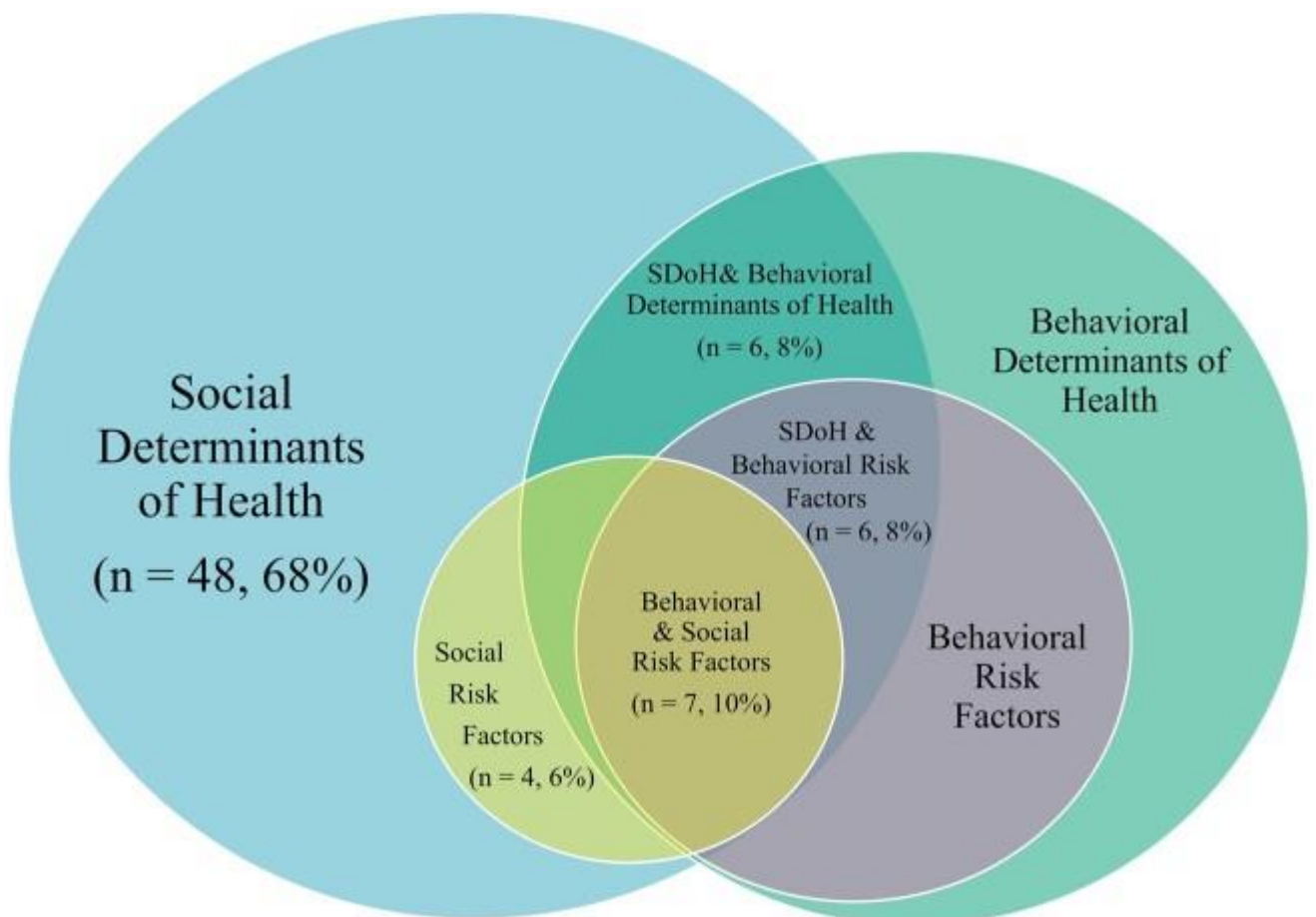
We queried PubMed (1948-present), CINAHL (1937-present), PsycINFO (1998-present), EMBASE (1947-present), and Web of Science (1965-present) all through July 15, 2019, then updated on March 31, 2020. We intentionally made the search query as broad as possible to make sure that we extract as many results as possible related to the research questions posed in this systematic review.

### Data extraction and synthesis:

- From each selected article, we extracted a list of data elements determined by the research team such as year of publication, country of origin, data source, sample size, and level of SDoH measures used, how SDoH information is integrated into EHRs, outcome measures, study method, study purpose, findings, and limitations.
- Given the heterogeneity within included studies, as well as the lack of standardized or consistent reporting of SDoH domains and outcome measures, meta-analysis was not possible.

## Social and behavioural determinants and risk factors:

- While SDoH affect anyone for better or worse, social risk factors are specific adverse social conditions (e.g., homeless, social disadvantage) that are associated with poor health. Further, social risk factors and behavioural risk factors (e.g., smoking, lack of exercise) are not the same but can be intertwined.
- As healthcare initiatives and literature related to the SDoH grow rapidly, greater awareness of this conflation and clarity on key terms and the concepts underlying them could lead to more appropriate usage in future studies and practices.



## **SDoH-EHR integration challenges:**

EHRs offer tremendous potential to aggregate, analyse, and integrate individual- and community-level data across settings and over time. Integrating SDoH into EHRs can provide a broader perspective on potential drivers of a patient's health status and can help identify both upstream and downstream approaches for improving the effectiveness of care.

## **Growing evidence of Impact:**

In addition to addressing SDoH data collection issues, there is insufficient evidence that social or behavioural risk factors can be effectively addressed through referrals or other action tools.

## **Overall characteristics of the reviewed studies:**

There are 2 major approaches reported in the studies to acquire SDoH data: (1) merging SDoH information from external data sources into EHRs and (2) extracting SDoH information from unstructured clinical notes in the EHRs. A total of 56 of the 71 (79%) studies merged SDoH information from external data sources into EHRs, and the most frequently used external data sources were the publicly accessible American Community Survey (ACS) and the U.S. Census.

