

Social determinants of health affecting response to opioid addiction treatment

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BACKGROUND

- Context:** Discrepancies exist in the initiation, retention and success of individuals seeking treatment for opioid use disorder (OUD). While individual factors such as education and employment influence OUD treatment, less is known about the role of environmental factors beyond the individual level such as social determinants of health (SDOH; Fig. 1).¹
- Objective:** To summarize the literature on the SDOH and OUD treatment and their impact on each other.

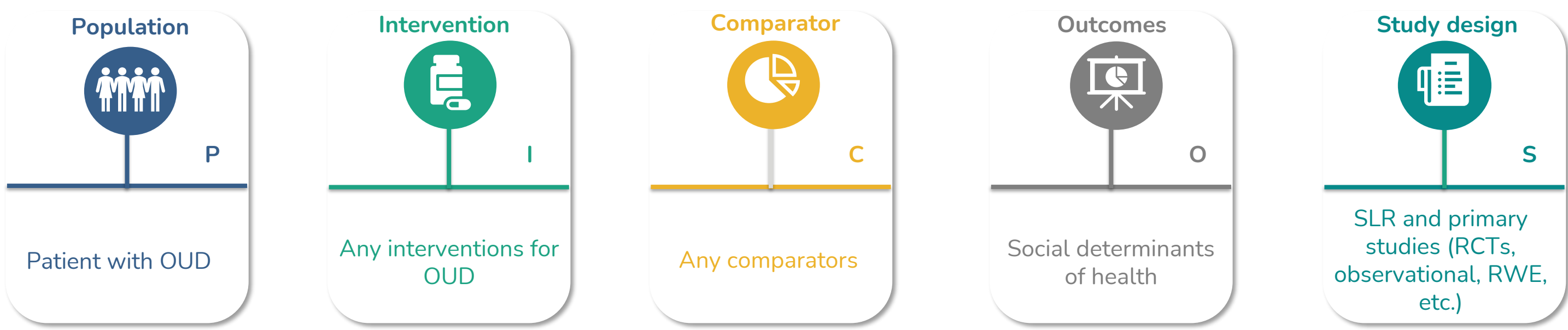


Figure 1: Social Determinants of Health²

METHODS

- A desk research was conducted in two databases (PubMed and Google scholar) to identify peer-reviewed articles reporting SDOH in the context of OUD and published in the last 5 years (January-2020-March-2025).
- Search terms included combinations of ‘opioid addiction’ or ‘opioid use disorder’ and ‘social determinants of health’. No restriction on countries was applied, and both systematic reviews (SLRs) and primary studies were included (see PICOS in Fig. 2).

Figure 2: PICOS criteria



RESULTS

- Overall, 12 studies met the inclusion criteria, including **3 SLRs (2 multi-country and 1 from the US)** and **9 primary studies** conducted in the US (Fig. 3).
- Of the 12 included studies, 5 were retrospective observational, 3 were SLRs, 2 were cross-sectional, 1 was survey-based, and 1 was an RCT (Fig 4).
- Three SLRs (Fig 5) highlight that there is mixed evidence, with some studies reporting positive associations of OUD treatments with improvements in SDOH while some reporting no significant association. Among the incarcerated population, limited treatment programs offer SDOH inclusive OUD treatment and evidence suggests the need for more programs considering this, especially to increase positive health outcomes for post-incarceration period (Fig. 5).
- Evidence from primary studies steadily revealed three SDOH (level of education, housing stability, and employment) had a significant association with the frequency of opioid use, and with initiation and retention of OUD treatment (Table 1).

Figure 3: Study by country

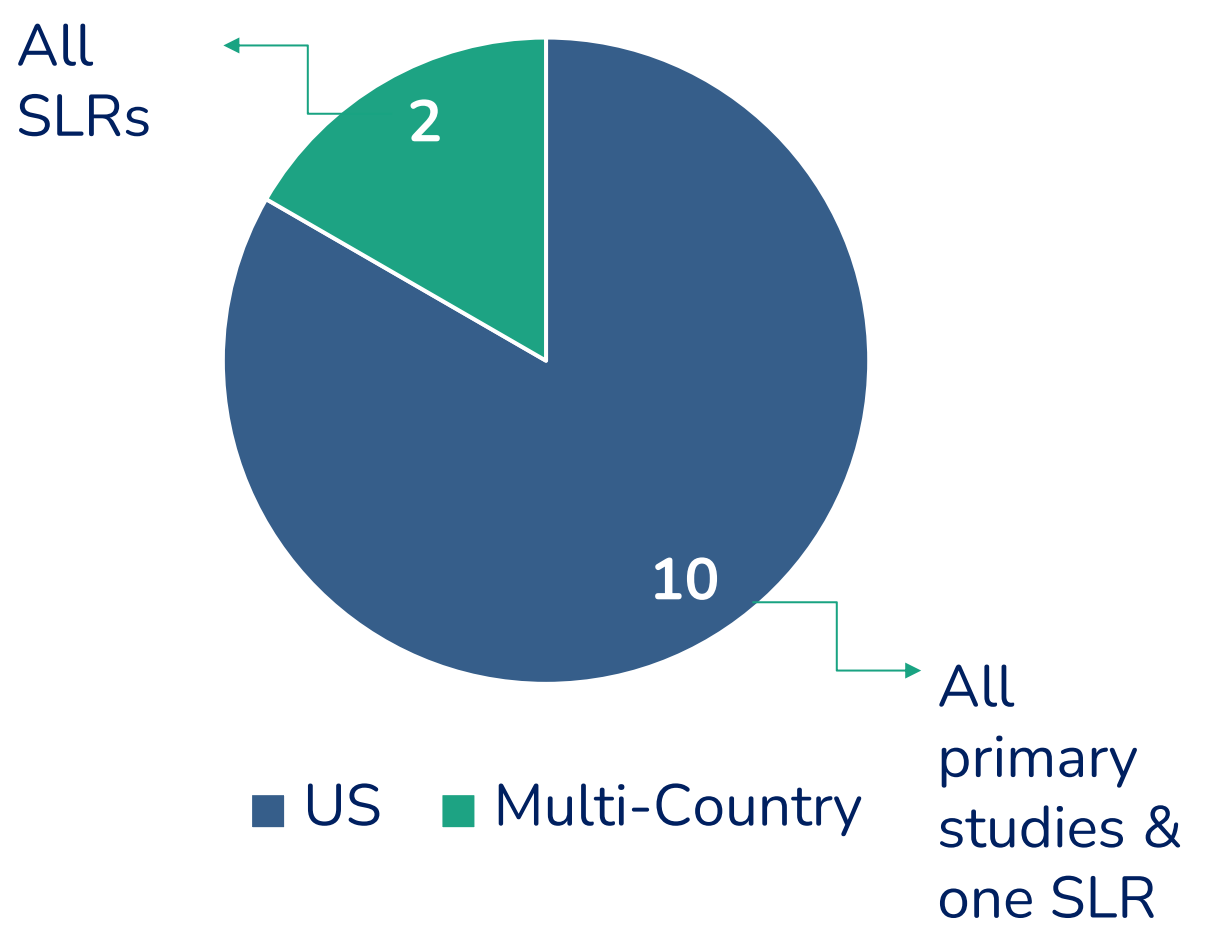


Figure 4: Study design

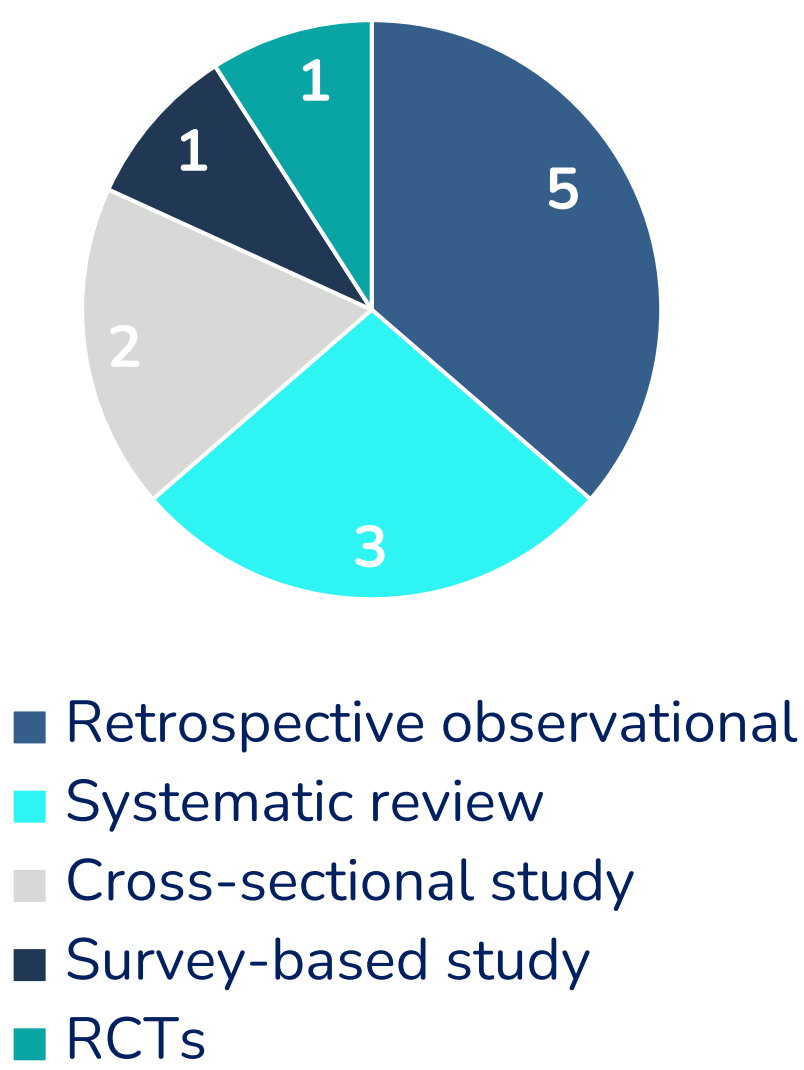


Figure 5: Evidence from SLRs

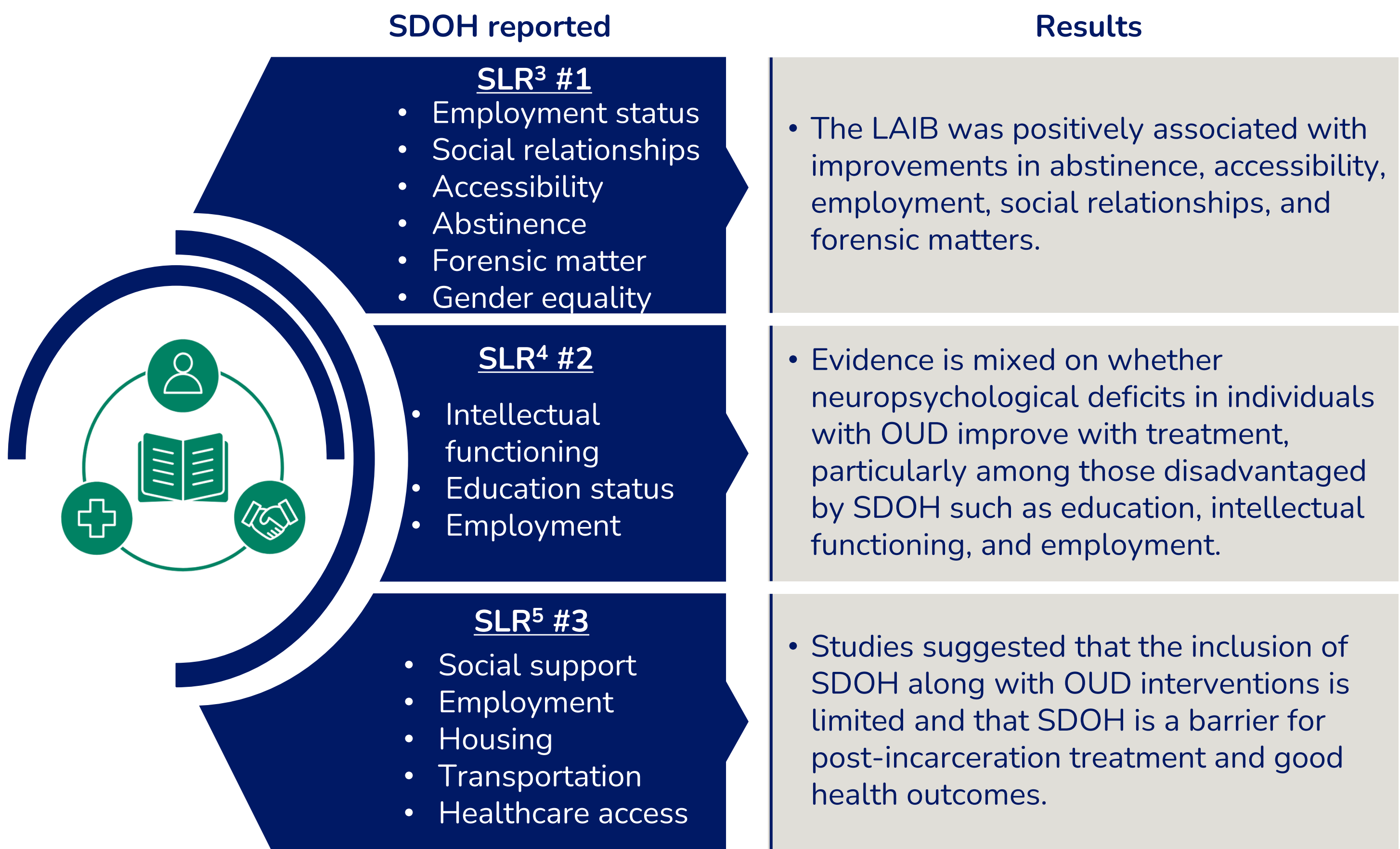


Table 1: Evidence from primary studies

Study name	OUD treatment	SDOH assessed	Result
Hyumen 2024 ⁶	MOUD	• Healthcare access • Social deprivation index (SDI)	Living in more disadvantaged areas (based on SDI) and lower healthcare access were associated with less MOUD retention.
Gazzola 2023 ⁷	MOUD	• Housing stability	Homelessness was significantly and negatively associated with treatment completion and treatment retention.
Cook 2023 ⁸	MOUD	• Level of education • Income status • Housing stability • Criminal justice involvement • Health care access & quality	Positive SDOH were associated with increased MOUD initiation and a decrease in opioid use.
Martin 2023 ⁹	MOUD	• Neighborhood-level SDOH	No association of neighborhood-level SDOH with medication for opioid use disorder outcomes
Parlier-Ahmad 2022 ¹⁰	Buprenorphine	• Level of education • Neighborhood • Healthcare access • Employment status • Social support	For substance abuse recurrence and buprenorphine continuation, there was no significant association with SDOH among men or women. Among women, OUD treatment retention was negatively associated with being employed and having high-school equivalent education, likely due to stigma, concerns of loss of work, or limited clinical hours.
Radic 2022 ¹¹	Buprenorphine	• Level of education • Employment status • Neighborhood • Social support • Healthcare access	Less social support is associated with poor OUD outcome among individuals receiving buprenorphine.
Henkhaush 2022 ¹²	MOUD	• Level of education • Race/ethnicity • Rurality	Low education level, non-Hispanic Black and Hispanic women, and those residing in rural areas were associated with lower likelihood of MOUD receipt.
Albright 2021 ¹³	MOUD	• Level of education • Housing stability • Employment status • Income status • Criminal activity • Social isolation status	Level of education, housing stability, and employment status were significantly associated with the frequency of opioid use.
Sulley 2020 ¹⁴	MOUD	• Income status • Employment status • Housing stability • Healthcare access • Level of education	Level of education, housing stability, employment status, income status, healthcare access, were significant association with the OUD outcomes.

DISCUSSION

- This study highlights that SDOH influences OUD treatment initiation, retention and success. However, further research is needed on the OUD and SDOH particularly in the context of cognitive factors, access to treatment, insurance coverage, payer policies, and incarcerated settings. These findings underscore the necessity of integrated, multi-sectoral interventions addressing social barriers alongside pharmacotherapy to optimize treatment outcomes and reduce disparities in OUD care.
- Limitations:** Most of the evidence in this review is from the US and hence may not be generalizable to other settings. Additionally, variability in study designs, populations, and measured outcomes limits the comparability of findings across studies.

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Social determinants of health play a critical role in shaping OUD treatment initiation, retention, and outcomes, underscoring the need for integrated approaches that address both clinical and social factors.