Assessing Spatial Uptake of Syringe Service Programs and Harm Reduction Services among People with Injection Drug Use-Associated Infections in Maine

Rural Harm Reduction Access and Regional Trends (Rural HeART) Study: Maine, 2020

Introduction

- Injection drug use (IDU) has been linked to many viral and infectious outbreaks including HIV, Hepatitis B and C, and infectious endocarditis. 1-4
- Numerous studies have linked prior opioid prescription with incident injection drug use. 5-6
- Syringe Service Programs (SSP) have been associated with decreased risk of contracting the hepatitis B and hepatitis C viruses, and have been associated with a greater uptake of medications for opioid use disorder among visitors. 7-8
- Access to SSPs is frequently limited in rural and suburban areas. 9
- In a nationwide study with laboratory data, over 80% of young persons with hepatitis C lived over 10 miles from an SSP. 10
- Maine, a highly rural state, was among the top 10 states in opioid overdose deaths and Hepatitis C and B virus transmission in 2017.11
- Little is known about the uptake of harm reduction services in relation to SSP location in Maine.
- The aim of this project is to spatially orient the uptake of SSP by patients hospitalized with IDU-associated infections to inform SSP placement.

Methods

- Data was accessed from Rural HeART. A study conducted in four hospitals across Maine from Feb 2019 to March 2020.
- Eligibility criteria included: aged 18 – 65, injection drug use history, English speaking, injection drug use-associated infection.
- Patients were surveyed using audio computer assisted self-interview software (ACASI).
- Sample included 92 individuals; 8 were removed due to absence of county, and 1 out of state.
- Key variables used: participant county, SSP utilization in past 3 months, MOUD uptake, naloxone uptake, hepatitis A vaccinated, use of clean works.
- Spatial data included: 2019 US Census boundary shapefiles, 2019 Rural-Urban Commuting Area Codes (RUCA) and 2019 USDOT highways.
- Frequencies were conducted in SAS 9.4.
- GIS procedures included: mapping X-Y coordinates of hospitals and SSPs, clipping highway and RUCA codes to Maine counties, joining fre- nates of hospitals and SSPs, using Euclidean buffers.
- Choropleth maps display spatial distribution of SSP and harm reduction uptake.

Results

- Over half of Maine’s 31,381 square miles is considered rural by RUCA codes.
- 64% of participants (n=59) had used SSPs in the past 3 months. Among non-users of SSPs 88% (n=29) either lived greater than 10 miles away or did not know the location of an SSP, and 54% lived in rural areas.
- The most common reasons stated for not accessing SSP included too far (26%), no car (18%), and perceived stigma of going (15%).
- MOUD uptake, clean works, and Hepatitis A vaccine were higher among participants utilizing SSPs, and marginally higher for Naloxone uptake.
- Greatest numbers of participants, SSP uptake, and primary SSP site visited all occurred in Portland, the most metropolitan city in the state.
- The greatest percent of participants using MOUD and getting vaccinated for Hepatitis A occurred in or bordering less populated Central-eastern counties with SSPs.
- Northern rural areas have a moderate number of people who inject drugs (PWID), but are farthest from current SSPs.

Discussion

- Distance remains a barrier to uptake of SSP and harm reduction services in rural Maine.
- Placement of SSPs in the more rural North could reach a number of PWID with services.
- The small sample size of individuals with IDU-associated infections is a limitation in assessing the density of IDU and SSP utilization in Maine.
- Further analysis with a greater number of PWID could further clarify hotspots of need in Maine.

Citations

15. Cartographer: Peter Balvanz

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