Mission, Operations, and Impact

Throughout the United States, there have been increasing rates of HIV, sexually transmitted infections (STIs), substance use disorders (SUDs), and viral hepatitis. Our mission is to bring awareness to the need of Syringe Sharing Programs in the state of Tennessee. Syringe sharing programs do more than provide injection supplies which in itself would prevent syringe-related illnesses. For example, they test for HIV and HCV, provide treatment referrals, wound care, safe sex prevention tools, disposal of used syringes, vaccinations, social service referrals, and more. They also directly save lives by lowering the occurrence of overdoses through their provision of naloxone. Communities with syringe sharing programs have a 50% decline in risk of HIV transmission, and users of the programs are 3 times more likely to stop injecting as they provide testing, counseling, and support.

DataLab would like to emulate another study conducted by the state of Michigan in which we analyze the endemic factors endocarditis, osteomyelitis, sepsis, and skin, soft tissue, venous infections (SSTVIs) which are all connected to the aforementioned health conditions. The hospital ICD-10 codes can be analyzed to get the accurate number of hospitalizations attributed to these endemic factors. These codes can then be used to calculate the cost of the hospitalizations that would otherwise be lessened if syringe sharing programs were implemented. By using the ICD-10 codes and translating them into financial costs versus benefits, we will be able to prove how useful these programs could be for the state as a whole. While the big picture for the Tennessee Syndemic is the elimination of HIV, STIs, SUDs, and viral hepatitis, we want to focus first on the smaller scale picture that will help build our case for the need of Syringe Sharing Programs. By reproducing the Michigan study, we can then implement these programs to reach a broader scale and a broader target audience.

Community partner's need

Our partner's needs involve analyzing the Tennessee Department of Health's discharge data over time to track the increase of hospitalizations for endocarditis, osteomyelitis, sepsis, and SSTVIs. As we track the occurrence of the correct ICD-10 codes we can locate which counties are suffering the most and see what assistance can be provided. We would also like to analyze the relationship between these conditions with age, race, sex, length of hospital stay, payer, discharge disposition, and cost. This data

will allow us to quantify who is being affected the most how much it costs to treat these conditions that could have been avoided with access to a syringe sharing program.

The results of this data need to be displayed in an easy-to-read format so that any citizen can understand the severity of these health problems and feel motivated to make a difference. Awareness is the primary goal and by seeing how widespread the problem is and putting a monetary value on it will be essential in changing policy.

Proposed DataLab project

The proposed DataLab project is to make an interactive website in which the user can track the incidence rates of the four health conditions for each zip code in Tennessee. There will be graphics allowing the user to be able to assess which areas are suffering the most, if there is a correlation between patient characteristics like age or race, and how much money went into these hospitalizations, therefore how much money will be saved through the prevention of syringe sharing.

Beyond this MVP, other patient characteristics could be analyzed to see potential trends or even different syringe-related illnesses can be included.

Project's potential impact

The project's potential impact is to educate the public on the opioid epidemic and the health conditions associated with it. This could provide a push for policymakers to provide assistance such as implementing syringe sharing programs which will result in saving money as well as lives.

Data availability

DataLab has purchased the discharge data from the Tennessee Department of Health so it will be available when the internship begins.

Pre-mortem analysis

A list of potential roadblocks may involve the large amount of discharge data to analyze which could lead to mistakes, not enough time available to organize and process the data, poor communication

with the client, or a lack of increase in syringe-related conditions (which is unlikely as Tennessee observed a 44% increase in drug overdose deaths from 2014 to 2018).

History of communications with the partner

Most of the communication for this project will be between DataLab and Dr. James Peterman. Our client Amber Coyne from End the Syndemic project thinks the data will be very valuable, but her role is very programmatic in nature so she will be reading the data and translating it to the community. I have met with Dr. Peterman multiple times regarding this project and fortunately he is located in Sewanee so will be available to answer any questions that arise.

Next step in solidifying this partnership

The next steps would involve reaching out to Dr. Peterman and Amber Coyne to notify them that the project will be up and running this summer and to ask if they want any additional health conditions or patient characteristics analyzed. Also, different communication formats could be explored to see if a dashboard is the best way to broadcast this information. Funding for this project will need to be discussed with End the Syndemic to see if they are willing to fund an intern.

Appendix of any additional resources

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https://endthesyndemictn.org/get-involved/

https://academic.oup.com/jid/article/222/Supplement_5/S451/5900597?login=true