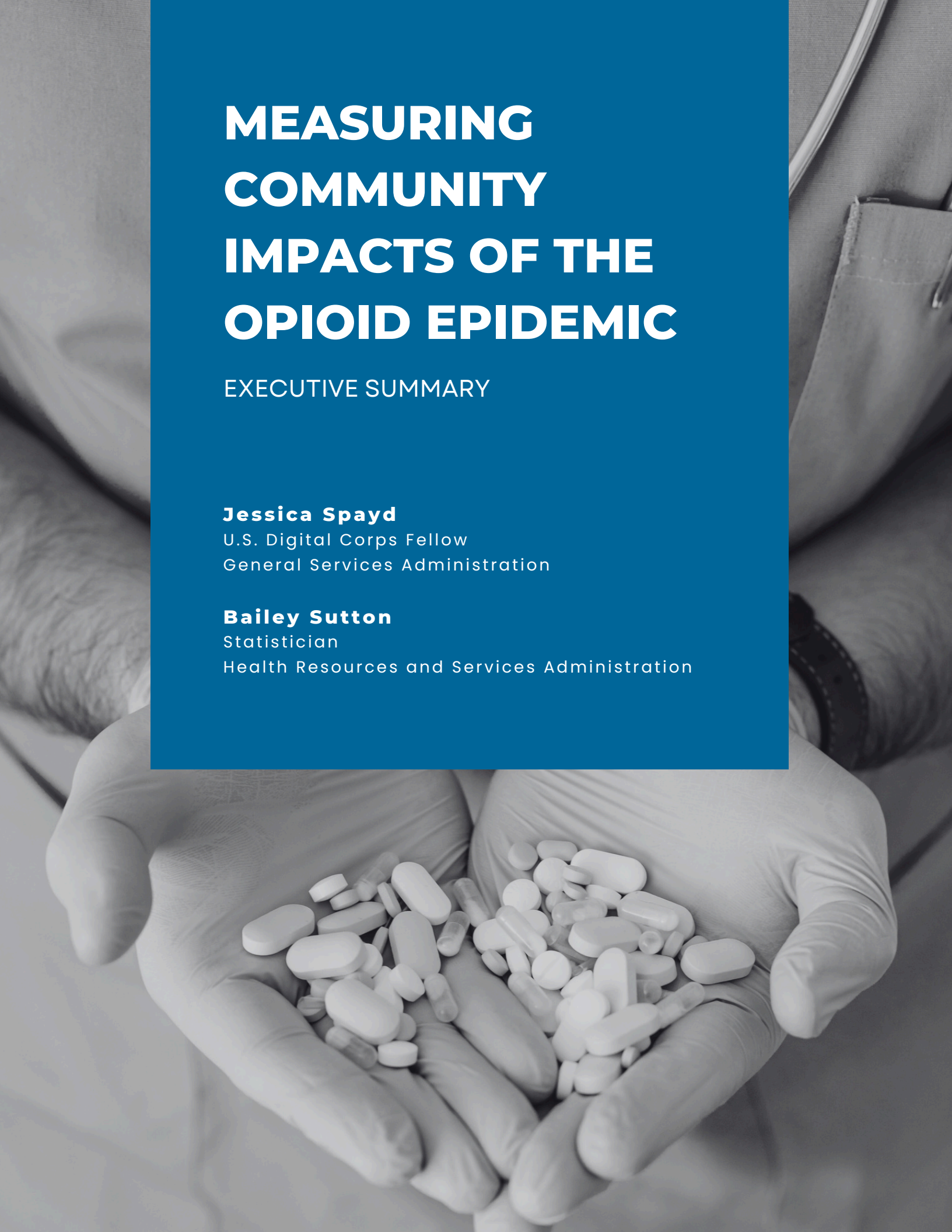

MEASURING COMMUNITY IMPACTS OF THE OPIOID EPIDEMIC

EXECUTIVE SUMMARY

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Background

The opioid epidemic has been affecting communities across the United States for the past several decades. In 2017, the Department of Health and Human Services (HHS) declared it to be a public health emergency.[1] While the individual impacts of this crisis are significant, the community-level impacts are even greater. However, these impacts are understudied despite significant investments into community-oriented programs.

As recent as March 2024, HHS has committed millions of dollars into opioid treatment and recovery initiatives through grants to community health centers.[2] The Health Center Program is made up of over 1,400 federally qualified health centers (FQHC) in underserved communities across the United States and its territories.[3] These health centers are vital for addressing health crises such as the opioid epidemic.

Existing research on policy interventions to address the opioid epidemic generally focus on individual-level outcomes such as rates of opioid use, overdoses attributed to opioids, or death following an opioid-related overdose.[4] While these metrics are useful for understanding the micro-level effects of an intervention, they fail to assess macro-level effects. Further, there are often significant challenges when measuring these variables, leading to questions regarding the accuracy of study results.[4]

Proposed Analysis

This project seeks to examine methods of measuring the opioid epidemic at the community-level. We have doubts that deaths attributed to opioid use is the best way to measure the macro-level effects of the opioid epidemic and seek to identify alternate measures that will be more sensitive to local, rather than individual, factors. Further, we believe that investments in community-centered care drive positive outcomes in areas at the forefront of the opioid epidemic, but these have rarely been the focus of analysis.

Specifically, this project will compare the metrics State Overdose Deaths, via the National Center for Health Statistics' (NCHS) Provisional Drug Overdose Death Counts dataset,[5] and State Labs Positive for Opioids, via the National Forensic Laboratory Information Systems (NFLIS) Public Data,[6] to assess whether the latter is as or more representative of community-level opioid use rates than the former. We believe that the State Labs Positive for Opioids measure has the potential to gauge persistent, habitual opioid use more accurately within communities.

Our key independent variable operationalizes community-based treatment of opioid use disorder. We will assess three different potential metrics: the number of patients with a diagnosed substance use disorder, the number of visits associated with a substance use diagnosis, and opioid treatment and recovery services spending at FQHCs by state, via the Health Resources and Services Administration's (HRSA) Uniform Data System (UDS).[7] We will perform a comparative analysis to assess the reliability and validity of each metric to select the best fit for the analysis. The most representative of these measures will be included in the final models.

Our primary analysis consists of two fixed effects models with data from 2015-2022, one with State Labs Positive for Opioids as the outcome variable and the other with Drug Overdose Deaths by state. Control variables from the American Community Survey (ACS)[8] will be included to mitigate potential confounding factors. Fixed effects will be incorporated across time and state to account for temporal and regional variations in the data. Through this comprehensive analysis, we aim to provide insights into the impact of community-based public healthcare interventions on the opioid crisis at the state-level.

Software
This analysis will be conducted in R version 4.2.1 with RStudio version 2023.06.1.

Limitations
While a fixed effects model minimizes bias, it cannot eliminate it in the way that models based on some degree of randomization can. As a result, any findings in this analysis are limited to relationships and correlations rather than causal linkages.

Further, data from the UDS dataset is aggregated at the FQHC-level and does not track individual patient outcomes. Therefore, while multiple years of information are included, it cannot be determined if year-to-year the same patient population is represented. Additionally, these data are linked to state based on where the FQHC is located, not where the patient resides.

Finally, while we believe the State Labs Positive for Opioids measure has the potential to capture persistent opioid use that does not lead to death within communities, there are more intermediary steps between individual opioid use and significant levels of State Labs Positive for Opioids than individual-level measures, such as deaths attributed to opioid use. We hope to control for some of these through the control variables in our model, but it poses a greater opportunity for unaccounted bias.

Relevance
The proposed analysis aligns with the DOJ's mission by utilizing public safety and public health data to understand the interplay between community-based healthcare systems and the opioid crisis. We hope that this project will uncover novel approaches to measuring the effects of the opioid epidemic and shape how policymakers across public safety and public health organizations think about intervention and investment opportunities. Ultimately, we aim to foster a holistic, community-oriented partnership between the public safety and public health sectors in tackling the opioid epidemic.

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