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GOVERNING ADDICTION: THE ROLE OF THE GOVERNMENT IN RESPONDING  
TO THE OPIOID CRISIS

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## DEDICATION

This dissertation is dedicated to Wayne Walter Williams.

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ABSTRACT OF DISSERTATION  
GOVERNING ADDICTION: THE ROLE OF THE  
GOVERNMENT IN RESPONDING TO THE OPIOID CRISIS

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In light of the growing frequency of health emergencies and epidemics, state and local governments are beginning to take a more active role in response efforts. This role used to be exclusively held by health-related agencies such as health departments. Although public health has made significant progress in the study of these emergencies, they often ignore the existing strategies in the field of emergency management. Thus, limited research exists on the effectiveness of emergency management strategies within the context of public health emergencies. This research fills this gap by examining the impact of emergency management strategies used within the opioid epidemic, a pervasive and growing health crisis.

The main contributions of this research to the field of public administration are three-fold. First, it contributes to the literature on emergency management and planning by analyzing the impact of opioid response plans and emergency declarations on policy enactment. Results from a plan quality assessment (n=69) and legislative scan (n=2,110) revealed that the presence and quality of a plan impacted the number of policies enacted

but also increased the time it took to pass opioid-related policies. Emergency declarations had a delayed impact, influencing policy enactment the following year after implementation. Second, it adds to the literature on collaborative governance by examining the relationship between power and policy capture. Using a case study of a cross-sector task force in West Palm Beach, FL, quantitative and qualitative discourse network analysis revealed that policy capture was present within the network. Strategies were identified that facilitated and inhibited this process. Third, this study adds to the literature on organizational culture and change by examining first responder role changes caused by implementing opioid-related policies. Using interviews (n=30), secondary sources (n=161) and virtual observations (n=10), findings reveal that first responder roles are actively changing to meet growing community needs, but these changes are welcome if they align with their life-saving role.

Overall, this study highlights the role that government agencies play in providing solutions to the opioid epidemic, an overlooked topic in both public administration and public health. More importantly, the information produced from this study can be used to design better statewide and local responses to the opioid epidemic.

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## **INTRODUCTION**

### **The Need for Research on the Governance of the Opioid Epidemic**

As human-made emergencies and health epidemics become more common, state and local tools that assist public managers in coordinating and implementing quick and efficient responses are becoming more relevant. Using a three-essay structure and mixed-method design, this study will examine government responses to the opioid epidemic at three different levels—state, county, and individual/organizational.

At the state level, plans and emergency declarations are common tools used by government agencies to coordinate responses to natural hazards. However, little is known about the use of these tools within health epidemics. At the county level, cross-sector collaborations are used to develop innovative solutions to local problems. While effective in coordinating stakeholder opinions, research has yet to connect collaborations to improved policy outcomes, especially within a critical health epidemic. At the individual/organizational level, front-line public servants (i.e., police officers and firefighters) are charged with implementing many of the policy solutions related to the epidemic (e.g., expanded access to naloxone). However, this puts an increased burden on these agencies that may inhibit their response to the epidemic.

The goal of this study is to understand the impact of different governmental responses on the formulation and implementation of policies related to the opioid crisis. The specific aims of this study are as follows: 1) to identify the impact of state plans and emergency declarations on policy enactment, 2) to determine if and how the structure of collaborative task forces impact policy development at the county level, and 3) to

understand how state and county policies designed to equip front-line public servants may promote or inhibit their response to the epidemic.

This study will use a three-essay structure and mixed-method design to complete the outlined research goals. The first essay assesses plan quality and conducts a legislative scan (a systematic process used to collect topic-related bills) to determine plan influence on policy enactment. Currently, 43 American states (plus the District of Columbia) have statewide opioid response plans. Another model determines the impact of emergency declarations on policy enactment. Currently, eight states have made public health emergency declarations to combat the opioid epidemic. The second essay uses a case study of Palm Beach County to conduct a network analysis in conjunction with qualitative data collection methods to evaluate the impact of cross-sector task forces on policy development at the county level. The third essay draws on data from individual interviews with firefighters and police officers and secondary data from news source to assess the impact of current opioid policies on the behavior of first-responders.

### **Context of the Opioid Epidemic**

Since 1999, the Centers for Disease Control and Prevention (CDC) (2021) estimates that nearly 500,000 people have died as a result of an opioid overdose. Opioids are high-potency pain relieving drugs that can be legally prescribed by doctors (e.g., Oxycodone) or illegally manufactured (e.g., heroin, fentanyl). Addiction to opioids can start from short-term prescription use following a routine surgery (Alam et al., 2012) and can lead to the use of cheaper and unregulated substances such as heroin or synthetic drugs (Kolodny et al., 2015). These synthetic opioids are often 50 to 100 times more potent than morphine meaning that even small doses can be fatal (Moss, 2018). This can

cause serious concerns for emergency medical professionals or even children who may unintentionally come into contact with such substances.

The opioid epidemic is unique when compared to other health crises because it compounds many barriers to effective treatment outcomes: stigma associated with drug use (Olsen & Sharfstein, 2014); co-occurring vulnerabilities including homelessness (Baggett et al., 2015), joblessness (Compton, Gfroerer, Conway & Finger, 2014), and lack of access to health insurance (Wang & Xie, 2017); and the longevity and life-long nature of the treatment process (Hser, Hoffman, Grella, & Anglin, 2001). Because of these unique characteristics, the economic burden in the United States is estimated to exceed over 78.5 billion per year (Florence et al., 2016).

In response to these trends, federal, state and local government agencies have taken significant action. At the federal level, the Trump Administration declared the opioid epidemic a public health emergency on October 26, 2017 and dedicated \$6 billion in funding toward this issue (Haffajee & Frank, 2018). Federal agencies have also taken a significant role in regulating and enforcing safety standards associated with controlling access to prescription and illegal opioids (e.g., Federal Drug Administration, Drug Enforcement Administration); and in collecting data and distributing prevention and treatment funds (e.g., Centers for Disease Control and Prevention and National Institute of Health). At the state and local level, government agencies have updated medical licensure standards for opioid prescribers, increased availability of opioid overdose reversal medications (e.g., naloxone), and released educational campaigns about the risks of opioid use (Soelberg et al., 2017; Wickramatilake et al., 2017). Despite these significant actions taken on behalf of the government, the opioid epidemic continues to

be a significant and deadly force within the U.S., requiring innovative and coordinated policy action.

### **Purpose and Significance of the Study**

The significance of this study is three-fold. First, it contributes to the literature on emergency management and planning by analyzing the impact of opioid response plans and emergency declarations on policy enactment. This is important because literature within the field has yet to connect plans or declarations to improved policy outcomes, especially outside the context of natural hazards (Lyles & Stevens, 2014; Rutkow, 2014). Second, it adds to the literature on collaborative governance by examining the relationship between power and policy capture. This is a recognized gap within the collaborative governance literature (Purdy, 2012; Ansell et al., 2017). Third, it expands on the literature in organizational culture and change by examining the occupational paradoxes caused by shifts in implementing opioid policies. Finally, it provides policy recommendations on how to improve current state, county, and agency responses to the opioid epidemic.

The opioid epidemic is a unique case to study from a public administration lens because government agencies have taken an increased role in responding to opioid abuse. This is evident from national, state and local reports detailing the need for a strong and coordinated government response (see Office of Drug Control Policy, 2019). The opioid epidemic is unique in that it compounds many barriers that prevent quick and efficient policy responses—the longevity of the treatment process, the presence of big business with limited oversight and regulation, and stigma associated with drug abuse. Because of these unique elements, the opioid epidemic can be used as an exemplar case to

understand the factors associated with effective policy enactment and implementation. This study can not only assist in improving current government efforts devoted to the opioid epidemic but can also be applied to other health epidemics and emergency response efforts. Additionally, the results of this study can be applied to other complex and politically charged public problems like mental health and even gun control.

Overall, this study highlights the role that government agencies play in providing solutions to the opioid epidemic, an overlooked topic in both public administration and public health. More importantly, the information produced from this study can be used to design better statewide and local responses to the opioid epidemic. While the details of this study are focused on the opioid epidemic, the results can be translated to other health epidemics and pandemics like infectious diseases, bioterrorism, and biological toxins. In addition, it can provide insight on the impact and influence of temporary increases in state and local power during emergencies.

### **Main Findings**

This study addresses three research questions. First, what are the influences of statewide emergency management responses to the opioid epidemic on policy enactment? The findings from Essay 1 revealed that the presence of opioid response plans (a common emergency management response) and the quality of these plans can influence the number of policies enacted that same year but also increased the amount of time it took to pass opioid-related policies. Another common emergency management response, emergency declarations, had a delayed impact, influencing policy enactment a year after implementation. These findings reveal that some emergency management strategies taken from the field of emergency management can be translated to a public health crisis

context. However, more studies are needed to fully understand the purpose and effectiveness of using emergency declarations within public health epidemics.

The second research question is segmented into two parts. The first part asks: Do the collaborative governance structures of opioid task forces mitigate policy capture by powerful interests? The results of the quantitative network analysis (binary and valued exponential random graph models) show that private sector homophily was a predictor of tie formation (a measure for policy capture). Centrality measures and subsequent network visualizations showed that private sector organizations consistently played important roles within the network. These findings reveal that collaborative governance structures may be susceptible to policy capture.

The second part of the research question 2 asks: What strategies can facilitate or inhibit policy capture in collaborative governance settings? Although including a large number of private sector interests within the task force made the structure susceptible to policy capture, this was intentional and a requirement for formulating policy options that were accepted by the private sector treatment community. Because of this, the task force implemented several strategies to mitigate private sector dominance including: (1) having clearly defined leadership by the State Attorney's Office, (2) implementing rules for transparency which included the Sunshine Law, (3) having a mix of private sector professionals which included sober home owners, social workers, and private attorneys, and (4) implementing guidelines for speaking. While these strategies didn't prevent private sector dominance, they did allow for other sectors, particularly nonprofits and civic organizations, to have an increased role within the task force.

The results of Essay 2 show that policymakers need to be aware of the potential of private sector organizations to play a dominating role within collaborative governance structures. This is particularly important within healthcare collaborations that often have a direct impact on patient policies and programs. Simply put, this study reveals that even with the strategies implemented to mitigate private sector dominance, policy capture was still present. However, the results of this study suggest that policy capture may have been more polarizing if no strategies had been implemented and the leaders of the collaboration were not conscious of the potential for policy capture. Thus, healthcare collaborations should consider implementing the strategies suggested within Essay 2 as an intervention for policy capture, while also exploring ways to promote the inclusion and participation of less powerful actors.

Finally, the third essay deals with the following research questions: (1) how do policy responses to the opioid epidemic influence the occupational roles and responsibilities of first responders?, (2) how can fire and police organizations mitigate the negative impacts of these policy response? The findings from Essay 3 are segmented into three main themes. First, *first responder role expansion* (theme 1) finds that first responders are experiencing a broader expansion of their roles, not necessarily because of the opioid epidemic, but due to the changing demands of the public and the emergence of more complex emergencies events.

Second, *policy impacts* (theme 2) demonstrate that opioid policies, such as naloxone expansion, can increase role burden. This is particularly salient for police officers who described taking on fire/EMS roles. Although this role was welcomed and fit within the changing definition of what it meant to be a police officer, coordination of

naloxone between fire and police may mitigate the need for this continued expansion of police roles. The participants also indicated that harm reduction policies were generally seen as not relevant and somewhat at odds with the first responder lifesaving role, although this may be due to lack of awareness of these programs. Good Samaritan laws were generally seen as a benefit, but some police officers felt that the current climate and perspectives around police prevented people from taking advantage of this policy which made their role in opioid overdose response more difficult. The participants also described diversion programs as a benefit if administered properly, but some first responders felt they enabled and continued drug abuse.

Third, the theme of *mitigating role conflict* (theme 3) found that a greater expansion of organizational roles by including social workers within organizational structures and building on the organizational culture of first response through trainings, peer support and sense of duty helped mitigate negative impacts associated with the opioid epidemic.

### **Overview of Chapters**

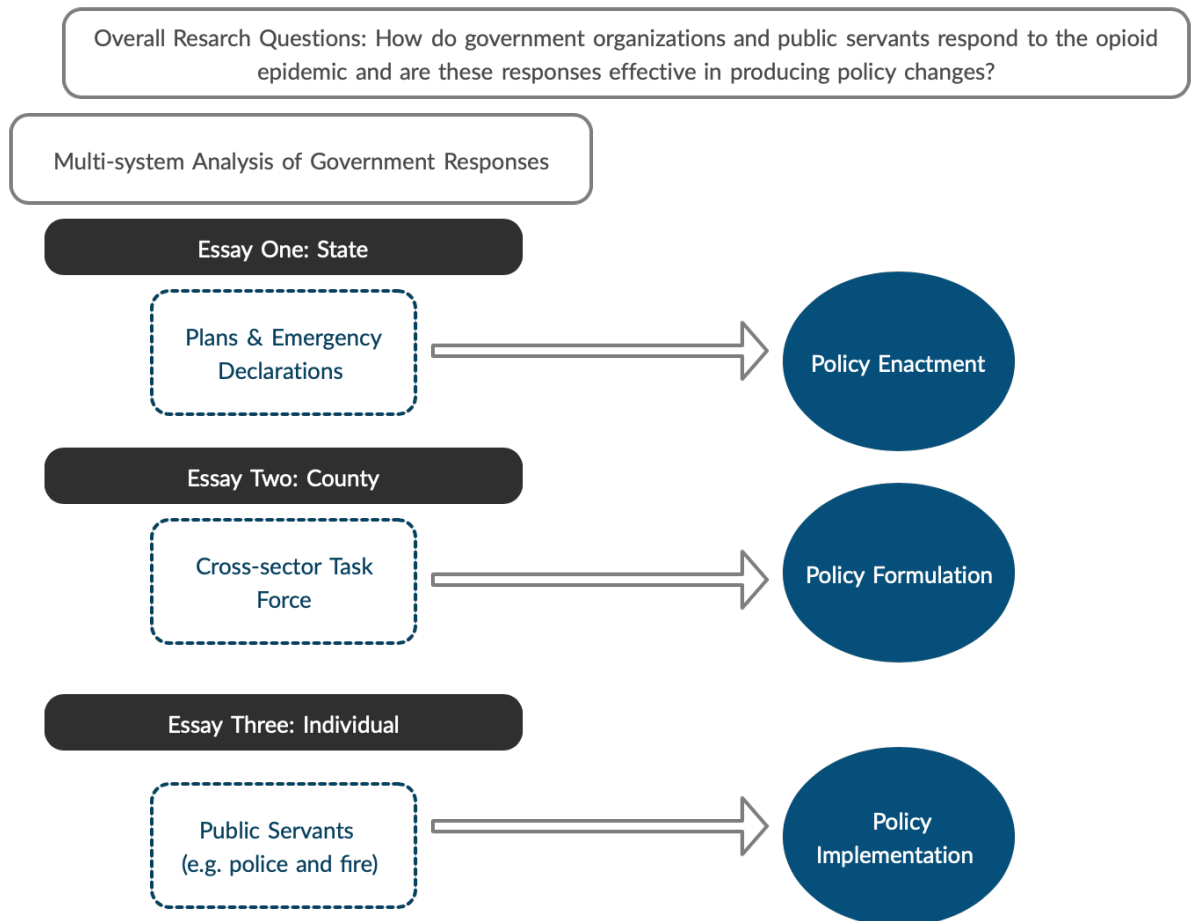
This study is organized by three independent, albeit related, essays. The topic of the three essays centers around government responses to a growing public problem—opioid abuse. The overall research question for the study is as follows:

***Overall Research Question:*** *How do government organizations and public servants respond to the opioid epidemic, and are these responses effective in producing policy changes?*

Each essay is unique in that it deals with a different government response to the opioid epidemic and its impact on different stages of the policy process (i.e., policy

formulation, enactment and implementation). The first essay deals with state levels responses, specifically state response plans and emergency declarations, and their influence on policy enactment. The second essay deals with county level responses, specifically cross-sector collaborations, and their influence on policy formulation. The last essay deals with front-line public servants (i.e., firefighters and police officers) and the challenges associated with implementing state and county policies. See Figure i1 for the conceptual framework.

Figure i.1. Conceptual Framework for the Three-Essay Dissertation



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**ESAY 1**  
**The Role of Emergency Management Strategies in Addressing the Opioid Epidemic:  
Predictors of Opioid Policy Enactment**

**Introduction**

Since 1999, the Centers for Disease Control and Prevention (CDC) (2021a) estimates that nearly 500,000 people have died as a result of opioid overdoses, with preliminary data suggesting a noteworthy increase in opioid use/abuse in the aftermath of COVID-19. The rise in opioid-related deaths is estimated to cost the U.S. government upwards of \$78.5 billion per year (Florence et al., 2016), placing a significant burden on public agencies. While the U.S. government has made significant investments in addressing drug abuse since the 1990s, the recent and dramatic increase in opioid-related deaths in 2013, in part resulting from the rise of highly-potent synthetic drugs, has led state governments to reassess the way they respond to health epidemics. Specifically, the considerable death toll and the significant economic burden as a result of the opioid crisis draw parallels to other crises, particularly those due to natural hazards. Similar to government responses to natural hazards, state government agencies within the U.S. are beginning to adopt emergency management strategies to respond to the opioid epidemic. Two strategies gaining popularity are state response plans and emergency declarations.

State response plans are government documents designed to help public agencies prepare for and respond to a crisis event. Drawing on urban planning and plan quality literature, response plans are typically studied within the context of state hazard mitigation plans (see Berke et al., 2012; Hu et al., 2018) or land use plans (Berke & Godschalk, 2009), but have been adopted to numerous crisis settings including climate change (Wheeler, 2008; Hamin, 2011), affordable housing (Hoch, 2007), and even

human rights conditions (Berke et al., 2002). On the other hand, emergency declarations are statements made by public agencies (typically a state governor) to temporarily provide enhanced capabilities and coordination to state and local agencies during a crisis (Ray, 2009; Locke & Dedon, 2019). While commonly-used within natural hazard settings and more recently the COVID-19 pandemic, emergency declarations for public health epidemics are a fairly new and underutilized tool by state governments (Rutkow, 2014).

While existing studies on state response plans and emergency declarations are well-documented in the context of natural hazards, these strategies have been largely ignored within health issues (outside of influenza outbreaks). It is therefore unclear if results occurring in natural hazard settings will translate to public health issues like the opioid epidemic. Moreover, there are lingering questions on whether state response plans or emergency declarations can lead to improved policy outcomes. While the intention of these tools is that they lead to quick, efficient, and coordinated response efforts, little is known on whether: (1) state response plans can lead to and are necessary toward achieving their anticipated outcomes (Neuman, 1998; Brody & Highfield, 2005; Lyles & Stevens, 2014), (2) emergency declarations can be used as a catalyst for implementing policies and programs to address public health issues (Rutkow & Vernick, 2017), and (3) the results of emergency management tools commonly used within natural hazard settings can translate to public health settings, specifically the opioid epidemic.

This study aims to fill these gaps and contribute to knowledge in plan quality and emergency management literature by systematically evaluating the impact of state opioid response plans and emergency declarations—two common emergency management

strategies—on opioid policy enactment (i.e., bill enactment). Specifically, this study aims to answer the following research question:

*Research Question 1.1: What is the influence of statewide emergency management responses to the opioid epidemic on policy enactment?*

Using a random-effects Poisson regression of policy data collected from LexisNexis and state government websites from 2010 to 2020, this study finds that state opioid plans influenced the number and the speed of opioid policies enacted. Alternatively, emergency declarations had limited influence on the number and the speed of enacted opioid policies.

This article starts with an overview of emergency management and public health literature. In the following section, I describe the methods for the legislative scan, plan quality analysis, variable creation and statistical analysis. The findings are presented followed by a discussion on theoretical and practical implications of the findings.

## **Literature Review**

### **Emergency Management and Public Health Epidemics**

As natural and human-made emergencies are becoming more common, public managers have taken an increased interest in quick and efficient responses to these crises. This sparked a growing significance in emergency management research within the field of public administration. Emergency management refers to the actions taken by federal, state or local government agencies to develop and implement policies along the four phases of emergency response—mitigation, preparedness, response and recovery (Petak, 1985; McLoughlin, 1985; Henstra & McBean, 2005). While there is a growing body of literature on emergency management, most research focuses on natural emergencies,

paying little attention to man-made crises and health epidemics. The few studies that focus on health epidemics primarily study the containment of infectious diseases (Inglesby et al., 2000; Landesman, 2005) such as responding to the Zika or Ebola crisis (Greer & Singer, 2017; Takahashi et al., 2015), providing limited knowledge on emergency management efforts within contexts like the opioid epidemic—both a man-made and health crisis.

Recently, there has been a growing interest in the intersection of emergency management and public health. Within public health, the subfield public health emergency management (PHEM) attempts to draw on emergency management principles, knowledge, and techniques to improve the response to complex public health events (Rose et al., 2017). Similarly, management of public health emergencies (EMPHE) is the field of emergency management's recognition of the need to mitigate the harmful impacts of public health crises (Yang et al., 2020). Both of these subfields recognize the growing need to incorporate emergency management strategies in the response to public health emergencies; yet the efficiency and effectiveness of using such strategies within a public health context is still relatively unexplored (Rose et al., 2017).

The limited research that exists highlights the challenges of addressing public health emergencies using emergency management strategies. For example, Jiaxiang, Chao and Tingting (2018) found the need to create and invest in processes and functions for responding to health events within emergency management departments in China. Emerging research on COVID-19 found similar challenges citing reactive decision-making practices (Kim et al., 2020) and the lack of an established model to respond to such events (Sasangohar et

al., 2020). Other scholars found that the implementation of appropriate emergency management objectives and strategies to improve outcomes within the COVID-19 pandemic (Troisi & Alfano, 2021). While COVID-19 represents a unique public health crises, other public health events like Ebola and Zika show similar challenges including a lack of planning, coordination and strategic development when responding to health crises (Carney & Weber, 2015; Khubhandani et al., 2020). Given the rise in public health emergencies, it is important to understand and analyze current emergency management strategies utilized during public health crisis events. Two strategies increasingly used in response to the opioid epidemic are state response plans and emergency declarations.

***State Opioid Plans.*** Opioid response plans are documents outlining the significance of opioid abuse within the state, current government responses, and recommended policies and programs to curb opioid abuse. These plans differ from plans developed by the local health departments in that they are crises-specific and commonly supported and implemented through the state government. Drawing parallels to hazard mitigation plans, the purpose of opioid response plans is to direct and coordinate future actions to respond to the epidemic. Thus, the literature examining plans within emergency management and planning can provide insight on the purpose, usefulness and potential impact of opioid plans.

There is a growing body of research on the quality of county and state plans to help government agencies prepare and respond to a crisis. Specifically, the goals of these plans are to identify current policies and programs (Berke & Smith, 2009), develop a vision to direct future action (Berke & Smith, 2009; Lyles & Stevens, 2014), and organize efforts with intergovernmental organizations and stakeholders (Lyles, Berke &

Smith, 2014). Plans are typically evaluated using a plan quality assessment, which examines the strengths and weaknesses of the plan through content analysis. There is general consensus that a “quality” plan will include direction-setting principles that assess goals, action-oriented principles that assess stakeholder participation, and implementation factors that assess the likelihood of plan enactment (Berke et al., 2014).

Plan assessments have been used in a variety of settings to evaluate the planning process and likelihood of implementation (Talen, 1996). However, there are still questions on whether plans are necessary to achieve anticipated outcomes (Neuman, 1998; Brody & Highfield, 2005; Lyles & Stevens, 2014). Literature within emergency management acknowledges that the connection between plans and their implementation (i.e., enactment of policies) is understudied (Berke et al., 2014; Lyles & Stevens, 2014), raising questions as to whether these plans are even useful tools.

Although evaluations of state response plans are well-documented in contexts like natural hazards, evaluations of plans dealing with health issues have been largely ignored. Just as state plans outline and coordinate the direction of responses to various environmental hazards, state health plans could assist in coordinating legislation and government intervention for situations like the Zika outbreak, bioterrorism (i.e., Anthrax), tobacco and vaping, and mental health concerns. As health issues such as opioid abuse are becoming a national concern, emergency management responses will become more relevant. However, it is unclear if the same results that occur in a natural or man-made hazard will translate to a context of opioid use.

Data from literature on natural hazards suggest that the quality of the plan and planning process may aid in policy enactment, but implementation may still face

obstacles (Lyles & Steven, 2014). Therefore, while the plan is intended to provide a roadmap to responding to a particular issue, obstacles associated with the quality of the plan and planning process may prevent the plan from being implemented. Moreover, policy enactment may be further exacerbated by social issues like stigma and the social construction of drug addiction (Schneider & Ingram, 1993). Therefore, the context of passing legislation dealing with opioid abuse may face specific obstacles that prevent policies from being enacted.

The rise in nationwide drug overdoses generated widespread recognition that opioid abuse was a public problem. According to Kingdon (1984), recognition of a problem is the first step to opening a policy window which can propel policy solutions through the policymaking process. It is therefore suggested that state opioid plans will influence the agenda setting phase by formally recognizing opioid abuse as a problem that needs to be addressed by the government. Applying the emergency management literature to the opioid epidemic, I hypothesize that:

***Hypothesis 1.1:** The presence of a statewide plan will influence the speed (negative direction) and the number (positive direction) of opioid-related policies enacted*

***Hypothesis 1.2:** The quality of the statewide plan will influence the number (positive direction) of opioid-related policies enacted.*

**Emergency Declarations.** Another state-level response to the opioid epidemic is emergency declarations. Emergency declarations are statements made by public agencies to temporarily provide enhanced capabilities and coordination to state and local agencies during a crisis (Ray, 2009; Locke & Dedon, 2019). Within natural hazards, emergency

declarations are often the first step to coordinating response and recovery efforts following a crisis event (Tucker & Bragg, 2000). While emergency declarations are common tools used during natural disasters, the use of public health declarations is a relatively new tool, rarely used unless under urgent circumstances. Although limited research exists, Rutkow (2014) conducted a systematic review on the purpose and use of emergency declarations and found three primary reasons for declaring a public health emergency: 1) general concerns for public health and safety such as unsanitary conditions following the aftermath of a hurricane, 2) the need for out-of-state personnel to support the response to an epidemic, and 3) to encourage and coordinate help from a federal agency.

Emergency health declarations became a popular emergency management tool following 9/11 terrorist attacks and subsequent anthrax scares (Rutkow, 2014). Since 2001, public health emergency declarations have been primarily used in the context of outbreaks, such as influenza outbreaks, to allow out-of-state medical professionals to assist in responding to a health concern (Rutkow, 2014). More recently, emergency declarations have been used in the Ebola outbreak and COVID-19 Pandemic to provide enhanced capabilities to the government to identify and quarantine infected persons (Markey et al., 2017; Gostin et al., 2020). While the role and limits of government authority following emergency declarations are well established within natural hazards, the legal limits of government leaders during emergency health declarations are still relatively new and unknown. Natural hazards typically have a finite recovery period meaning that emergency declarations will last until that period has passed or the state has received significant resources to respond to the crisis. Alternatively, public health

emergencies can last for years (as we have seen with the COVID-19 Pandemic) or decades (as we have seen with the opioid epidemic), raising questions on when emergency declarations are appropriate and what power they give government leaders in responding to these crisis events.

Within the context of the opioid epidemic, emergency declarations can act as an agenda setting tool that are used to establish opioid abuse as a public problem. The recognition of this issue as a problem can open a policy window that can speed up and drive policy change (Kingdon, 1984). The urgency that defines emergency declarations also signals to government agencies and the public that opioid abuse is an important issue that warrants resources and attention (Levey, 2018). To date, eight states have declared the opioid epidemic a public health emergency. Within these declarations, governors commonly outline the significance of the problem, describe previous efforts to respond to the problem, and direct government agencies to respond to the epidemic. These responses can include the call to develop a response plan or task force and a direction to use resources to expand naloxone distribution and service provisions. Therefore, while emergency declarations are policies in-and-of themselves, they act as an acknowledgment of the problem and vague statements directing government agencies to develop more comprehensive solutions to address a particular issue.

Several scholars note that public health declarations should be used in conjunction with an extensive planning process to put states in a better position to respond to the crisis (Rutkow, 2014). Within the context of emergency declarations to address opioid abuse, scholars encourage states to use this tool as a catalyst for innovative policy

solutions (Rutkow & Vernick, 2017). Drawing on literature from emergency management and public health, I expect that:

***Hypothesis 1.3:** Emergency declarations will influence the speed (negative direction) and the number (positive direction) of opioid-related policies enacted (i.e., laws passed).*

***Hypothesis 1.4:** Emergency declarations used in conjunction with state response plans (interacting effect) will influence the number (positive direction) of opioid-related policies enacted.*

### **Policy Enactment Following Emergencies**

Emergencies and crisis events can act as focusing events opening a policy window that bring increased attention to a policy issue (Kingdon, 1984; Birkland, 2006). It is no surprise that emergency events can prompt policy action as government leaders attempt to quickly recover post-disaster. While this can be instrumental in creating policy change, it can also lead to reactive policies that increase vulnerabilities (Ingram et al., 2006). Moreover, not all crisis events act as change agents influencing policy enactment. Birkland (2006) found that the type of emergency, specifically man-made or natural, and the stakeholders involved influenced the likelihood that post-disaster policies would be enacted. For example, there were more policies enacted following hurricanes than nuclear and military security which had more polarizing stakeholder interactions (Birkland, 2006). This suggests that man-made emergencies and those with complex stakeholders and viewpoints may not have the same policy enactment as other emergencies following a crisis event. Thus, opioid policy enactment during the opioid epidemic may pose a

unique set of challenges that can influence the likelihood of whether this crisis, and the subsequent rise in opioid deaths, leads to policy change.

Since 2013, policy development responding to the opioid crisis has rapidly expanded. As drug overdoses began to spike, states began implementing an array of policies aimed to respond to this crisis. These policies can be segmented into four categories: (1) monitoring and data collection, (2) treatment and response, (3) education and dispensing guidelines, and (4) criminal justice and liability concerns. A program gaining popularity across states is the Prescription Drug Monitoring Program (PDMP). This program is a centralized database that tracks controlled prescriptions. This program is intended to prevent intentional (i.e., doctor shopping) or accidental over-prescription of pain medication. A popular program in treatment and response is expanding access to naloxone (a drug reversal medication) to first-responders and even lay people. This program is intended to help first-responders and other citizens prevent overdose deaths. Finally, a common state policy regarding liability are Good Samaritan laws which remove the possibility of arresting individuals for drug possession when calling for first-responder services.

Despite the recent increase in policy development, there is limited and often conflicting research on the influence of state-level policy responses (Haegerich et al., 2014). Moreover, the factors impacting successful policy enactment are often ignored in favor of policy implementation evaluation (see Mayo et al., 2017; Rutkow et al., 2017). As the opioid epidemic has been framed as a crisis requiring quick and efficient government responses, understanding the factors that impact and can catalyze policy enactment are becoming more and more important.

While there is limited literature on the factors impacting successful adoption of opioid-related policies, a few studies can provide guidance. Whitmore et al. (2019) completed a qualitative study on the factors that assist in the passage of PDMP and naloxone programs. They found that establishing stakeholder buy-in through governor speeches and establishing task forces impacted the likelihood of adoption. A policy brief by Levey (2018) echoed these results citing stakeholder participation, leadership by the governor, and establishing ways for government agencies to collaborate and share data as importance aspects impacting policy change. Underlying all of these studies is a growing recognition that government agencies, especially governors, play an important role in garnering support for policy enactment (Haegerich et al., 2014; Levey, 2018). This may indicate an important and overlooked role that emergency declarations and state response plans (two documents often released by the governor’s office) play in policy enactment. In fact, planning literature stresses the importance that quality planning documents can have on directing and developing policies to prepare for and respond to hazards (Berke & Godschalk, 2009; Henstra, 2010). It is anticipated that the same will hold for health epidemics which can help direct state efforts to efficiently pass and implement statewide policies.

## **Method**

### **Legislative Scan**

LexisNexis (NexisUni), a database containing the text of state-level policies, was used to identify and systematically code opioid policies within 50 states and the District of Columbia. LexisNexis is a common database used by researchers in various fields to conduct legal research and legislative scans (Cohen et al., 2009; Ibrahim et al. 2011).

Using a public health law research methods approach (Davis et al., 2014; Davis & Carr, 2015), a search was conducted of the bill text of all enacted statutes and legislation from January 1, 2010 to December 31, 2020 associated with the following keywords: opioid OR opiate OR opium OR prescription opioid OR hydrocodone OR oxycodone OR oxymorphone OR morphine OR codeine OR fentanyl OR heroin OR methadone OR opioid analgesic OR opioid use disorder OR drug abuse OR drug misuse OR drug addiction OR drug overdose OR drug treatment OR narcotic drug OR illicit drug. These keywords were chosen based on several factors: (1) these keywords include commonly used terms associated with the opioid epidemic according to the Centers for Disease Control and Prevention (CDC) (2021b), (2) they include common prescription and illicit opioids according to the National Institute on Drug Abuse (NIDA) (2021a, 2021b), and (3) they include a variation of keywords used in systematic reviews on opioid-related studies (Clark et al., 2014; Vowles et al., 2015; Schalkoff et al., 2020).<sup>1</sup>

The legislative scan identified 4,974 nonduplicate bills that were relevant to opioid policy topic areas. The 2019 Office of National Drug Control Policy's National Drug Control Strategy report was used to identify relevant opioid policy topics including: prevention, treatment and recovery, criminal justice, and metrics (see Table 1.1 for a detailed description). Policy relevance was determined using a two-step approach. First, the bill tracking report was read. If the bill synopsis and classification subject field included the keywords and/or synonyms of these words, then the full bill text was read to

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<sup>1</sup> Substance use/abuse was not used as a keyword in this search as substance use/abuse applies to more than drug or opioid-related addiction including alcohol and tobacco. A search was conducted in LexisNexis using substance abuse and resulted in an inflated sample with limited relevance to drug-related issues. Thus, a decision was made to exclude this term from the keyword search.

determine relevance to the four opioid policy areas. Bills were excluded as irrelevant to the four topic areas if the keyword was mentioned once with no action associated with the policy (i.e., mentioning the name of department in conjunction with several other departments), if the keyword was used as an exclusion criteria within the bill, if the bill was a general budget appropriations not specific to topic area, or if the bill was specific to other substance abuse areas such as tobacco, alcohol or marijuana (i.e., marijuana regulation, alcohol tax, etc.). This process is similar to the process used in other studies to determine policy relevance (see Boehmer et al., 2008). The final sample included 2,110 bills that met this inclusion criteria.

Table 1.1 Opioid Policy Topic Areas

Opioid Policy	Description
Prevention	awareness campaigns, safe prescribing, Prescription Drug Monitoring Program, school outreach, evidence-based prevention programs, Drug Free communities, Drug Take Back programs
Treatment and Recovery	Naloxone distribution, evidence-based addiction treatment programs, medication-assisted treatment programs, training for service providers, drug court/diversion, employment programs, peer recovery
Criminal Justice	drug trafficking law, assistance for law enforcement in high trafficking areas, enhancing law enforcement capacity, punishments of exclusions due to drug use
Metrics Policies	establishing measures and data points to track the epidemic

### Plan Identification and Analysis

A search of the state government’s website, the governor’s website, and the state health department website was conducted to identify the presence or absence of a statewide plan addressing opioid or drug abuse. This process produced 94 plans. If no plan was found, a general google search was conducted using the following keywords:

“opioid”, “substance use” “substance abuse”, “drug use”, “drug abuse.” This process added 15 plans. Finally, a general search was conducted in newspapers in the state. This added three plans to the sample. This produced a total of 112 plans across 51 states and the District of Columbia.

In many cases, states had plans associated with specific agencies or with the state or local department of health (i.e., State Opioid Response Project, State Opioid Surveillance Plan, State Targeted Response). These plans were not included as they focused on one department’s ability to respond to the epidemic instead of a coordinated action document for the entire state. Plans were included within this analysis if they had the following criteria: (1) the presence of a general guide for *future* actions (a minimum criteria established by Berke & French (1994) in plan quality assessments), (2) served as a statewide document to coordinate action (not limited to one agency), and (3) specifically focused on drug/opioid abuse (e.g., not focused on one aspect of the epidemic such as prescribing guidelines for pain management, or did not contain a general focus on other substance abuse issues such as tobacco or marijuana). Thus, reports that outlined actions taken in the past with no *future* guide, reports made to fulfill a grant that focused on the actions of one specific agency, alternative media reports given via PowerPoint or on YouTube, and plans focusing on alcohol, tobacco and marijuana were excluded from the analysis.

In total, 43 plans were eliminated: 21 were eliminated for missing criteria 1 (i.e., future actions), 11 were eliminated for criteria 2 (i.e., statewide coordinating document)

and 9 were eliminated for criteria 3 (i.e., drug/opioid focus).<sup>2</sup> This produced a final sample of 69 plans (see Appendix A for a list of included plans).

## **Variables**

Two dependent variables are included within this analysis—policy enactment and speed of enactment. Policy enactment is defined as the number of opioid-related bills enacted per state, per year as identified through the legislative scan. Figure 1.1 shows the total number of policies (i.e., bills) enacted in each state from 2010 to 2020. The sharp contrast across states is not surprising given that some states (i.e., AR, CA, VA) are considered epicenters for the opioid epidemic.

Speed of policy enactment includes the average number of days from the time the bill was introduced to the time the bill was signed into law by the governor. Thus, a higher number of days indicates a longer period of time from bill introduction to enactment. This information is included in the bill tracking information in LexisNexis. Due to issues of normality and skewness, this variable was square root transformed.<sup>3</sup> Figure 1.2 shows the average number of days for policy enactment by state. As policy speed is dependent on number of days within a legislative session and states have different legislative calendar sessions, a control variable was added to account for this variation. Thus, Figure 1.2 shows average calendar days from bill introduction to enactment. Table 1.2 shows the descriptive statistics for the dependent variables by year and across all years.

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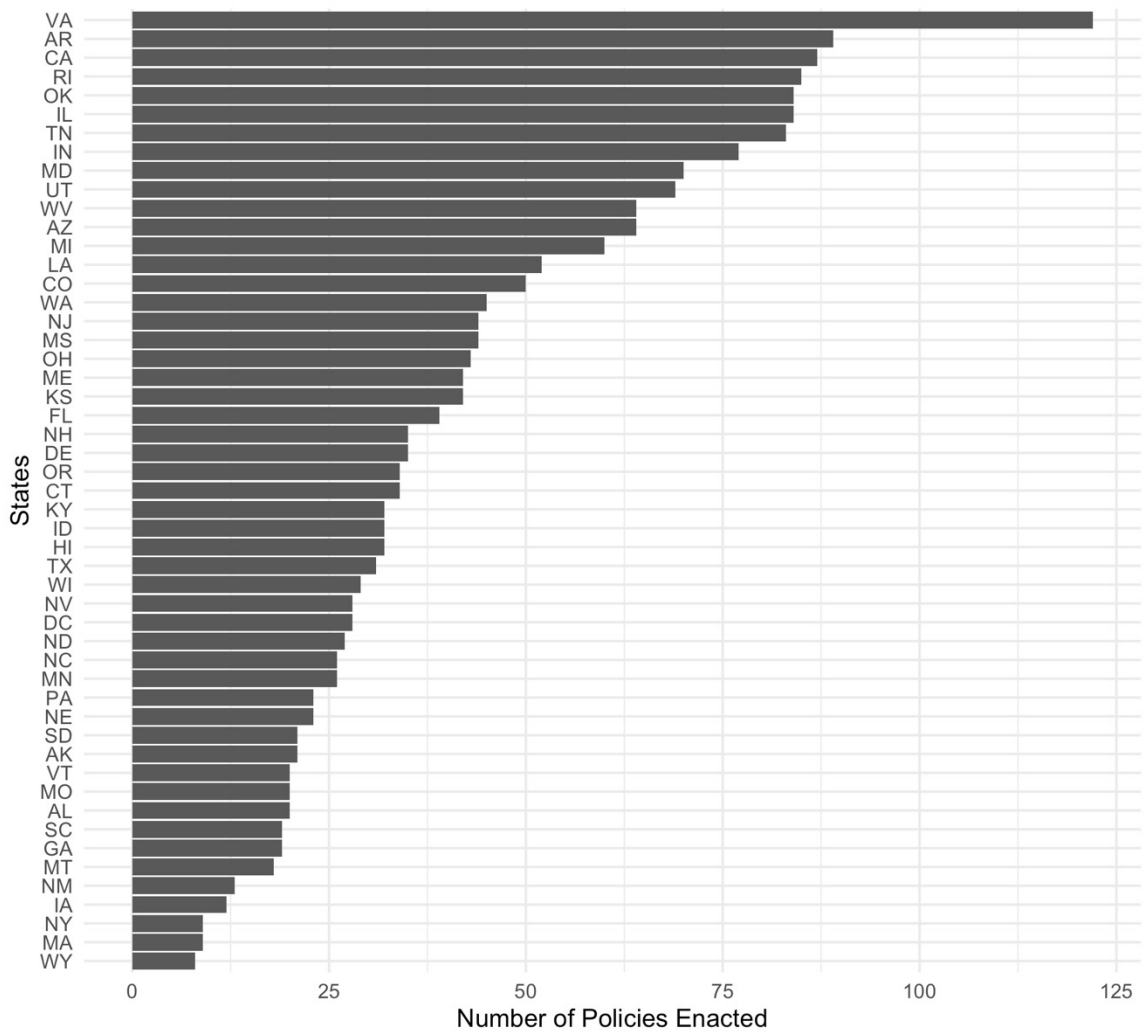
<sup>2</sup> Exclusion criteria is non-exclusive meaning plans could be excluded for multiple criteria.

<sup>3</sup> According to Osborne (2002, 2010) square root transformation is preferred to log transformation for count data. However, normality was assessed for this variable using both options and the square root transformation led to a more normal fit.

Figure 1.1 Total Number of Opioid Policies Enacted by State

Total Number of Opioid Policies Enacted by State

Sum of Policies Enacted from 2010-2020



Note: ordered by number of enacted policies (i.e., bills)

Figure 1.2. Speed of Opioid Policy Enactment by State

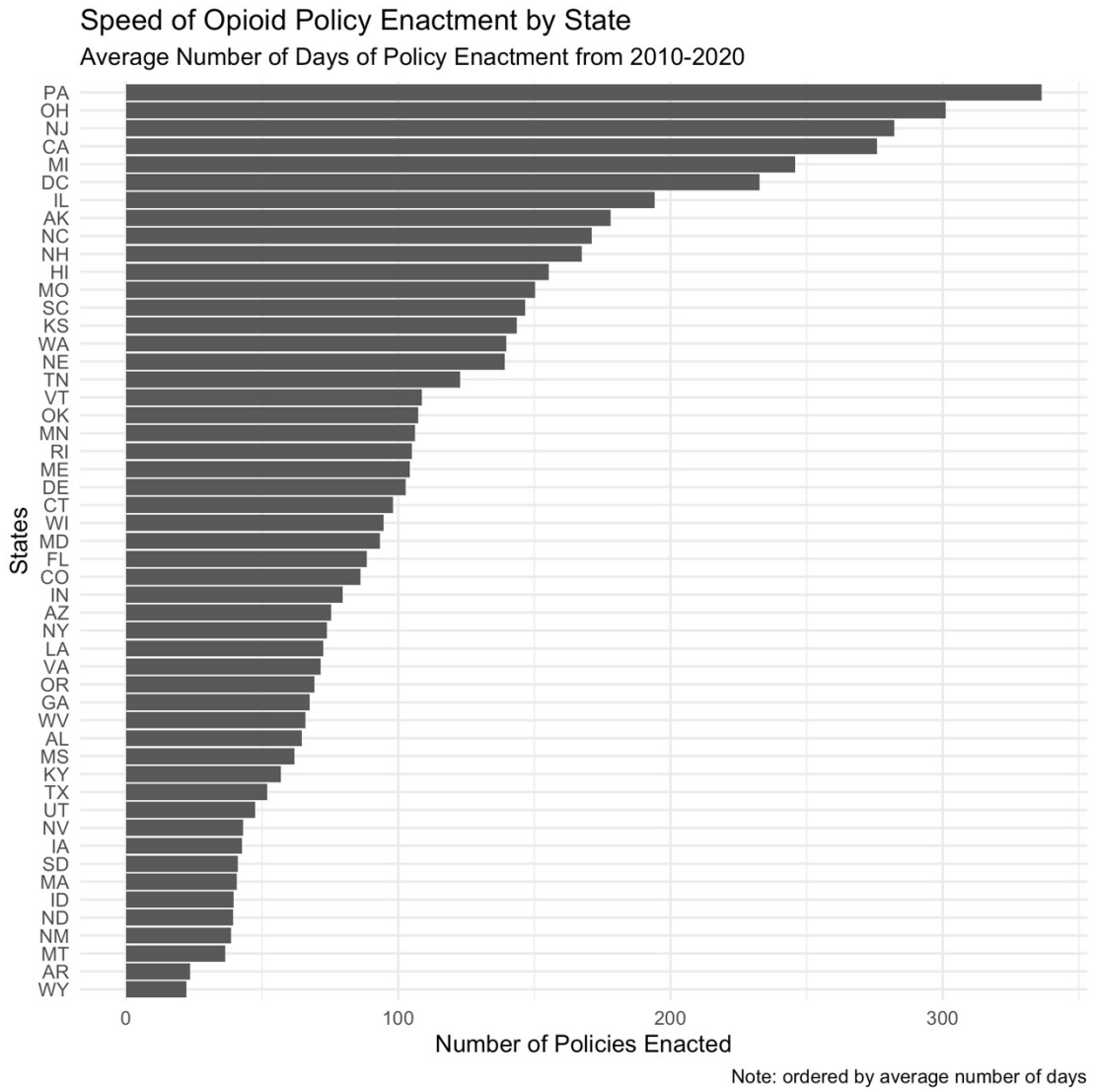


Table 1.2. Descriptive Statistics for Dependent and Control Variables

Variables	N	X	Med	IQR	SD	Min	Max
Policy Enactment (Number of policies)	561	3.78	3	4	3.65	0	26
Speed of Enactment (Days)	561	9.19	1.73	1.24	5.24	0	25.36
Appropriations (Number of policies)	561	0.16	0	0	0.46	0	4.24
Overdose Death Rate (Rate)	561	19.4	17	10.4	9.31	3.2	72.11
Labor Force (Number)	561	6.28	6.32	0.67	0.44	5.46	7.29
SAMHSA Grant (Dollars)	561	7.76	6.9	7.06	7.25	0	50.44
Legislative Session Days (Days)	561	11.87	11.53	5.03	4.66	0	44.34
Plan Quality (Percent)	561	7.8	0	0	21.82	0	99.31

Note: Note: X=mean, Mdn=median, IQR=interquartile range, SD=standard deviation. Number of observations per year is 51 and 561 for the entire sample. Speed of enactment includes square root transformation.

Table 1.3. Descriptive Statistics for Binary Variables

Variables	Number	Percent
Presence of Plan	68	12.1%
Presence of ED	8	1.4%
Republican Governor	322	57.4%
Democratic State Control	125	22.3%
Divided State Government	180	32.1%
N	561	

The overall interest of this study is to examine the impact of two types of emergency management strategies (opioid plans and emergency declarations) on policy enactment. To assess the influence of introducing an opioid plan, a binary variable was created with 1 indicating the presence of a new opioid plan and 0 indicating the absence of a plan. A binary variable was also created for the presence of emergency declarations with 1 indicating the presence of a new emergency declaration and 0 indicating the absence of one. Table 1.3 shows descriptive statistics for these binary variables.

To assess the strength of the plan, all plans were assessed via a plan quality assessment (Brody, 2003a; Brody, 2003b). Five main criteria were included within the plan quality assessment including a factual base; goal-related indicators; policies, tools and strategies; interorganizational coordination and implementation and monitoring. Table 1.4 includes a breakdown of how each of these main categories were scored (see Appendix B for detailed codebook and scoring sheet). For each category, the indicators were summed and then weighted out of ten. The weighted scores were then summed, divided by the total possible score (50) and multiplied by 100 to provide an overall plan quality percentage. To assess the influence of an emergency declaration, a binary variable was created with 1 indicating the presence of a new emergency declaration and 0 indicating the absence of an emergency declaration. During this time period, eight states had emergency declarations for the opioid epidemic: Alaska, Arizona, Maryland, Massachusetts, Pennsylvania, South Carolina and Virginia.

Table 1.4. Plan Quality Scoring

Types	Number of Indicators	Score of 0	Score of 1	Score of 2
Factual-Base/ Problem Identification	3	No scope, vulnerable community aspects or existing programs mentioned	Vague description	Detailed description
Goal-related Indicators	2	No goal statement or measurable objectives mentioned	Vague description	Detailed and measurable description
Policies, Tools and Strategies	5	No recommendations, rationale, policies, or alternatives mentioned	Vague description	Detailed description
Interorganizational Coordination	2	No stakeholders mentioned	Vague description	Detailed description
Implementation and Monitoring	5	No responsibilities, timeline, political support, cost/funding, or tracking mentioned	Vague description	Detailed description

Note: Adopted from Brody (2003a); Brody (2003b); Tang et al. (2008); Berke & Godschalk (2009); Lyles et al. (2014); Knox (2017)

Several control variables<sup>4</sup> were included within the analysis. Table 1.5 includes a description of all variariables. Opioid overdose death rates were included to control for factors related to the increase in opioid abuse driving policy enactment. Labor force participation (or lack thereof) has a strong correlation with drug use (French et al., 2001). Therefore, a log-transformed variable was included to capture the civilian labor force from 2010 to 2020. Substance Abuse and Mental Health Services Administration

<sup>4</sup> Other variables such as population could not be added to the model due to multicollinearity with variables including SAMHSA grants and labor force. Due to literature outlining the significance of these variables to this current study, population was excluded from the analysis.

(SAMHSA) grants are a major factor driving state adoption and implementation of substance abuse programs (Hyde, 2013; Myrick & Del Vecchio, 2016); thus, SAMHSA grant amounts per capita were included to control for this relationship. Policy appropriations were included to control for factors related to funding driving policy enactment. This variable is similar to Boehmer and colleagues' (2008) appropriates money variable which accounts for language within the bill regarding funding. Due to normality issues, the variable was square root transformed. Similar to other studies using panel count data over an 11 year period (see Gies et al., 2020), a year variable was added to capture linear yearly trends.

Three variables were included to account for political factors that may influence policy enactment: (1) a binary variable was included to account for a republican governor, (2) a binary variable was included to account for democratic state (i.e., states in which democrats hold both legislative chambers and the governorship, and (3) a binary variable was included to account for a divided state government (i.e., House of Representatives, Senate, and/or governorship is held by different political parties). These political factors are important because Democratic parties are generally assumed to support government intervention in social services while Republican parties support indirect and privatized options for these services (Kiewiet & McCubbins, 1991; Faricy, 2015). Thus, it can be assumed that Democratically-controlled state government may support more policies that respond to the opioid-epidemic while divided and republican governors may pass less opioid policies.

Table 1.5. Variable Descriptions and Data Sources

Variables	Description	Data Source
Policy Enactment	Number of bills enacted per state, per year	LexisNexis
Speed of Enactment	Days from introduction to enactment (square root transformed)	LexisNexis
Legislative Session Days	Number of calendar days from the start to end of the legislative sessions; special sessions included	National Conference of State Legislatures (NCSL)
Appropriations	Number of bills per year that included appropriations (square root transformed)	LexisNexis
Presence of plan	Binary variable: 1 = plan introduced that year, 0 = no plan	Government website
Presence of Emergency Declaration (ED)	Binary variable: 1 = emergency declaration introduced that year, 0 = no emergency declaration	Government website
Plan Quality	Plan quality score (percentage)	Plan Quality Assessment
Labor Force	Number of adults in the civilian labor force, seasonally adjusted for March of each year (log transformed)	Bureau of Labor Statistics (BLS)
SAMSHA Grants	Per capita monetary amount issued by SAMHSA for substance abuse services by state (standardized by state population)	SAMSHA Grant Awards Archives
Overdose Deaths	Percent of the population that had a drug-induced cause of death	CDC Wonder 2010-2020
Republican Governor	Binary variable: 1 = republican governor, 0 = non-republican governor	National Conference of State Legislatures (NCSL)
Democratic State Government	Binary variable: 1 = democrats hold both legislative chambers and governorship, 0 = absences of this criteria	National Conference of State Legislatures (NCSL)
Divided State Government	Binary variable: 1 = divided points of power (legislative chamber and/or governorship held by a different party, 0 = non-divided power	National Conference of State Legislatures (NCSL)

This paper uses the National Conference of State Legislatures (2022) definition of divided state government where a state is divided if any points of power (governorship, and/or legislative chambers are held by a different party. Similar to other studies (see Bowling & Ferguson, 2001), divided state government, also called simple divided government, is a binary variable where 1 is a divided state government and 0 is a non-divided state government.

In addition, a control variable for speed of policy enactment models (M7, M8, M9) was added to account for states that have longer calendar days in their legislative sessions. For example, Pennsylvania has not limit to the legislative session length, Colorado has a limit of 120 calendar days, and Kansas legislature does not meet in odd-number years (National Conference of State Legislatures, 2021). In order to account for these differences between states, a variable was created that captured the number of days between the start of each state's legislative session and the final adjournment date. Special sessions were included as many of these sessions discussed healthcare policy.

### **Statistical Analysis**

The main objective of this study is to analyze the emergency management strategies that may impact policy enactment during the time period of 2010 to 2020. Given the time parameters and that the dependent variables capture count data, a balanced panel Poisson regression model was used. Several diagnostic tests were used to determine the validity of the models. A panel Poisson regression model (xtpoission) was chosen over a negative binomial model due to the statistical estimation of these models in the statistical program Stata™. According to Cameron and Trivedi (2009), the Poisson panel estimation may be more robust when used with cluster-robust standard errors than the negative-binomial, even in over dispersed data sets (p. 627). To validate results,

negative-binomial panel models are included in Appendix C along with the Likelihood-ratio test of alpha to test for overdispersion.<sup>5</sup> The Hausman test and Breusch-Pagan Lagrange multiplier (LM Test) determined that random-effects estimations were the best fit to analyze the data (see Table 1.6). The Breusch-Pagan test for heteroskedasticity determined that heteroskedasticity was present. To account for these issues and following Cameron and Trivedi's (2009) recommendations for analyzing panel count data in Stata™, the models were run with robust standard errors, clustered at the state level. Results from the correlation matrix and variance inflation factor (VIF) test, included in Appendix C, indicated no issues of multicollinearity between variables. Analysis was conducted in Stata/BE 17.

Table 1.6. Hausman Test and LM Test

Models	Hausman Test			Breusch-Pagan Lagrange multiplier		
	X2 (df)	P-value	Null	X2 (df)	P-value	Null
M1	9.18(8)	0.328	FR	266.69(1)	0.000	R
M2	7.36(9)	0.600	FR	269.51(1)	0.000	R
M3	5.61(7)	0.586	FR	264.69(1)	0.000	R
M4	5.40(7)	0.611	FR	259.49(1)	0.000	R
M5	6.16(8)	0.63	FR	268.93(1)	0.000	R
M6	5.96(8)	0.651	FR	277.24(1)	0.000	R
M7	11.14(10)	0.346	FR	267.59(1)	0.000	R
M8	12.79(9)	0.172	FR	124.16(1)	0.000	R
M9	12.93(8)	0.114	FR	122.70(1)	0.000	R
M10	14.30(9)	0.112	FR	123.55(1)	0.000	R

NOTE: FR= Failed to reject the null hypothesis; R= Reject the null hypothesis

<sup>5</sup> Models were also analyzed using the pglm package in R with similar significant results for the variables of interest. Stata was chosen over R due to the ability to use cluster-robust standard errors.

## Results

Table 1.7 (number of policies) and Table 1.8 (speed of enactment) present the results from random-effects Poisson models analyzing the impact of plan, plan quality and emergency declarations on policy enactment and the speed of policy enactment. Hypothesis 1.1 expected the presence of a statewide plan to influence the number of policies enacted. In support of this hypothesis, Model 1 (M1) showed that the initial presence of a plan (i.e., the first year the plan was introduced), was associated with a 16% ( $\exp(0.15)-1$ ) increase in the number of policies enacted that same year. To account for impacts that may arise from delayed implementation of the plan, a lagged plan variable was included (M2). When plan implementation was lagged (i.e., the plan having an impact on the policy enactment the following year after it was introduced), it maintained significance, indicating that plans may have sustained influence on policy enactment. Specifically, the presence of a lagged plan was associated with a 14% ( $\exp(0.13)-1$ ) increase in opioid-related policies. In support of Hypothesis 1.2, the quality of plan (M3) was associated with a 0.2% increase in opioid-related policies, supporting the idea that not only having a plan matters but the quality of the plan matters as well. The lagged variable for plan quality was not significant (M4)

Table 1.7. Random-Effects Poisson Models for the Effect of Plans and Emergency Declarations on Policy Enactment

Variables	Policy Enactment						
	M1	M2	M3	M4	M5	M6	M7
Presence of Plan	0.15** (0.071)	0.16** (0.074)	-	-	-	-	0.14** (0.179)
Presence of Plan Lag	-	0.13* (0.076)	-	-	-	-	-
Plan Quality	-	-	0.00** (0.001)	0.00** (0.001)	-	-	-
Plan Quality Lag	-	-	-	0.00 (0.001)	-	-	-
Presence of ED	-	-	-	-	0.23 (0.151)	0.33*** (0.132)	0.17 (0.072)
Presence of ED Lag	-	-	-	-	-	0.64*** (0.190)	-
EDXPlan	-	-	-	-	-	-	0.20 (0.260)
Appropriations	0.43*** (0.107)	0.42*** (0.099)	0.43*** (0.107)	0.43*** (0.105)	0.43*** (0.107)	0.44*** (0.102)	0.43*** (0.106)
Rep. Governor	-0.16 (0.163)	-0.15 (0.160)	-0.16 (0.162)	-0.16 (0.160)	-0.15 (0.163)	-0.12 (0.144)	-0.15 (0.162)
Dem. State	-0.31 (0.266)	-0.32 (0.256)	-0.31 (0.265)	-0.31 (0.259)	-0.30 (0.268)	-0.27 (0.246)	-0.30 (0.265)
State Divided	-0.26 (0.173)	-0.26 (0.170)	-0.26 (0.172)	-0.26 (0.171)	-0.25 (0.172)	-0.26 (0.163)	-0.26 (0.171)
OD Death Rate	0.01 (0.007)	0.01 (0.008)	0.01 (0.007)	0.01 (0.008)	0.01 (0.007)	0.01 (0.008)	0.01 (0.007)
Labor Force	0.52*** (0.196)	0.52*** (0.193)	0.52*** (0.196)	0.52*** (0.194)	0.52*** (0.200)	0.49** (0.193)	0.52*** (0.198)
SAMHSA Grants	0.01 (0.006)	0.01 (0.006)	0.01 (0.006)	0.01 (0.007)	0.01* (0.006)	0.01 (0.006)	0.01 (0.006)
Year	-0.00 (0.016)	-0.01 (0.017)	-0.00 (0.016)	-0.01 (0.017)	-0.00 (0.016)	-0.00 (0.016)	-0.01 (0.016)
Log Pseudo-likelihood	-1307.75	-1305.60	-1308.40	-1307.08	-1309.45	-1301.14	-1306.77
Wald X2 (p-value)	403.41***	444.74***	405.31***	413.68***	457.11***	457.92***	462.08***
Wald df	9	10	9	10	9	10	11
Observations	561	561	561	561	561	561	561
Clusters	51	51	51	51	51	51	51

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001. Cluster-robust standard errors in parenthesis. ED is emergency declaration. OD is overdose.

Hypothesis 1.3 expected that the presence of an emergency declaration would influence the number of opioid-related policies enacted. While the initial onset of emergency declarations didn't influence the number of policies enacted (M5), the lagged variable (M6) indicated that emergency declarations were associated with an 89% ( $\exp(0.64)-1$ ) increase in opioid-related policies about a year after implementation. Contrary to hypothesis 1.4, plan presence was not a significant interacting effect for the influence of emergency declarations on policy enactment (M7).

Table 1.8 shows the random-effects Poisson models to analyze the speed of policy enactment. Although these three emergency management strategies (i.e., plans, plan quality and emergency declarations), did have a significant impact on the speed of policy enactment, it was in an unexpected direction. While hypothesis 1.1, hypothesis 1.2 and hypothesis 1.3, anticipated the presence of plans (M8), the quality of plans (M9) and the presence of emergency declarations (M10) to reduce the number of days required to pass opioid-related policies, the results of Table 1.8 indicate that these strategies may delay policy enactment. Specifically, the presence of a plan was associated with an 11% ( $\exp(0.10)-1$ ) increase and emergency declarations was associated with a 14% ( $\exp(0.13)-1$ ) increase in the number of days (square root transformed) from policy introduction to enactment. Plan quality was associated with a 0.14% ( $\exp(0.13)-1$ ) increase in the number of days from policy introduction to enactment. Although these strategies are intended to speed-up policy enactment, other factors such as continued stigma surrounding opioid abuse and quality of implementation (i.e., level of detail and actionable items) may be influencing and even slowing the speed of enactment.

Table 1.8. Random-Effect Poisson Models for the Effect of Plans and Emergency Declarations on the Speed of Policy Enactment

Variables	Speed of Enactment (Days)		
	M7	M8	M9
Presence of Plan	0.10* (0.057)	-	-
Plan Quality		0.00* (0.001)	-
Presence of ED	-	-	0.13** (0.068)
Appropriations	0.06 (0.041)	0.06 (0.040)	0.06 (0.039)
Rep. Governor	-0.14 (0.097)	-0.14 (0.097)	-0.13 (0.094)
Dem. State	-0.15 (0.145)	-0.14 (0.146)	-0.14 (0.147)
State Divided	-0.15 (0.109)	-0.15 (0.110)	-0.14 (0.109)
OD Death Rate	-0.00 (0.006)	-0.00 (0.006)	-0.00 (0.006)
Labor Force	0.26** (0.103)	0.26** (0.102)	0.26** (0.102)
SAMHSA Grants	0.01* (0.004)	0.01* (0.004)	0.01** (0.004)
Year	-0.02 (0.011)	-0.02 (0.011)	-0.02 (0.011)
Leg. Session Days	0.04*** (0.014)	0.04*** (0.014)	0.04*** (0.014)
Log Pseudo-likelihood	-1794.21	-1794.96	-1796.27
Wald X2	5563.15***	5886.15***	5573.46***
Wald df	10	10	10
Observations	561	561	561
Clusters	51	51	51

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001. Cluster-robust standard errors in parentheses. ED is emergency declaration. OD is overdose.

Some control variables had interesting results. Throughout the models, number of adults in the civilian labor force had a significant impact on the number of policies enacted (M1-M7). Labor force also seemed to increase the number of days to enact opioid-related policies (M8-M10). Number of days in legislative sessions also increases

the number of days it took to enact opioid-policies during this time period. Finally, SAMHSA grants was only significant in certain models (M5, M8-M10), Thus, the impact of grant activity on policy enactment may be more influential in certain circumstances. SAMHSA grant amounts also appeared to increase the number of days it took to pass opioid-related policies. It is also interesting to note that partisan control were not significant factors for policy enactment, perhaps indicating the bipartisan nature of this issue.

### **Discussion**

Using balanced random-effects Poisson models, this study found that state opioid plans increased the number of opioid-related policies enacted, providing partial support for hypothesis 1.1. Additionally, there was evidence that the quality of the statewide plan influenced the number of opioid-related policies enacted, providing partial support for hypothesis 1.2. Although the initial onset of emergency declarations did not influence policy enactment (hypothesis 1.3), the lagged variable indicated a delayed impact on policy enactment. Additionally, plans and emergency declarations increased the number of days (reduced the speed) of policy enactment, contrary to the initial hypotheses. Finally, there was no support for the interacting effect of plans and the impact of emergency declarations on policy enactment (hypothesis 1.4).

Overall, this study found that emergency management strategies had differing levels of influence on policy outcomes. Within the context of the opioid epidemic, state opioid plans had more of an initial influence on enacting opioid-related policies than emergency declarations within the first year of implementation. However, results indicated that emergency declarations had a delayed impact. This is interesting as

emergency declarations often serve as a first step in recovering from and receiving funding for natural hazards (Tucker & Bragg, 2000). Despite the widespread use in the aftermath of natural hazards, studies are just beginning to emerge evaluating the effectiveness of this tool in a public health crisis context. Much is still unknown about how to use emergency declarations within this context and the extent of authority and power it provides to government agencies (Gostin et al., 2020). Moreover, emergency declarations may not be a driving factor influencing policy enactment. Previous studies show that emergency declarations may serve as a coordinating mechanism influencing the extent that emergency managers engage in collaborative activities (McGuire & Silvia, 2010). This relationship isn't necessarily captured within this study. Additionally, emergency declarations within healthcare epidemics may be used as way to increase national attention regarding an issue rather than influencing state policy enactment. Thus, emergency declarations may have an overall impact on, for example, physician prescribing behavior over specific state policy enactment. Further analysis is needed to determine the extent and influence of emergency declarations in public health contexts.

It is not surprising that opioid plans serve as a catalyst for policy enactment. The very nature of emergency management plans is to serve as guiding documents to direct and organize future government actions (Berke & Smith, 2009; Lyles & Stevens, 2014). Within emergency management scholarship, questions remain on whether plans are needed and necessary to achieve anticipated outcomes (Brody & Highfeild, 2005; Lyles & Stevens, 2014). Moreover, while plans are included in PHEM's key domains for response to emergency events, there has been little to no research on the effects of this strategy in a health emergency context (Rose et al., 2017). Therefore, this study supports

the claim that plans are a needed emergency management strategy and can be useful in influencing policy enactment. However, more research is needed to understand what factors relating to plans are delaying policy enactment.

The significance of this study is three-fold. First, this study finds evidence that emergency management strategies can be translated to public health contexts. The intersection between emergency management and public health is an emerging field with growing significance in light of the opioid epidemic and COVID-19 pandemic. This is one of the first studies to date to measure the influence and effectiveness of specific emergency management strategies on public health policy outcomes. Second, this study fills a gap in emergency management literature that questions the usefulness of plans in achieving intended outcomes (Lyles & Stevens, 2014). Moreover, this is one of the first studies to connect plan quality assessments to public policy outcomes. Third, this study finds a complex relationship between emergency declarations and policy enactment within public health emergencies. This is one of the first studies to examine the influence of emergency declarations on policy enactment within a public health context. More studies are needed to determine the influence, usefulness and effectiveness of this strategy. Finally, this study finds an unexpected relationship between the implementation of emergency management strategies and the speed of policy enactment, with emergency declarations and plans increasing the number of days from bill introduction to enactment. This is one of the first studies to examine the influence of these emergency management strategies on producing quick and speedy policy responses to an ongoing epidemic. Although these strategies may in fact delay policy enactment, the results of this study are one-step in analyzing and understanding this relationship.

The present study also has several practical implications. First and foremost, state and government agencies wishing to tackle the opioid epidemic should consider implementing a statewide opioid plan. While many states have agency-specific (e.g., health department) or grant-specific (e.g., State Targeted Response) plans, this study shows that plans initiated and coordinated by government agencies to guide statewide opioid action has an impact on policy outcomes. Second, states can follow quality planning procedures established by emergency managers that include goals and objectives; recommended policies, tools and strategies; interorganizational coordination; and implementation and monitoring criteria. If funding and time do not permit this, just having a coordinating planning document still has a positive outcome on policy enactment.

### **Conclusion**

This study contributes to scholarship in emergency management and public health that attempts to use and adopt emergency management strategies to respond to complex and emerging public health emergencies. While this study has several notable strengths including the use of panel data and established public policy (e.g., legislative scan) and emergency management (e.g., plan quality assessment) procedures, there are also several limitations. First, this study finds that states that have an opioid plan are more likely to pass opioid-related policies that same year. However, there is also evidence that the influence of plans may continue in subsequent years. More research is needed to determine the short and long-term influence that plans have on policy enactment.

Second, this study uses random-effects Poisson estimators to understand the relationship between emergency management strategies and policy enactment. Thus, the

purpose was to determine the overall connection between these variables. The long-term influence of these strategies was not assessed. Future studies could use alternative methods to determine the influence of these strategies years after implementation. This study also uses Stata to execute count panel data analysis. While previous scholars have verified the legitimacy of using random-effects Poisson models with over dispersed data by including clustered-robust standard errors (see Cameron & Trivedi, 2010), over dispersed count data should typically be analyzed using negative-binomial estimations, which are limited in Stata. Future research could conduct this analysis using different programs, such as R. This study uses an overall yearly trend variable instead of adding 11 yearly dummy variables. Although this is in line with social science research that examines decade panel data and previous studies on count panel analysis, this may add to the estimation error. In addition, the control variable for legislative session days may not accurately capture the influence of differing state legislative sessions. Future research could use the percentage of legislative days it took to pass opioid policies instead of using two variables to capture this relationship.

Third, only two emergency management strategies were assessed—plans and emergency declarations. These were chosen based on their use within the opioid epidemic. Future studies are needed to determine the use and influence of different emergency management strategies within this context. This study also lumps all opioid policies into one dependent variable. Future studies could examine the influence of these emergency management strategies on specific types of opioid policy enactment (e.g., prevention, treatment, metrics, and criminal justice).

Fourth, the results of this study are also limited to the context of the opioid epidemic. More research is needed to determine if the findings of this study can be generalized to other public health contexts. Moreover, future research could apply this study to the context of natural hazards to determine the strength and influence of plans to influence policy development in other contexts.

Finally, this study only looks at the influence of plans and emergency declarations to determine whether this connection exists. The nuances of plans and emergency declarations in influencing policy enactment are not explored and may provide important details as to why and how these strategies are delaying speedy policy enactment. Thus, which factors matter most in policy enactment are still unknown. Therefore, future research could use case studies and other qualitative methods to understand the factors that influence these two strategies the most and why.

This study is one of the first to explore the link between emergency management strategies and public health emergencies within the context of the opioid epidemic. As public health emergencies become more prevalent, more research is needed to prepare for and respond to these complex emergencies. This study takes the first steps in determining which emergency management strategies can be adopted and applied to public health contexts. Specifically, the opioid epidemic represents a unique and understudied public health crisis. By using the strategies identified within this article, states can begin to tackle this complex crisis and create policy change.

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**ESSAY 2**  
**Collaborating Against Opioid Abuse: Structures and Strategies for Mitigating the  
Influence of Powerful Actors in Multi-Sectoral Networks**

**Introduction**

The United States is in the midst of a deadly health crisis commonly referred to as the opioid epidemic. Opioids are highly addictive pain relievers that can cause life-threatening overdoses when misused. In 2019, the CDC estimated that over 841,000 people have died from drug overdoses since 1999, 70% of which involved an opioid, making the death rate comparable to the HIV/AIDS epidemic (Williams & Bisaga, 2016; CDC, 2021). With a dramatic increase in individuals addicted to opioids, sober homes, or group residences for those undergoing addiction treatment, are targeting clients with promises of getting clean in first-class style. However, limited oversight provides opportunities for negligence, fraud, forced prostitution, or even death (Seville et al., 2017; FBI, 2018). Many local government agencies are responding to this aspect of the crisis by forming cross-sector task forces aimed at regulating sober homes and ultimately saving the lives of their residents.

In recent years, cross-sector collaborations, and specifically task forces, have become a common response to community crises and health epidemics. Task forces are types of interagency, interprofessional, or intersectoral responses to community crises. They have been arranged on a variety of issues including restoring ecosystems (Heikkila & Gerlak, 2016), containing the spread of diseases (Moynihan, 2005), and coordinating responses to health epidemics such as HIV/AIDS (Moyer, 2013). Because task forces can help respond to complex health problems, local governments are beginning to adopt this approach to respond to the opioid epidemic.

Despite a growing literature on collaborative governance, task forces remain understudied in the public administration literature. Furthermore, collaborative governance scholars argue that members should have equal power in order to promote a true sense of collaboration (Emerson et al., 2012). However, such an ideal does not necessarily hold up in the field and ignores inherent power struggles embedded in collaborative structures (Ansell & Gash, 2008; Johnston & Finegood, 2015). Previous research offers little insight into how the interests of the few can dominate policy making (referred to as *policy capture* in this paper) in task forces or how their powerful influences can be mitigated.

Focusing on these gaps in the literature, this article asks: 1) Do collaborative governance structures of opioid task forces mitigate policy capture by powerful interests? and 2) What strategies can facilitate or inhibit policy capture in collaborative governance settings? The study is based on the Palm Beach Sober Homes Task Force in Palm Beach County, Florida, as this case represents a nexus of the opioid crisis and an exemplar case of cross-sector task force collaboration. The study uses a mixed-method design, which: 1) quantitatively analyzes the network structure of a task force collaboration through descriptive social network analysis, as well as binary and valued exponential graph modeling (ERGM); and 2) qualitatively analyzes strategies put in place to manage private sector dominance in the task force. The study's findings show that task force participation was susceptible to policy capture by powerful addiction treatment providers. Despite implementing several strategies to mitigate policy capture, private sector organizations still played a significant role within the network due to selective policy participation and limited interagency collaboration.

Besides its theoretical contributions to the public administration literature on the opioid epidemic, taskforces and policy capture, the article has two methodological contributions. *First*, it utilizes discourse network analysis (DNA), a less utilized social network analysis methodology in public administration compared to political science and public policy. *Second*, the article captures interactions within the collaborative network in its natural setting as it extracts observed data from task force meeting agendas, minutes, handouts, and recordings. This is unlike many other studies in collaborative governance literature that gather data on networks through data collection methods like surveys.

## **Literature Review**

### **Collaborative Governance and Policy Capture**

Collaborative governance is an emerging framework in public administration that deviates from the traditional Weberian model of public service delivery by favoring consensus building and active collaboration between a diverse set of public and non-public stakeholders (Ansell & Gash, 2008; Bevir, 2011; Johnston & Finegood, 2015). While there is no standard definition, descriptions of collaborative governance commonly emphasize the boundary spanning and goal directed nature of cross sector collaborations to achieve public purposes (Emerson et al., 2012). Unlike other forms of cross-sector cooperation that are more hierarchical in nature (e.g., advisory councils and public-private partnerships), collaborative governance is distinguished by including a diverse group of actors in public policy decision-making (Ansell & Gash, 2008; Bryson et al., 2015).

There are two main schools of thought as to why local governments participate in collaborative governance—the growing complexities of social problems (Cooper et al.,

2006; Bryson et al., 2015) or government failure to resolve the problem on its own (Ansell & Gash, 2008; Bryson et al., 2015). A single issue, such as drug abuse, is increasingly becoming interconnected with other issues, including access to healthcare, economic opportunities, and housing. Such problems become what Rittel and Webber (1973) described as “wicked” problems when they have no definitive or immediate solutions and require solutions that span multiple sectors. Therefore, collaborative governance may be particularly useful when public agencies attempt to address health issues that cross organizational boundaries and public, private, and nonprofit sectors (Shortell et al., 2002; Teutsch & Fielding, 2013).

Alternatively, the drive for increased public efficiency as a result of the New Public Management reform movement has led to a ‘hollowing of the state’ (Milward & Provan, 2000; Richards & Smith, 2002). The “hollow state” refers to a rise in private entities providing public services in the hopes that market-oriented strategies will reduce costs. However, as a consequence of increased privatization, government agency control over service delivery is reduced, and accountability issues are heightened. In order to reconcile the traditional mode of public service delivery with increasingly market-oriented solutions, collaborations with non-government entities became a viable option for public organizations wishing to tackle difficult community problems.

While collaborations are becoming more accepted, it is not a “silver bullet” to solving all complex social problems. There are several instances of collaborative failures, inconsistent results, or lack of effectiveness (Bryson et al., 2015; Johnston & Finegood, 2015). Scholars cite a range of issues related to why collaborations fail. They include having inadequate administrative capacity (Andrews & Entwistle, 2010; Varda et al.,

2012) or ill-defined purposes for collaborating (Shortell et al., 2002; Hill & Lynn, 2003), excluding important stakeholders (Ansell & Gash, 2008), and symbolically seeking policy advice (Bevir, 2011). Another commonly cited and, yet understudied concern, is the effect of power dynamics or group dominance within the collaborative network. For example, the resource-dependence literature examines how the unequal distribution of resources across a network of inter-organizational partnerships can create relationships of dependence between partners that give rise to power dynamics (e.g., Pfeffer & Salancik, 2003; Rethemeyer & Hatmaker, 2007).

Within collaborative governance literature, scholars advocate for diverse stakeholder participation at all stages of the decision-making process (Ansell & Gash, 2008; Andrews & Entwistle, 2010). While encouraging organizations to eliminate barriers for underrepresented and less powerful groups to participate (Ansell & Gash, 2008; Varda et al., 2012), there is an acknowledgement that organizational interests are unlikely to be equally served within a collaborative structure (Hawkes & Buse, 2011; Johnston & Finegood, 2015). This indicates a propensity for powerful groups to control the collaborative process by becoming central actors if unchecked by other members of the collaboration.

Abuses in power are particularly concerning within collaborations because unequal participation can lead to manipulation of policies that benefit or harm particular segments of the community. This was noted by Clegg and Hardy (1996) who wrote the following: “[We] cannot ignore the façade of ‘trust’ and the rhetoric of ‘collaboration’ used to promote vested interest through manipulation and capitulation by weaker partners” (p. 679). While not intended to manipulate the process, the very nature of

collaborating with partners of unequal power can invite opportunities to capture or coopt the outcomes of the collaboration (O'Toole & Meier, 2004). In particular, including powerful interests, such as addiction treatment providers, is a common practice within health collaborations (Johnston & Finegood, 2015). Thus, abuses of power within this setting can have direct effects on what interventions are recommended, what population benefits from an intervention, and who provides services to that population. Therefore, understanding the potential for interest group manipulation by healthcare providers is a particular interest of this paper. Hence, we ask:

***Research Question 2.1:** Do the collaborative governance structures of opioid task forces mitigate policy capture by powerful interests?*

### **Network Structure and Policy Capture**

Homophily is a concept in the networks literature that refers to the tendency for actors with similar characteristics to form connections with each other (Kadushin, 2012). In social network literature, homophily provides an explanation for why organizations with similar characteristics tend to collaborate with each other (McPherson et al., 1987). Homophily states that organizations form ties, or connections, on the basis of similar attributes. Thus, homophily on the basis of sector would occur when organization within the same sector (private, nonprofit, or government) are more inclined to collaborate amongst themselves.

Sector homophily is an important factor to consider when evaluating power dynamics in collaborations. Specifically, homophily could decrease the likelihood that diverse perspectives are heard and potentially lead to group dominance. Since homophily can also operate at the periphery of the network, homophily is not a measure of network

dominance *per se*. However, homophily becomes particularly salient when homophilous sets of actors take central positions in the collaborative network. A strong homophily effect may be a reasonable indicator that diverse perspectives are suppressed in policy recommendations.

A primary concern for many healthcare practitioners is the role and influence of the private sector in health collaborations. Private healthcare providers can play a particularly powerful role within collaborations because they not only provide healthcare services for individuals but also make money from these services. Within a pay-for-service scheme, motivations can exist to continually cycle clients through their services. These motivations can translate into policies that benefit their business over population health. The literature on private sector participation in collaborations suggests that tie formations can occur as a way to help their businesses by enhancing organizational efficiency, improving legitimacy, acquiring knowledge, or limiting resource dependency (Kumar & Nti, 1998; Rondinelli & London, 2003). While private sector organizations can have altruistic reasons for participating in collaborations (Babiak & Thibault, 2009), they can also be motivated by strategic concerns regarding the application of resources for competitive advantage (e.g., Barney, 1991). This strategic concern can be particularly concerning within collaborative structures as substantive representation (i.e., who is influencing the outcomes) varies significantly across the governance structure with some research suggesting that organizational allegiance can, in some cases, outweigh the mission of the collaboration (Siddiki et al., 2015; Koski et al., 2018).

***Hypothesis 2.1:** In healthcare collaborations, private sector organizations are more likely to connect with other private sector organizations (form homophilous ties) to influence policy outcomes.*

When considering the potential motivations for power abuse among private healthcare providers, public or nonprofit agencies may play an important role in steering communication and providing opportunities for less powerful actors to participate. Specifically, Provan and Kenis (2008) suggested that public sector agencies could play brokering roles between contentious collaborators. This was further supported by Weir, Rongerude, and Ansell (2009) who recommended expanding the role of government to ensure a successful collaboration. Depending on the role of public agencies within the collaboration, this brokering role may also be filled by nonprofits who often bring the support and perspectives of their consistency base to the collaboration (Berman & West, 1995; McPherson et al., 1987; Bryson et al., 2015). This may suggest that nonprofits could also fill this brokering role as they commonly form ties with other nonprofits as a way to support and protect the populations they serve.

***Hypothesis 2.2:** In healthcare collaborations, either public or nonprofit organizations are likely to connect with each other (form homophilous ties) as a way to prevent policy capture by powerful interests.*

### **Collaborative Strategy and Policy Capture**

While the first half of the paper focuses on measuring the influence of network structure on policy capture, the second half aims to understand the factors that can influence policy capture within collaborative structures. Despite a general recognition that powerful interests are more likely to be served within collaborations (Agranoff &

McGuire, 2001; Bogason & Musso, 2006; Hawkes & Buse, 2011; Varda et al., 2012; Johnston & Finegood, 2015), little research exists examining the nature, processes, and variables contributing to or mitigating abuses of power (Agranoff & McGuire, 2001; Bryson et al., 2015). Moreover, there are concerns as to whether strategies of collaborative governance can mitigate abuses of power within highly vulnerable health fields like addiction treatment (MacGregor et al., 2014). These strategies produce policy recommendations which have a strong likelihood of being adopted. This makes understanding the potential for manipulation especially relevant given the nature and consequences of collaborating around the opioid crisis.

While the literature on stakeholder manipulation within collaborations is extensive, most of these strategies center around the ability to move stakeholders away from their own self-interest in support of the overall collaborative mission (Quick & Feldman, 2011; Varda et al., 2012). But how do collaborations bolster a collective mission strong enough to divert self-interest? To motivate the qualitative exploration on collaborative governance strategies in opioid task forces, we pose the following research question:

***Research Question 2.2:** What strategies can facilitate or inhibit policy capture in collaborative governance settings?*

## **Methods**

### **Case Study**

This article uses a case study approach (Yin, 2017) to analyze the study site, the Palm Beach Sober Homes Task Force (PBTF). This site was chosen because it represents a unique case within the opioid epidemic. In 2008, Palm Beach County, Florida became

home to a lucrative, billion-dollar drug-treatment industry and unofficially dubbed the “rehab capital of America” (Seville et al., 2017). Before the task force was formed, local government oversight of sober homes was limited due to federal laws like the Americans with Disability Act (ADA) and the Fair Housing Act (FHA). In response to the growing epidemic and previously unsuccessful attempts at passing legislation to address this issue, the Florida House of Representatives asked the Office of the State Attorney in Palm Beach County, Florida to coordinate a task force in 2016 with the goal of reforming the treatment industry by recommending solutions to respond to current “bad actors” (PBTF, 2017). This task force was convened by a local government agency to not only address a growing problem within the county but also to build political support against a powerful industry—sober homes. As such, it contained members from all sectors with a specific focus on including the treatment industry within the process.

The task force met from July 12, 2016 until December 21, 2016 to create a set of policy recommendations to be considered for implementation during the 2017 legislative session. PBTF completed its mandate by presenting policy recommendations to the Florida legislature on January 1, 2017 in a report (PBTF, 2017) entitled, “Identification of Problems in the Substance Abuse Treatment and Recovery Residence Industries with Recommended Changes to Existing Laws and Regulations.”

### **Network Data**

To understand the extent of policy capture in the PBTF, we used Discourse Network Analysis (DNA). DNA is a method that uses content analysis to create a policy discourse network (Leifeld, 2013a). DNA has been used to study the influence of various organizations on policy debates including the pension system (Leifeld, 2013a) and

alcohol pricing (Fergie et al., 2019). Within DNA, actors are connected to each other through stated policy preferences. Policy preference are statements in which actors agree or disagree with a suggested policy alternative (Leifeld, 2013a; Leifeld, 2017). The articulation of a policy preference is important because these statements are intended to move the decisionmaker in a specific direction and ultimately impact final policy recommendations (Leifeld, 2013a).

In this study, we used the PBTF final policy recommendations (n=15) (2017) as the policy preferences. As shown in Table 2.1, we grouped these recommendations under six categories: licensing/regulation, patient brokering, marketing, jurisdiction, prosecution, and standards of care/medical necessity.

Table 2.1. Description of PBTF (2017) Policy Recommendations

<b>Licensing/Regulation</b>		
1.1	Regulation	Give Department of Children and Families (DCF) the ability to license, monitor and investigate commercial recovery residences (§429.01(3), Chapter 397)
1.2	Licensing Standards	Develop licensing standards similar to National Alliance for Recovery Residences (NARR) or Agency for Health Care Administration (AHCA)
1.3	Increased License Fees	Increase licensing fees to support additional work
1.4	ACHA License Alternative	Recommends Agency for Health Care Administration to be licensing agency (instead of Department of Children and Families)
<b>Patient Brokering</b>		
2.1	Mandatory Credentialing	Mandatory credentialing (currently Florida Association of Recovery Residences certification) for any commercial recovery residence
2.2	Restricting Referral	Adopt § 397.407(11) restricting referrals from treatment providers to certified recovery residences
2.3	Free Housing	Restricting free or subsidized housing provided by intensive outpatient programs
2.4	Expand Patient Brokering	Expand §817.505, Fla. Stat. to include any benefit and expand penalties
<b>Marketing</b>		

3.1	Marketing Practices Accountability	Requirements for a marketer to have certification or minimum education or an occupational license to refer in Florida
3.2	Unethical Marketing	Adopt §397.55 outlining unethical marketing practices and §817.0345 criminalizing fraudulent marketing practices
<b>Jurisdiction</b>		
4.1	Jurisdiction	Amend §16.56 to include patient brokering as a statewide crime and amend §895.02 to add patient brokering to racketeering offenses
<b>Prosecution</b>		
5.1	Patient Notes	Amend §397.501 allowing for easier undercover operations
5.2	Enforcement	State funding and training for law enforcement to enforce patient brokering, unethical marketing and insurance fraud
<b>Standards of Care/Medical Necessity</b>		
6.1	Insurance Fraud	Enhance penalties for unnecessary treatment under current fraud statute
6.2	Standards of Care	Use the task force to develop standards of care for substance abuse treatment, the need for ancillary services, and recommends a public-private panel to identify abuses in care

To build a policy discourse network, we collected PBTF meetings data, including meeting minutes, audio recordings, handouts, and agendas that were publicly available on the State Attorney’s website (<http://www.sa15.state.fl.us>). In total, there were 12 face-to-face meetings. We examined materials from 11 meetings due to a missing meeting recording. The meetings lasted for about three hours. They were held at the West Palm Beach Police Department and were open to the public. Public viewers ranged from 10 to 25 members and included mostly private treatment facilities not included in the task force. We transcribed meeting audio recordings verbatim using Temi ([www.Temi.com](http://www.Temi.com)) and checked the transcriptions for accuracy. We uploaded the meeting transcriptions to the Discourse Network Analyzer software for analysis (Leifeld, 2013b).

Following the DNA process, three variables were coded—policy preference, agreement and organization. *Policy preferences* included statements made in relation to

the 15 final policy recommendations (Table 2.1). *Agreement* included a dichotomous variable indicating whether the speaker supported the policy preference. This process produced 326 policy statements. We coded these statements three separate times. After initial coding, we blind coded 10% of the statements. We made adjustments and re-coded the statements a fourth time. We also used keyword searches to ensure no statements were missed. Finally, we identified the speaker's *organization*. The moderator identified speakers by first or last name within the recordings and transcripts. These were then cross-referenced with the meeting minutes that showed task force members and their respective organizations. We also manually matched voices by listening to member introductions at the beginning of each meeting. We cross-referenced the names mentioned by the moderator with the names and affiliations mentioned in the meeting minutes to identify the members' organizations. We were able to identify 97% of the speakers and their organizations using these methods.

We conceptualized the original network as a two-mode network with organizations connected to policy preferences. We transformed this initial network into a one-mode network since two-mode networks: 1) have limited analysis techniques and are rarely analyzed without transformations (Opsahl, 2013), and 2) provide limited information on how organizations influence each other (Leifeld, 2013a). We transformed the network into a one-mode network by connecting two organizations that provided feedback on the same policy preference at the same meeting. The network excludes the State Attorney's Office, the agency coordinating the PBTF, which was attached to every policy preference at every meeting. Within DNA, it is often necessary to account for random noise that is a result of one organization facilitating the network (Leifeld, 2013a).

This can inflate the network and cause inaccurate inferences (Leifeld, 2013a). We also left out isolated influence (i.e., when one organization provided feedback on a policy preference solely) from the network. This resulted in only one organization (Attorney General) being excluded from the network for one policy statement.

***Quantitative Analysis.*** To analyze the network data, we used two network analysis methods: binary and valued exponential random graph modeling (ERGM). ERGM has become more common recently as a method for analyzing cooperative interactions between actors in the public policy and administration domains (e.g., Ki et al., 2020). Similarly, valued ERGMs are a newer but growing method used to study policy networks (Scott, 2016). While a binary ERGM is appropriate to test the existence of a tie, valued ERGMs provide an analysis for the strength of the interaction. Thus, the binary ERGM tests the probability of tie formation within the PBTF advice network while the valued ERGM tests the strength of the number of interactions. We used the Statnet package in R to perform the binary ERGMs (Goodreau et al., 2008) and the `ergm.count` extension using a Poisson-reference (Krivitsky, 2012) to perform valued ERGMs.

To allow for comparability between models, we included similar network terms in both models. To account for *transitivity* and model degeneration (Goodreau et al., 2008), we used geometrically weighted edgewise shared partner distribution (GWESP) and transitive weights (`transitiveweights`). For the valued ERGM, it is also necessary to control for zero-inflation (`nonzero`) which accounts for distributions that are inflated relative to the Poisson because of two actors' propensity to interact multiple times (Krivitsky, 2012).

For the *sector attribute*, we coded organizations into three categories—public, private, and nonprofit. If the organization was a government organization (i.e., municipality, Department of Health), we coded the organization as a public organization. We cross-referenced private and nonprofit organizations with their websites and GuideStar, a service that reports on U.S. nonprofit companies, to determine their appropriate sector. If the organization indicated it was a nonprofit or civic organization, accepted donations and had a profile on GuideStar, we coded it as a nonprofit organization. We considered an organization without such a profile a private organization.

*Organizational size* was captured using number of employees and size of assets (Damanpour, 1992). We collected number of employees for nonprofits through the United States Internal Revenue Service (IRS) 990 forms filled by nonprofit organizations and available on GuideStar. While an accurate number of employees is difficult to assess for private organizations, a range of employees was often available on the organization's website (i.e., 25 plus employees to serve clients) or mentioned during the task force meetings. Thus, we created an ordinal variable: one (under 19 employees), two (20 to 49) three (50 and more). We captured the size of assets through number of office locations mentioned on organizational websites.

***Qualitative Analysis.*** We used qualitative analysis to answer our second question on factors affecting policy capture. We exported our data into the computer-assisted qualitative data analysis software NVivo to identify prominent recurring themes. As per recommended qualitative coding practices (Saldaña, 2013), our qualitative coding process involved three stages: (1) *pre-coding* during which we identified significant

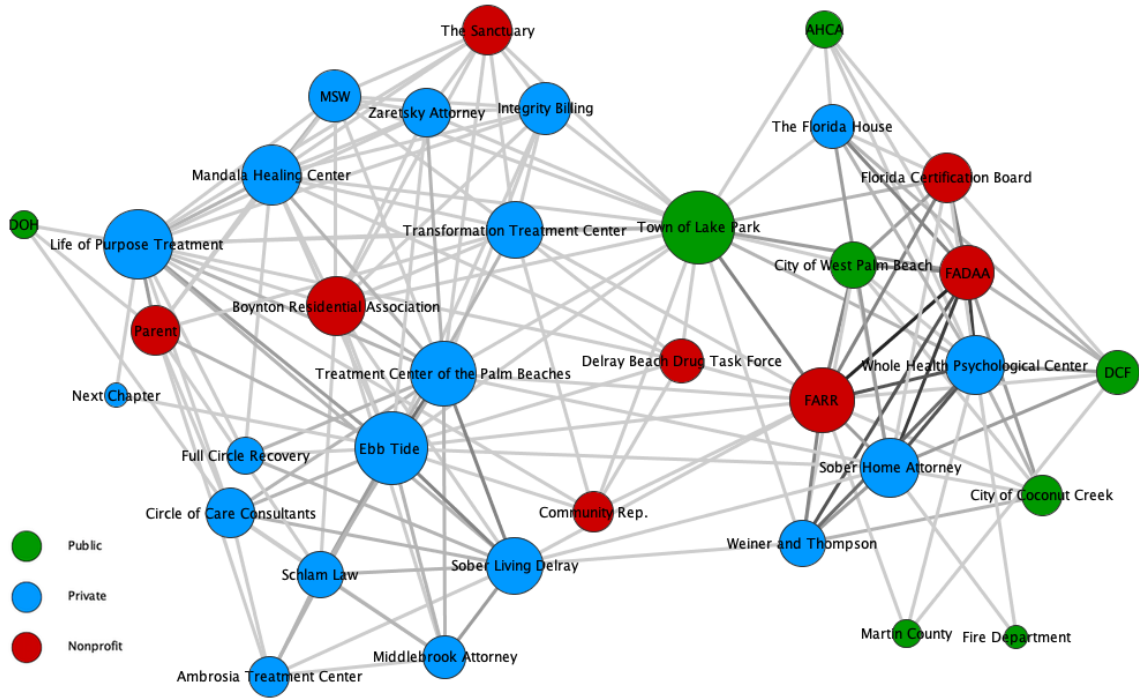
passages; (2) *first cycle coding* with initial coding of data; and (3) *second cycle coding* which consisted of synthesizing, integrating, and reorganizing the themes. The coding process resulted in two factors that facilitated and four factors that hindered policy capture. In addition, we used an inductive method called grounded visualizations to triangulate and supplement network data with qualitative data (Martinez et al., 2003). This method links data visualizations to text or sound data to provide context and meaning to the visualizations.

## **Findings**

### **Quantitative Results**

Figure 2.1 depicts a visual representation of the task force network. In total, there were 35 organizations participating within the network. Government agencies (n=8) comprised of local government organizations, fire rescue and healthcare agencies. Private sector organizations (n=19) made up more than half of participating organizations and included sober homes, treatment/mental health facilities and lawyer's offices representing sober home interests. Nonprofits (n=8) were medical licensing agencies, community members representing civic and residential associations and nonprofit community service agencies. Our analysis revealed 14 isolate (non-connected) organizations including 8 public, 4 private and 2 nonprofit organizations. These organizations tended to have limited attendance and, when present, had little to no interaction with others. Hence, they were excluded from the analysis.

Figure 2.1. Palm Beach Sober Home Task Force Policy Preferences Network



Note: Network created by Visone 2.19 (Brandes and Wagner 2004); layout: stress minimization/overlap removal; node size: degree; edge color: strength of tie.

Table 2.2. Network Position Statistics

Sector	Degree Centrality	Betweenness Centrality	Eigenvector Centrality
Public	13.5	30.1	0.09
Private	20.8	34.6	0.17
Nonprofit	20.0	25.4	0.16

Figure 2.1 shows that private sector organizations are dispersed across the network with active participation surrounding nonprofit organizations. This is consistent with the network position statistics (Table 2.2) which indicate that private sector organizations had the highest degree, betweenness, and eigenvector centrality. Surprisingly, public sector organizations had a comparable betweenness centrality and nonprofit organizations had a comparable degree centrality. Public sector organizations

were mostly on the outskirts of the network which is of note because the three proposed regulatory agencies: (Department of Health (DOH), DCF (Department of Children and Families (DCF), and Agency for Healthcare Administration (AHCA)) had a limited degree centrality and were on opposite sides of the network. There were two active municipalities with the Town of Lake Park appearing to play a brokering role. Nonprofits also appeared to be evenly dispersed throughout the network with the certification agencies like Florida Association of Recovery Residences (FARR) and Florida Alcohol & Drug Abuse Association (FADAA) displaying strong ties between each other and private sector interests.

Table 2.3 presents the results of the binary and valued ERGMs. Model 1 contains the estimates from the binary ERGM depicting the probability of a tie forming between two organizations that provided feedback on the same policy preference at the same meeting. Model 1 shows that homophilous ties between private sector organizations are positive and significant drivers of tie formation in the network, consistent with Hypothesis 2.1. Even though private sector organizations are 30% ( $\exp(-1.20)=0.30$ ) less likely to participate within the network, they are three times ( $\exp(1.15)=3.16$ ) more likely to provide feedback on the same policy preference at the same meeting.

Accounting for the strength of the tie in Model 2 (i.e., number of times organizations provide feedback on a policy recommendation together) produced similar results. Model 2 shows that homophilous ties between private organizations are positive and significant, again showing support for Hypothesis 2.1. Homophilous ties between public and nonprofit organizations were not significant in either models suggesting that private organizations were playing a dominant role within this network. Thus, there was

no support for Hypothesis 2.2. Results from the qualitative portion examines this relationship further.

Table 2.3. Binary and Valued ERGM for the Impact of Homophily on Tie Formation

<b>Independent Variables</b>	M1 Minimum Collaboration	M2 Weighted Collaboration
Offices	-0.05** (0.02)	-0.01 (0.01)
Org Size Medium	-0.09 (0.12)	0.01 (0.07)
Org Size Large	-0.88* (0.35)	-0.44* (0.18)
Main Effect Private	-1.20** (0.43)	-0.61** (0.19)
Main Effect Nonprofit	-0.23 (0.29)	-0.03 (0.17)
Homophily Public	-0.87 (0.83)	-0.43 (0.50)
Homophily Private	1.15** (0.44)	0.71** (0.22)
Homophily Nonprofit	-1.54 (0.81)	-0.50 (0.32)
<b>Network Variables</b>		
Edges	-26.54*** (3.85)	
Sum	NA	-0.42 (0.36)
Transitivity	18.36*** (2.63)	1.41*** (0.23)
Nonzero	NA	-2.06*** (0.18)
<b>Model Information</b>		
AIC	569.9	-404.8
BIC	613.8	-356.5
Estimator	Binary ERGM	Count ERGM (Poisson)

Note: ERGM is exponential random graph modeling. Main Effect base is set to public. Organizational Size (org size) base is set to small organizations. AIC/BIC for the null model of M1 = 706.5/710.9. Transitivity for M1 is GWESP. Transitivity for M2 is transitivityweights. \*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , \*\*\*  $p \leq 0.001$

Transitivity (GWESP and transitivityweights) was positive and significant in both models indicating that a transitive effect is present within the network. Also, the main effect for organizational size was consistent across models showing that large organizations were less likely to participate within the network. The coefficient for offices was also negative and significant within Model 1 indicating that as the number of office locations increase, participation in the network decreases. Although this was insignificant in Model 2, taken with the significance of organizational size, this may indicate larger organizations tend to take a more passive role within the network; only participating when a policy recommendation directly threatens their organization. Finally, Model 2 contains a significant nonzero effect which accounts for zero inflation within the model. Appendix D contains the analysis of goodness of fit plots for the ERGMs.

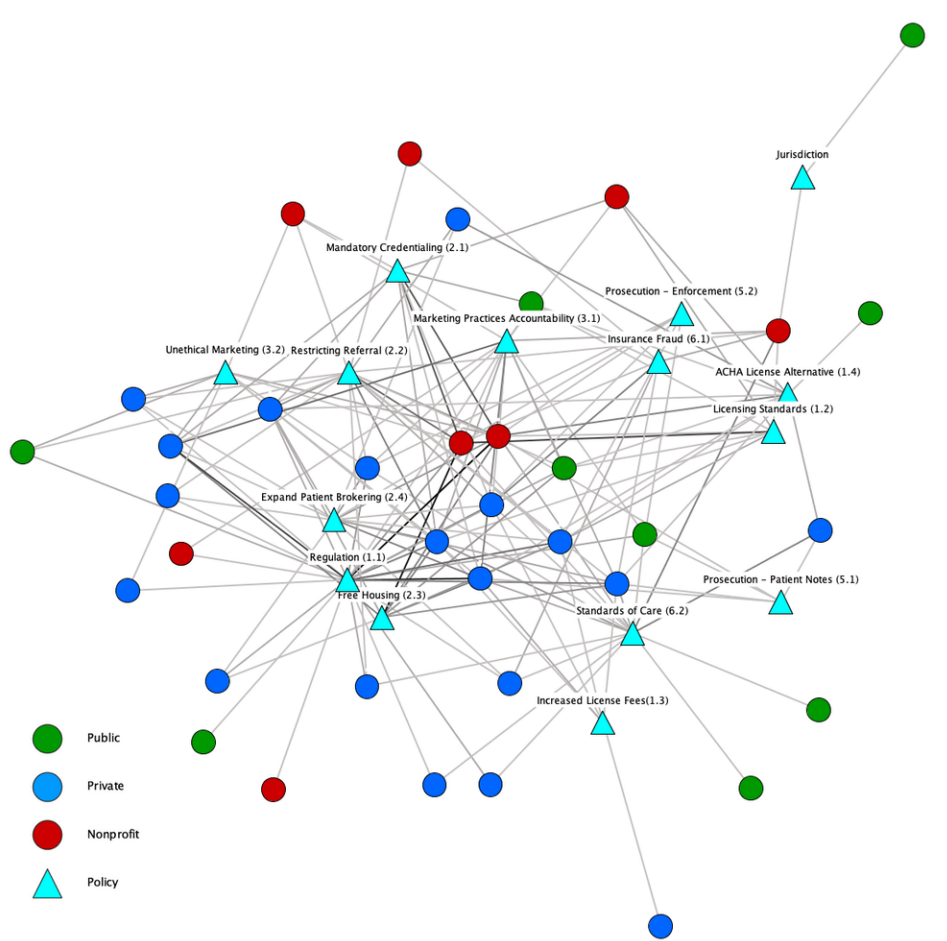
### **Qualitative Results**

Based on the ERGM results, the PBTF's structure appears to be susceptible to policy capture by private sector interests. Part of this susceptibility comes from including a large amount of private sector interests within the task force. This was intentional and in fact a direct response to legislative stalemate. During a task force meeting, the State Attorney's office justified this action:

[We're] trying to achieve a coalition to change some of these things and do it in a way that everybody.... including the sober home industry, including the sober home [owners], uh, the treatment provider industry, including the insurance industry and everybody gets behind, because if we go in there and say, 'We want to close them down.' Dead on arrival.

The State Attorney’s Office, the coordinating agency, and even sober home representatives acknowledged the political power of sober homes and the potential of using the task force to continue market-capture or alternatively, be used to shut down sober homes. Because of this recognition and the need to include organizations with various amounts of power within the task force, the PBTF consciously implemented strategies that attempted to promote intersectoral collaboration. The section below discusses strategies that lead to private sector policy capture and strategies that were implemented to prevent it.

Figure 2.2. Two-Mode Network of the PBTF Advisory Network



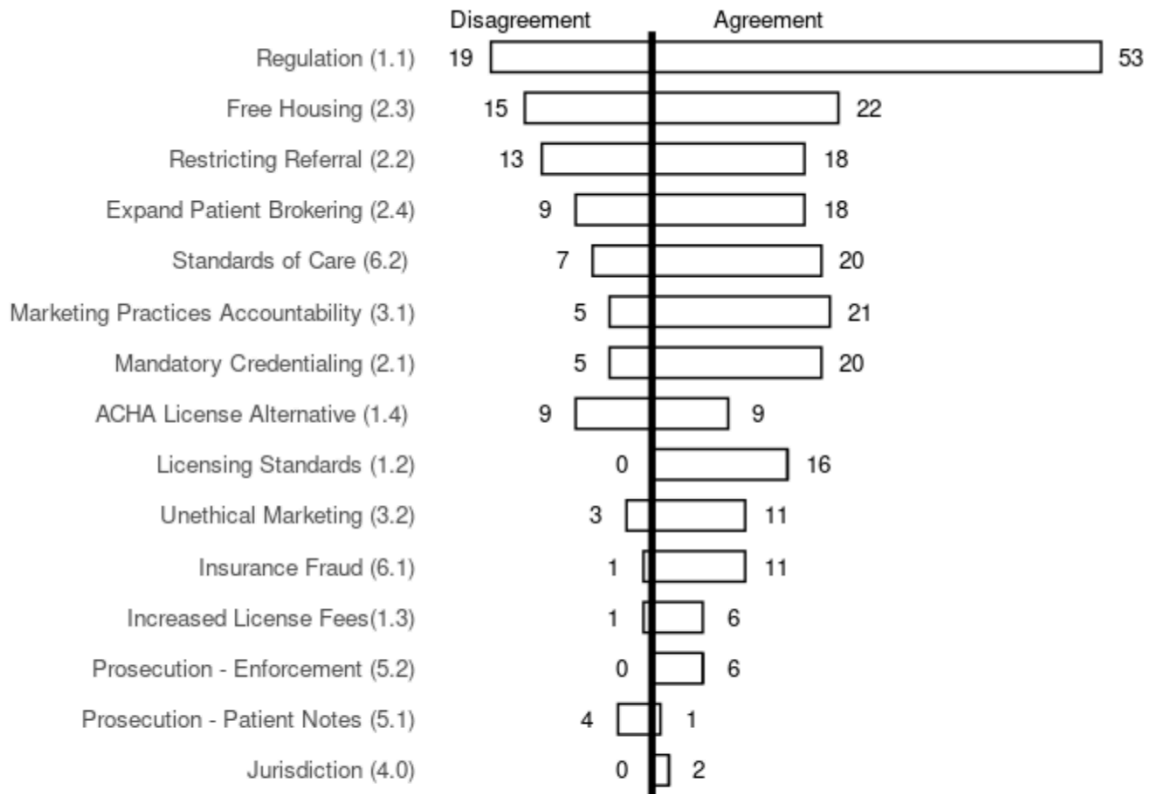
Note: Network created by Visone 2.19; layout: stress minimization/overlap removal; edge color: strength of tie.

One strategy that led to private sector domination was *selective policy participation*. Figure 2.2 shows a two-mode version of the PBTF network. Within this network, private sector organizations are clustered around three policy topics: expand patient brokering, free housing and regulation. All three of these policy topics impact the way sober homes and treatment facilities interact with each other and their clients. Because of this, a large portion of the meetings were dedicated to these policies leaving little time or attention to other policy topics like jurisdiction and prosecution policies which would essentially expand the role of government in responding to and enforcing these recommendations.

Although there was a clear domination of policy topics dealing with patient brokering and regulation, there was limited evidence of polarization. In fact, many private sector organizations wanted stricter policies as a barrier for market entry. Figure 2.3 depicts the policy preference frequency, showing agreement on almost all policy preferences. One sober home provider stated the following:

“[We] have to be handled from a legislative and regulation standpoint, which is actually great for the good providers. We would gleefully [laughing] [accept stricter regulations] if you started eliminating bad providers because of that, [they] harm our business.”

Figure 2.3. Frequency of Policy Preference Agreement and Disagreement



Note: Visualization created in R. rDNA Package (Leifeld, 2013b). Frequency is number of times organizations agreed or disagreed on policy preferences. The policy preferences are listed on the left with overall grouping in parentheses.

On the other hand, a smaller provider raised concern over regulations stating:

“If we're imposing on good places because of what the bad places are doing, that they'll have to spend more money. We're throwing our system into a kilter because they try to keep their prices at a place where an average person can continue their recovery.”

Another strategy influencing private sector domination was limited *interagency collaboration* between public sector organizations. As mentioned earlier, DOH, DCF and AHCA, three regulatory healthcare agencies, were on opposites sides of the network providing limited advice within the network. While they were often present and the main

topic of discussion throughout the meetings, these organizations served in a limited capacity primarily providing one-way communication about their organization. Many municipalities also attended meetings but did not participate within the network. This lack of collaboration between public sector organizations may indicate that important and knowledgeable perspectives were missing from the collaboration. This is notable as the Department of Health is typically a leader of health collaborations (Provan & Kenis, 2008).

Despite the fact that private sector organizations played a significant role within this network, the PBTF and the facilitating agency, the State Attorney’s Office, took extreme measures to ensure that one sector did not dominate the process. Table 2.4 presents strategies that were implemented to mitigate sector dominance.

Table 2.4. Strategies used by PBTF to Mitigate Sector Dominance

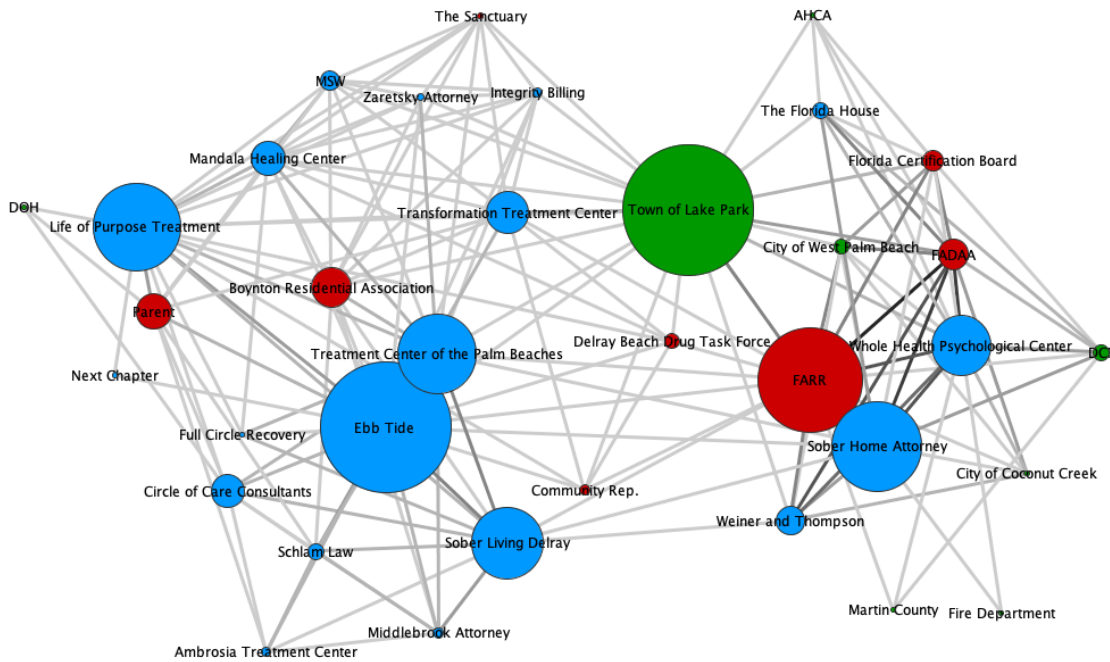
Strategy	Case Description
Clearly Defined Leadership	<ul style="list-style-type: none"> <li>• The Florida House of Representatives supported the task force and asked the State Attorney’s Office in Palm Beach County to lead this initiative</li> <li>• The State Attorney’s Office had the ultimate decision-making authority</li> <li>• The State Attorney’s Office facilitated and organized all meetings</li> <li>• The State Attorney regularly attended meetings</li> <li>• The State Attorney’s Office selected members</li> <li>• Two brokering organizations assisted in guiding the direction of the recommendations</li> </ul>
Transparency & The Sunshine Law	<ul style="list-style-type: none"> <li>• All meetings were open to the public and recorded</li> <li>• Public comments were heard at the end of each meeting</li> <li>• Members cannot speak about the meetings outside of the meeting due to the Florida Sunshine Law</li> </ul>
Mix of Private Professionals	<ul style="list-style-type: none"> <li>• Private sector members included social workers, sober home owners, addiction counselors, and private attorneys</li> <li>• Both the facilitator and other private treatment facilitates stressed that the “bad apples” were not present</li> </ul>

Guidelines for Speaking	<ul style="list-style-type: none"> <li>• Task force used name cards and called upon members to speak</li> <li>• The facilitator and other members would call on other members if they wanted to get a specific opinion</li> <li>• Speakers were invited to provide information and expertise not represented in the meeting</li> <li>• Each member repeated why they were participating and who they were representing at each meeting</li> </ul>
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*Clearly defined leadership* from the State Attorney’s Office was a central strategy to preventing policy capture. Staff from the State Attorney’s Office facilitated task force meetings, set the agenda, took meeting notes, and organized guest speakers. While leadership is an established strategy for task force success (Ansell & Gash, 2008; Bryson et al., 2015), the extent of their dedication to the task force was notable and extended beyond Provan and Kenis’ (2008) lead organization type. Specifically, the State Attorney for Palm Beach County was a regular attendee at task force meetings. He also lobbied for funds from the Florida House of Representatives to support the administration of these meetings. Finally, the State Attorney’s Office hired a full-time prosecutor to attend meetings and follow-up tips of sober home abuse.

Leadership did not end there. Two additional organizations played important brokering roles within the network. Figure 2.4 shows the important role that the Town of Lake Park and FARR played within the network. Specifically, a municipal attorney for the Town of Lake Park routinely provided feedback on how to translate issues brought up within the task force into legislation while FARR provided realistic advice on how to use licensing and regulation standards to improve the sober home industry and protect vulnerable populations.

Figure 2.4. PBTF Advisory Network Betweenness Centrality



An example of this is when the task force was discussing policy preference 1.3, licensing standards. The representative from FARR listened to both sober homes and community concerns regarding a lack of unified standards that sober homes can, or should, adhere to. He then synthesized these concerns and developed draft language to insert in the recommendations:

I had the same challenge, um, when I reviewed this. And so I drafted some suggestive language, uh, to replace lines 16 through 18...[reads suggestions]...One of our great fears at FARR, and what has been evidenced by this problem that we've been experiencing is that the licensed behavioral healthcare provider who sees that resident in the sober home as a meal ticket will hold them hostage in treatment for 90 days to 126 months... So there needs to be a set of standards that, that, that this group is held accountable to. And those

standards need to be addressed in the contract between the licensed behavioral health care provider and the recovery residence that it's providing housing.

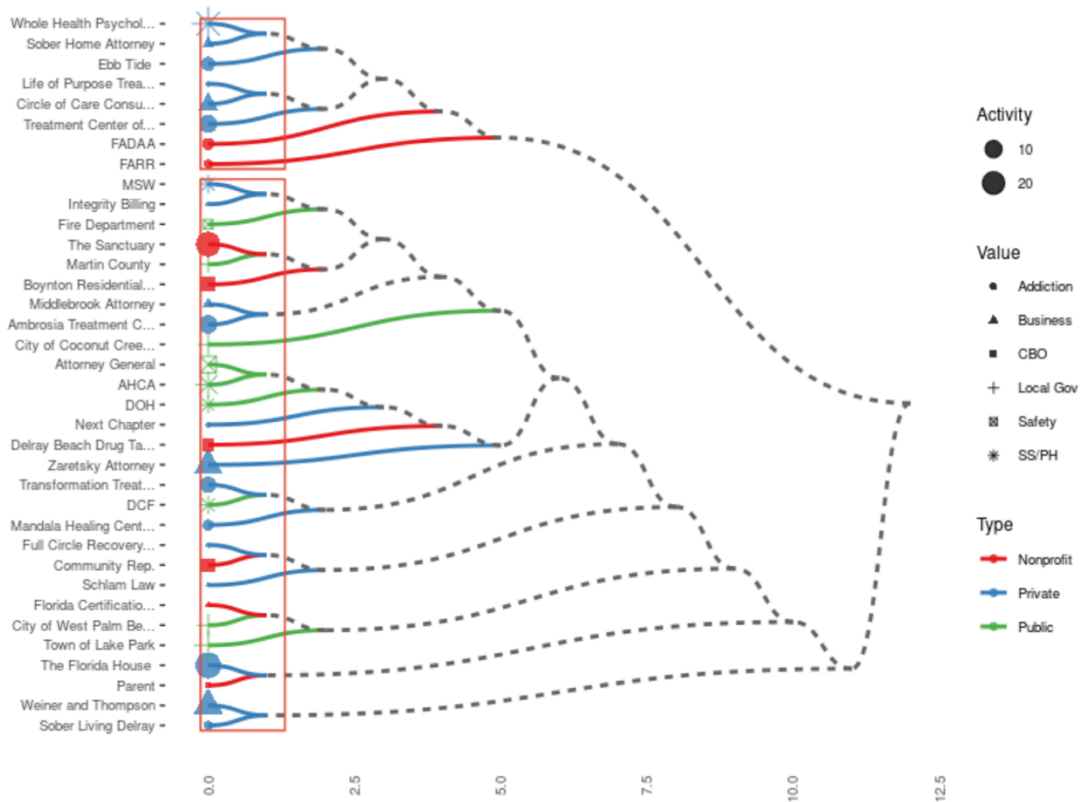
Within this task force, these organizations not only played the steering and brokering role described by Ansell and Gash (2008) and Agranoff and McGuire (2001), but also provided counter arguments. These counter opinions spurred discussion and provided encouragement for sober homes that may have felt attacked or practitioners that may have felt helpless to change the system. Therefore, the PBTF's structure established formal and informal leadership which assisted in guiding and steering task force meetings to hear not only powerful but also less powerful perspectives.

The very nature of the State Attorney's Office leading the task force set a tone for *transparency*. Before each meeting, a staff member from the State Attorney's Office informed all participants and observers about the Florida Sunshine Law, which prohibits any organization serving in a public capacity from speaking about issues related to the task force outside the meeting. Therefore, all suggestions, feedback and recommendations had to be made within the face-to-face task force meetings. This was not for management purposes but also as a way of allowing the public access to the decisions made at task force meetings. A member of the State Attorney's Office stating the following:

We believe that technically we could survive a challenge to this not being sunshine, but we want the public to know about what we're doing here. We want the Post [Palm Beach Post newspaper] and the Sun Sentinel [newspaper] and ... anybody else, uh, to know, talk to their friends, write about it, um, send us their tips.

In addition, members of the public were invited to attend all meetings and the facilitator included public members by having them introduce themselves at the start of the meeting and invited them to speak at the end.

Figure 2.5. Cluster Analysis of the PBTF



Note: Visualization created in rDNA Package (Liefeld, 2013b)

The State Attorney’s office also recruited a mix of *different private sector professionals* to participate in the task force. Figure 2.5 provides a cluster analysis of the PBTF network by sector and industry. Although sober homes were well represented, there were also attorneys, addiction counselors and doctors serving on the task force. The different levels of professionals provided different perspectives. The cluster analysis also shows that most of the task force had a mix of sectors and industries represented. A

smaller cluster within the network shows a dominance of private sector interest but a mix of industry perspectives. The facilitator also mentioned that the sober homes included in the task force were not “bad actors”. However, this emphasizes the importance of who is included within collaborations (Emerson, Nabatchi and Balogh 2012) and knowing potential motives of providers.

Finally, the task force initiated strict *guidelines for speaking*. To assist with democratic communication, organizations would reposition their name cards on the side when they wanted to speak. These guidelines prevented the loudest and most talkative organizations from dominating meetings. In addition, the State Attorney’s Office commonly called upon organizations that were quiet during the meeting. This was often the case for nonprofits representing community interest whose feedback was solicited at the end of many meetings.

### **Discussion**

The findings from this study show that the collaborative governance structure of the opioid task force was susceptible to policy capture. However, being aware of this susceptibility allowed the PBTF to put strategies in place to address policy capture which ultimately led to county- and state-wide adoption of the task force recommendations. The binary and valued ERGMs showed that private sector homophily was a predictor of tie formation. Centrality measures and subsequent network visualizations showed that private sector organizations consistently played important roles within the network. This is not surprising given that private sector organizations tend to seek cooperative ties when pooling resources leads to a competitive advantage (Eisenhardt and Shoonhoven 1996). In addition, the overwhelming support for stricter regulatory oversight and licensing costs

supports the “regulator protector hypothesis” in which businesses support stricter regulations that creates barriers to market entry for new providers (Weimer & Vining, 2017).

Using the collaborative governance framework, one aim of this study was to test whether the public sector played a significant steering role when powerful actors were present. Inconsistent with our second hypothesis, the analysis showed that neither public nor nonprofit sector organizations had a significant homophilous impact. This is not to say that public and nonprofit organizations did not play an important role within the network. Specifically, the Town of Lake Park and FARR played significant brokering roles within the network. In addition, there were several governance strategies that were implemented by the facilitating agency to prevent powerful actors from manipulating the collaborative process. Although this did not prevent private sector organizations from taking significant positions within the network, it did allow for nonprofit organizations to be dispersed throughout the network as shown in Figure 2.1 and Figure 2.5. In addition, Figure 2.5 showed that most of the network was evenly dispersed by sector. This is consistent with a growing literature that suggests network governance structures characterized by diversity rather than homophily tend to produce outcomes better aligned with public policy objectives (Ansell & Gash, 2008; Andrews & Entwistle, 2010).

The results from both the quantitative and qualitative portion suggest that organizations facilitating collaborative governance structures need to be aware of policy capture and take active steps to prevent it. The argument presented by scholars either advocated on behalf of equal power of all sectors (Dienhart & Ludescher, 2010) or suggested government power was necessary to effectively steer the collaboration (Provan

& Kenis, 2008). This study confirms emerging research that recommends measuring the extent of participation within a collaboration (Koski et al., 2018). The results of this paper show that private sector policy capture was still a concern despite the implementation of several strategies to prevent it. Simply put, this study suggests that government agencies may not be able to prevent manipulation on its own. The government may need support from other organizations within the collaboration to steer powerful and less powerful actors. The study specifically suggests that healthcare collaborations put in place the strategies offered as an intervention for policy capture.

This study makes several contributions to collaborative governance literature. Although not the first to study sector homophily, it is one of the first to do so in a task force setting (an understudied type of collaborative governance) and in a collaboration around the opioid epidemic (an understudied topic in collaboration literature). Much of the task force literature is descriptive in nature (e.g., Agranoff & McGuire, 2001; Berthod et al., 2017) and does not use the collaborative governance framework. This is the same for collaborations around opioid abuse.

In addition, this study provided a connection between actual collaboration and policy recommendations to identify the extent of policy capture among powerful private healthcare providers. This is unique for two reasons. One, collaborative literature is dominated by the perspectives of collaborations via survey and self-reported methods instead of an observable collaboration. Two, scholars warn about abuses by private healthcare providers in collaborations (Varda et al., 2012) but few articles attempt to measure policy capture and provide strategies that attempted to address it. Finally, this

article advances theory on how public agencies can successfully prevent and overcome threats to interest group domination in complex health collaborations.

### **Conclusion**

Using a mixed-method case study approach, this article advances theory on power dynamics within collaborative governance structures among healthcare collaborations and provides strategies that manage the threat of policy capture. Previous research has relied heavily on creating trust and vision-building among collaborators (Varda et al., 2012). However, trust building is not a sufficient method to prevent policy capture in collaborations, particularly in a healthcare setting (Johnston & Finegood, 2015). This study provides promising strategies that can be implemented when trust may not be strong enough to deter self-interest.

Building on the strengths and limitations of this study, we recommend four major directions for future research. First, there is a need for multiple case studies on power dynamics and policy capture in collaborative governance. This study focused on PBTF; although its findings may be transferrable, and could assist researchers, public agencies, task forces, or other collaborations in search of solutions to local health crises. Due to the nature and purpose of the task force, there was an underlying theoretical assumption that nonprofits and public organizations may be better stewards of collaborations. This may not be the case for different collaborations that have different purposes. Additionally, due to limitations of the data, we used only undirected ties within the task force network and could not assess the reciprocity, in- and out-degree, and other network features. We also focused only on policy capture within the same meeting. Future research could examine the directionality of power dynamics within collaborations as well as policy capture

across time. Furthermore, future research could use direct observations of task force meetings and conduct interviews and/or focus groups to provide a deeper analysis of the role of a facilitating agency and to understand factors affecting collaborations. Finally, future research should seek not only to connect the input structures and strategies for managing policy capture with the output policy recommendations but also to their subsequent adoption, implementation, and ultimately their impact on public health crises.

We believe this article adds to the extant literature on power dynamics and policy capture in collaborative governance structures. It is our intent that researchers, public agencies and other health collaborations will continue to refine results and improve the way task forces and health collaborations are implemented within local communities. Successful collaborations can change the way communities respond to complex health issue and ultimately save lives. We hope this article can continue to move this field forward in pursuit of this mission.

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**ESSAY 3**  
**Lessons from the Frontlines of the Opioid Epidemic: Exploring the Impact of Policy Implementation on the roles and Responsibilities of First Responders**

**Introduction**

First responders, including police, firefighters, and emergency medical services (EMS) personnel, are regularly tasked with responding to a range of emergency situations from routine traffic crashes to natural hazards and public health epidemics. Although charged with different aspects of the emergency response, all first responders take on an occupational role to be responsive to community needs, especially within life-and-death situations. As a consequence of these occupational responsibilities, first responders are repeatedly exposed to demanding, life-threatening, and potentially traumatic work experiences (Anderson et al., 2015; Carleton et al., 2017; Doyle et al., 2021). These burdens are heightened during and in the immediate aftermath of natural and man-made hazards as first responders' roles and responsibilities expand to meet the growing needs of the community during these crisis events (Trainor & Barsky, 2011; Linsdell, 2012; Adams & Anderson, 2019).

Although much is known about the impacts of natural hazards and terrorist events (e.g., 9/11) on first responders, the impacts of health epidemics are a less studied but emerging threat. These threats are particularly burdensome on first responders as they require a dynamic and long-term response strategy (Auberbach et al., 2011; Hodge et al., 2017; Douglas et al., 2020). One such epidemic that has become salient within the last decade is the opioid epidemic.

Opioid abuse is one of the deadliest, preventable public health crises facing the U.S. today (Hodge et al., 2017). Within the last decade, opioid overdose deaths have

doubled in the U.S., rising from 21,088 in 2010 to a record high of 49,860 in 2019 (NIDA, 2021). In Florida, the age-adjusted rate of drug overdose deaths was 25.5 per 100,000 in 2019, moderately higher than the national average of 20.7 (CDC, 2021). Within Florida, Broward County Palm Beach County have consistently had one the two highest rates of drug overdose deaths in the state (FDOH, 2021), making these counties ideal cases to study the impacts of the opioid epidemic on public servants.

Front-line public servants, particularly firefighters, EMS, and police officers, play important roles when responding to the opioid epidemic (Davis et al., 2014; Rando et al., 2015). They are the first to the scene of an overdose, drug bust, or other disturbance. While first responders are essential to responding to opioid-related events, their role within this epidemic and the impact it has on the responsibilities of the profession are commonly overlooked (Pike et al., 2019). Moreover, emerging research suggests that increased overdoses can strain service delivery and place additional responsibilities on first responders (Pike et al., 2019). However, more research is needed to understand the impact of this epidemic on first responders and more importantly, how it can change or adapt their established roles.

This study aims to answer the following research questions: (1) How do policy responses to the opioid epidemic influence the occupational roles and responsibilities of first responders?, and (2) How can fire and police organizations mitigate the negative impacts of these policy responses? Using 30 qualitative interviews with police officers and firefighters in two counties in Florida and supplemental data from secondary sources and observations, this study found that the first responder profession is experiencing a role expansion, not just due to the opioid epidemic but because of the growing

complexities of crises events. While the role of firefighters doesn't seem to change too much, the police role within the epidemic appears to expand as a result of naloxone administration. Additionally, the health-focused approach (e.g., addiction is a disease) reinforced by opioid-related policies (e.g., needle expansion, naloxone expansion, etc.) could give persons suffering from opioid abuse a false sense of security but is ultimately in line with the expanding role of first responders. Finally, an expanded role of the agency may mitigate the need for an expanded first responder role within the epidemic.

The results of this study contribute to the growing body of research in emergency management and public administration that seek to understand and mitigate unnecessary burdens placed on emergency responders (Remington & Ganapati, 2017; Kroll et al., 2021). However, until recently, most of the literature in the field focused on natural hazards ignoring health disasters like opioid abuse. Moreover, scholars typically focus on the role of public sector agencies when responding to these disasters events (see Kapucu & Van Wart, 2004; Dzigbed et al., 2020), rarely studying first responders and hardly ever studying the roles of firefighters (Henderson & Charbonneau, 2016). Finally, even within health literature, there is conflicting evidence on the impact of health epidemics on first responders with some authors suggesting there is a point at which first responders will not work due to growing burdens placed on them (Trainor & Barksy, 2011; Linsdell, 2012). Therefore, understanding the overall impact of the opioid epidemic on first response agencies will ultimately help relieve the burden placed on first responders who are tasked with responding to this ongoing crisis.

This study is organized as follows. First, I will review the impacts of occupation role conflict on first responders and the specific impact that long-term health epidemics

place on first response organizations. This is proceeded by a description of the data collection and analysis process. A detailed report of the findings follows. I end the article by discussing practice and policy implications and future directions for research.

## **Literature Review**

### **The Occupational Role of First Response**

First responders include a range of professions including police officers, firefighters, and EMS personnel. These professions are tasked with responding to routine emergencies including traffic crashes, fires, and domestic disputes as well as catastrophic events like hurricanes, active shooters, and the COVID-19 pandemic. The expectations placed on first responders to be available, willing, and able to respond to a vast range of emergencies defines the occupation role of first responders.

According to social role theory, an occupational role is the patterned or predictable behavior of an individual based on the expectations placed on them in a social system (Kahn et al., 1964; Biddle & Thomas, 1966; Bredeson, 1993; Grant & Hofmann, 2011). There are two views on how roles are defined. The structuralist perspective views roles as being defined by the way a person internalizes their position within a social structure (Bredeson, 1993;Brookes et al., 2007). The interactions perspective views roles as being continually redefined through a person's interaction with their social environment (Bredeson, 1993; Callero, 1994). It is generally assumed that both perspectives play a part in how a role is developed and internalized by the individual (Callero, 1994). After a person internalizes their role, they begin to create a role identity which is their own interpretation of their role and the values and beliefs they associate with their role (Hall, 1972; Kroneberg et al., 2008).

First-responders have shared elements of their occupational identity as well as distinctive elements unique to their profession. First-responders share a paramilitary management style that follows strict rules and a chain of command (Garmire, 1982). They also share a “hero” culture that requires them to run after perpetrators and into burning buildings (Kroneberg et al., 2008). However, first-responders also have distinctive elements unique to their professional identity. These differences between the occupational identity of firefighters and police officers stem from variances in how they respond to crisis situations. The occupational identity of firefighters’ centers around health and safety. As such, they respond to crisis situations in teams (Stinchomb & Ordaz, 2007). First responder teams in a fire department often include two occupations-- fire and emergency medical services. Alternatively, police have more of an individualistic response focused on safety and the power to penalize (Stinchomb & Ordaz, 2007).

The structural role of firefighting and EMS<sup>6</sup> consists of responding to fire-related events, medical emergencies, and other incidents that impact the welfare of the community (Lee & Olshfski, 2002; Wagner & O’Neil, 2012). This role is structured as important to the health and welfare of society which provides external recognition of importance (Lee & Olshfski, 2002). The interactionist role of firefighting and EMS demonstrates the continuous redefinitions of the field of first response. Today, firefighters and EMS are not only responding to fire-related events but also suicides, homicides, terrorist attacks and many more events (Wagner & O’Neil, 2012). This role

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<sup>6</sup> Firefighters and EMS are typically housed in the same department and are often cross-trained meaning they can serve in either role depending on the need.

interacts with the events of society and redefines what it means to be a firefighter.

Similarly, the structural role of police consists of responding to crime and stopping illegal activity (Loftus, 2010; Crosgrove, 2016). The interactionist role of police also demonstrates a redefinition of police roles in response to community needs and societal expectations. Some of these new roles include community policing (Loftus, 2010). Both of these roles emphasize specific structural characteristics that are important to the profession as well as interactional characteristics that can lead to expanded definition of what it means to be a first responder.

### **Role Conflict and The Opioid Epidemic**

Expanding the occupational role of first responders has a risk of creating role conflict. Role conflict occurs when a person's perception of their role is different than what is being expected or asked of them (Kahn et al., 1964; Rizzo et al., 1970; Van Sell et al., 1981). This can cause internal conflict especially when there is a modification to how someone perceives their occupational identity or the values they associate with their role (Bredeson, 1993). Role conflict can become heightened in the aftermath of disasters as first responders have to balance multiple and sometimes conflicting role expectations (Trainor & Barsky, 2011; Lindsell, 2012). In general, role conflict can lead to stress, anxiety, burnout, and employee turnover (Johannessen et al., 2013; Adiguzel & Kucukoglu, 2019). First responders already have an elevated risk of stress, fatigue, and burnout due to the demanding nature of their job and continued exposure to life-threatening events (Larson et al., 2016; Carleton et al., 2017; Doyle et al., 2021). When compounded with role conflict, it could lead to additional stress or an abandonment of emergency duties especially if nature of the crisis (i.e., public health crisis) can lead to

personal exposure risk (Trainor & Barsky, 2011; Lindsell, 2012). Research within public administration found that policies and reform movements that contradict occupational identities can lead to ineffective polices as well as place undue stress on public servants (Caron & Giaque, 2006; Stinchomb & Ordaz, 2007). Most of the studies on occupational role change within public administration are in the context of administrative reforms like New Public Management, requiring further research on how health disasters, such as the opioid epidemic, can impact public servant occupations like first responders.

Specifically, first responders have taken on a range of responsibilities due to the increase in opioid overdoses and drug-related deaths. Due to the nature of their job, first responders are routinely in contact with synthetic and high-potency opioids, increasing their perceived risk of exposure and potential for negative health impacts like unintentional overdosing or withdrawal (Howard & Hornsby-Myers, 2018; Herman, 2020). First responders also have new responsibilities associated with expanded access of naloxone (a drug-reversal medication) (Davis et al., 2014; Pike et al., 2019). These responsibilities include use, administration, training, and storage of naloxone. Finally, first responders can experience an increase in workload, job stress and burnout due to responding to drug overdoses, sometimes multiple times per shift with the same person (Elliott et al., 2019; Pike et al., 2019).

In addition, a recent shift in policy has changed first-responder roles from a prosecution-focused response to a disease-focused response (Hanson et al., 2002; Chandler et al., 2009). In isolation, this change represents a growing recognition that criminalizing drug users is not effective (Iguchi et al., 2002). This change also represents a shift in the framing of policy interventions to treat drug abuse as a health issue instead

of a criminal issue. This change may represent an inherent shift in the roles and expectations of first responders.

For police officers whose occupational identity centers around protecting the public by arresting and detaining offenders (Loftus, 2010), the shift toward protecting and treating drug users can directly conflict with traditional, perceived roles. Specifically, policies that expand access to naloxone (overdose reversal drug) require police officers to take on a medical role and while some officers have a positive view of this new role (Fisher et al., 2016), others see it as enabling drug use (Banta-Green et al., 2013; Murphy & Russell, 2020). Additionally, diversion programs (sending substance users to treatment facilities instead of the criminal justice system) and the Good Samaritan Law (legal immunity for those requesting emergency assistance for an overdose) can directly conflict with the traditional police role of arresting those in possession of illegal drugs (Banta-Green et al., 2013; Barberi & Taxman, 2019). As first responders are integrating these additional responsibilities and burdens within their perceived role, they are going through a process of redefining their roles as first responders. When the new roles match internalized definitions of their role, these responsibilities are accepted and become part of their identity. When there is a disconnect between perceived and expected responsibilities, it can cause role conflict.

For firefighters and EMS personnel whose occupational identity center around physical and medical safety, the shift toward harm reduction may inherently conflict with perceived roles of community safety. Harm reduction policies are designed to minimize injury as a result of risky behavior (Logan & Marlott, 2010) and can include naloxone expansion and needle exchange programs that provide clean needles for drug users

(Knaak et al., 2019). Although research on fire and EMS views on harm reduction are limited, some studies suggest that first responders view such policies as enabling drug use instead of treating the root cause of addiction (Bessen et al., 2019; Knaak et al., 2019). Given the potential for role conflict within these opioid policies and the limited knowledge on the impacts of these policies on first responders, this research aims to answer the following research question:

***Research Question 3.1:** How do policy responses to the opioid epidemic influence the occupational roles and responsibilities of first responders?*

### **Mitigating the Impacts of Role Conflict**

Common strategies for mitigating role conflict typically fall on the individual to redefine role expectations (Type I), adjust their own perceptions of their role (Type II) or attempt to meet all job demands (Type III) (Goode, 1960; Kahn et al., 1964; Hall, 1972). While these role bargaining techniques are important for resolving internal perceptions of role conflict, external challenges (i.e., policy changes, crisis events, etc.) prompting role conflict require more than just an attitude adjustment. They require organizational mitigation techniques that can adjust and respond to changing demands. Specifically, changes in response to crisis events often require changes to organizational processes which can ultimately impact the overall climate of the organization (Lindsell, 2011). These changes become institutionalized which then impact the overall attitudes, values and behaviors within the organization (Di Pietro & Di Vingilio, 2013). Therefore, organizational culture can not only be a factor causing role conflict but a factor in mitigating role conflict.

While difficult to identify, researchers have established that organizational culture exists and can be a driving factor in both individual and organizational performance (Schulz, 2001; Henri, 2006). Organizational culture is a socially constructed set of traditions, beliefs and expectations that guide employee behavior (Hofstede et al., 1990). Thus, employee behavior is influenced and adjusted through interactions with others and the social environment (Wilkins & Ouchi, 1983; Hofstede et al., 1990; Schein, 2010). Ultimately, organizational culture determines appropriate and acceptable behavior within the organization and can be used as a tool to guide individuals toward the mission of the organization (Ott, 1989; Stinchomb et al., 2006; Adiguzel & Kucukoglu, 2019).

First responders have a unique culture that is commonly characterized as a “brotherhood” or “family” (Kronenberg et al., 2008; Feuer, 2021). While this creates a strong bond between first responders, it can create group isolation, rigid values, and distrust of outsiders (Woody, 2005; Kronenberg et al., 2008; Thurnell-Read & Parker, 2008). Organizational culture can also play a significant role in provoking or mitigating role conflict during disasters. In fact, several scholars cited factors associated with a dysfunctional organizational culture as primary drivers for police role abandonment during Hurricane Katrina (Trainor & Barsky, 2011; Linsdell, 2012; Adams & Anderson, 2019). Therefore, a supportive organizational culture could play an important part in mitigating and addressing role conflict before it leads to role abandonment.

There are several factors that could play a mitigating role for role conflict within the opioid epidemic. Peer support plays a critical role in first responder culture. First responders routinely experience life-and-death situations together in which they must rely on each other for a safe and effective response (Kronenberg et al., 2008). This can create

an intense bond between first responders but can also lead to self-isolation from family and even upper administrative staff (Woody, 2005; Thurnell-Read & Parker, 2008).

While social support can be a protective factor (Bonanno et al., 2007), there are limits to the impact of peer support and some research suggests that this peer support needs to be promoted and encouraged as part of the organizational culture to be effective (Setti et al., 2016; Guilaran et al., 2018).

Sense of duty is another feature engrained within the first responder culture.

Sense of duty entails a professional commitment to the role of serving the community (Lee & Olshfski, 2002; Haski-Leventhal & McLeigh, 2009; Wyche et al., 2011). This sense of duty is promoted through individual interpretations of roles as well as through the organizational mechanisms like training and leadership (DiMaggio et al., 2005).

Sense of duty can also be challenged when responding to health or natural disasters which is why reinforcing first responders' sense of purpose, values to the profession, and role obligations are important to combatting role conflict (Trainer & Barksy, 2011).

Finally, training and operational procedures are essential components of first responder culture. While informal aspects of organizational culture are typically studied, formal aspects such as training programs can also influence organizational culture and ultimately determine acceptable and encouraged behavior within the organization (Schein, 1990; Braddy et al., 2016). For first responders, training can significantly decrease stress and improve decision-making, job preparedness, and willingness to work when responding to unknown events or crisis situations (DiMaggio et al., 2005; Trainor & Brasky, 2011). Thus, training, peer support and sense of duty play important roles

within the organizational culture of first responders and therefore could support first responder in their response to the opioid epidemic.

While literature on organizational culture is extensive, the mitigating factors associated with the organizational culture of first responders is still relatively unexplored (Trainor & Barsky, 2011). Moreover, emerging research suggests that first responder organizational culture can actually exacerbate occupational stress (Trainor & Barsky, 2011; Doyle, 2021). This highlights the importance of understanding the underlying dynamics impacting role conflict and first responder culture. Thus, the following research question is advanced:

***Research Question 3.2:** How can fire and police organizations mitigate the negative impacts of the opioid epidemic?*

## **Methods**

### **Study Context**

This study uses qualitative methods including interviews, a review of secondary sources and virtual observations of police officers and firefighters in Palm Beach County, FL and Broward County, FL to understand how policy responses to the opioid epidemic influence the roles of first responders and how organizations can mitigate the negative impacts associated with the opioid epidemic. A qualitative approach is appropriate given the purpose of this paper is to understand the underlying dynamics and consequences of policy action on first responders. These consequences are best captured when studied within a specific context, specifically by focusing on the policy environment in which these first responders have to work.

Two counties in Florida were chosen as ideal cases to examine these policy impacts. Florida has a long history of being an epicenter for drug abuse within the U.S. It's tourism-driven economy coupled with limited oversight of clinics prescribing pain relievers (also called pill mills) lead to a significant rise in drug abuse in the early 2000s (Spencer, 2019). As the epidemic changed due to highly potent and synthetic opioids, Florida became an attractive tourist destination for those looking to detox in Florida's warm weather and alluring beaches. Specifically, Palm Beach County, FL, a wealthier suburban city with close proximity to well-kept beaches and large multi-family homes, became home to a billion-dollar drug treatment industry, effectively naming the area the "rehab capital of America" (Seville et al., 2017). This led to an increase in drug overdoses and crime (Seville et al., 2017).

As county leaders and residents began to take action, drug treatment and detox centers began moving to the nearby area of Broward County, FL. This is reflected in the number of overdose deaths within each of these counties. For example, Broward County, FL had the highest number of drug overdose deaths over the past few years, ranging from 444 deaths in 2018 to 700 in 2020 (FDOH, 2021). Palm Beach County, FL had the second highest number of overdose deaths, ranging from 407 in 2018 to 564 in 2020 (FDOH, 2021). The increased number of overdose deaths and subsequent drug activity has placed an increased burden on first responders. Thus, the counties of Palm Beach and Broward are an interesting case to review the impact of opioid policy responses on the roles and responsibilities of first responders.

## Data Collection Methods

*Interviews.* This study uses data collected from 30 in-depth, semi-structured interviews with public firefighters/EMS personnel (n=15) and police officers (n=15) serving in Palm Beach County, FL, and Broward County, FL. Participants ranged in age from 25 to 64 years old. Of the 30 participants included in this study, 14 held senior administrative positions (e.g., chief, assistant chief), 7 held mid-level positions (e.g., captain or sergeant), and 9 held frontline positions (e.g., firefighter, police officer). Most participants had a bachelor's degree (n=13) and over 80% of participants were in this profession for 11 or more years. Although most participants were male (n=25) and White (n=22), the study did include some minority representation including the following racial and ethnic backgrounds: 7 Black or African Americans, 1 Asian American, and 5 Hispanic or Latinx. Specific actions were taken to have a diverse sample including asking participants if they could recommend other participants that were different from themselves or had different perspectives. This was particularly important for capturing the five female perspectives included within this study.

Participants were recruited using mix of targeted purposive sampling and snowball sampling of fire and police stations in or around Palm Beach County, FL. The goal of this sampling strategy was to sample a range of first responder perspectives in areas experiencing opioid overdoses or drug related crime as identified by overdose data, news reports or agency documents. To ensure a range of perspectives, there were no more than three first responders per station included within the study.

The initial group of interviewees for both groups started with targeted purposive sampling. First, I collected a list of all police and fire stations within Palm Beach County,

FL which included both county and city fire stations. From this list, a targeted sample was obtained using news reports, agency documents, and overdose data to target areas experiencing heightened burden due to the opioid epidemic. This initial list included 28 police and fire stations. After four stations declined to interview and several no responses, the list was expanded to Broward County, FL. Again, a list of all possible police and fire stations within Broward County, FL was collected. Based on a review of secondary sources and data, stations were targeted based on areas experiencing overdoses and drug-related crime. In total, 35 stations within Palm Beach and Broward County were contacted, and 18 stations completed the interview (9 fire and 9 police) with 11 stations residing in Palm Beach County, FL and 7 in Broward County, FL.

Sampling procedures differed based on the type of first responder. For fire/EMS occupations, I reached out to the Fire Chief or the second-in-command and asked if they or other members of their team would be willing to participate in the study. After the initial interview, I used a snowball sampling technique to gain access to different perspectives of first responders at the same station. For police occupations, I had difficulty gaining access to Police Chiefs (discussed more in *methodological challenges*). Based on several studies in criminal justice journals, I adapted my sampling strategy to go through personal or professional gatekeepers to gain access to the targeted areas previously identified (Page, 2007; Dabney et al., 2013; Vera Sanchez & Portillos, 2018). These gatekeepers were identified by reaching out to professional organizations in which I was an active member, university-affiliated staff and teachers, and community members in which I had a previous working or personal relationship. In total, there were five gatekeepers that were used for the study. One gatekeeper expressed interest in

participating within the study. As this station was included within the list of target stations and this first responder had difficulty getting his/her contacts to connect with the researcher, this interview was ultimately included within the study. Gatekeepers provided initial contact with potential participants to provide an introduction. From there, I sent an email or called participants to discuss the study and review consent procedures. After the interview, participants were asked to recommend other first responders to participate within the study. This produced 19 interviews with first responders in West Palm Beach, FL and 11 interviews within the surrounding county of Broward County, FL. Theoretical saturation was reached after 25 interviews. However, an additional 5 interviews were conducted to gain a more diverse sample, account for any differences that may have arose from using gatekeepers within this study, and to expand on sections that previous participants did not have time to explore.

The interviews were conducted via zoom or over the phone between September 2020 and April 2021. This time period coincided with the COVID-19 epidemic and thus, virtual interviews were the most feasible and safest for all participants (see *methodological challenges* for more information). The study instrument included open-ended questions about first responders' roles before and after the opioid epidemic, changes in roles and responsibilities due to the epidemic, and the intersection between the epidemic and other crisis events (e.g., COVID-19) (see Appendix E for interview guide and demographic questions). Interviews were recorded with consent from participants and transcribed verbatim.<sup>7</sup> Recorded interviews lasted between 12 minutes to an hour and

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<sup>7</sup> One interview was not recorded due to participant consent procedures.

a half with the average length of around 25 minutes. Interview times depended largely on the time participants had to dedicate to the study.

***Secondary Sources.*** To contextualize the impact of the opioid epidemic on first responders within Palm Beach County, FL and to triangulate data, a review of secondary sources was conducted. When combined with other data collection methods, secondary sources can be used as a way to provide historical context and background information as well as to verify results in a way that was not impacted by the researcher's presence (Bowen, 2009; Yin, 2009). To identify relevant data, a search was done using various combinations of the following keywords: opioid, opiate, heroin, prescription drugs, drug abuse, substance abuse, police, fire, and first responder. Secondary data included social media posts by fire and police stations on YouTube, Facebook, or Twitter; local professional associations, agency websites, agency strategic plans; and newspaper articles from local news stations including the Palm Beach Post, Sun Sentinel, Miami Herald and WLRN (public media outlet) as well as national stations including the New York Times and the Washington Post. I also completed a general search of *Google News*. This produced 95 news articles, 59 social media posts, 7 strategic plans, 4 professional association websites, and 35 first responder agency websites. These sources helped provide an organizational perspective that wasn't as prevalent within the interviews, particularly as it relates to organizational policies and procedures. These sources also helped provide a general county-wide perspective on how the epidemic was impacting first responders.

***Virtual Observations.*** Observations were utilized as a way to observe how members of the community and government officials discussed the opioid epidemic and

the overall role and responsibilities of first responders within each county. This was intended to contextualize the interviews within greater county-wide issues, situations and occurrences. Due to COVID-19 restrictions (see methodological challenges), in-person interviews were not feasible. Therefore, I completed several virtual observations of community events including 6 county commission meetings (3 in Palm Beach and 3 in Broward), one Palm Beach Sober Homes Task Force meeting, one State of the County Address (Broward), one Veterans Day Parade (Palm Beach), and one Coffee with a Cop (Palm Beach).

These events were chosen for several reasons. First, these events provided a way to contextualize the importance of the opioid epidemic by viewing it from a greater county-wide lens. For example, county commission meetings and the State of the County Address provided an overview of the issues impacting each county as well as government responses. The Palm Beach Sober Homes Task Force provided a detailed view of the impacts of the opioid epidemic on residents, businesses and government employees and outlined specific government actions taken. Fire rescue played a role within these meetings as either members or provided statistics and data to be discussed at the meetings. Finally, the Veterans Day Parade and Coffee with a Cop provided a way to view how first responders interacted with members of the community. Observations were conducted between December 2, 2020 to December 13, 2021.

The following events were attended virtually via zoom or by tuning into live-stream options: West Palm Beach County Commission meetings (October 18, 2021; November 29, 2021; December 12, 2021), and Palm Beach Sober Home Task Force (December 2, 2020). The following events were recorded in their entirety and available

on county-verified YouTube channels (WPB-TV and Broward County Gov): Broward County Commission meetings (October 5, 2021; November 4, 2021; December 7, 2021), State of the County Address (November 18, 2021); Veterans Day Parade (November 8, 2021). Coffee with a Cop was a short segment available on WPB-TV. As most of the observations did not have a two-way feedback mechanism, I played a complete observer role at most of these events, with the exception of the Palm Beach Sober Homes Task Force in which I played an observer-as-participant role.

All events (whether synchronous or asynchronous) were watched in the entirety by the researcher. Notes were taken during the event and captured overall themes and public interactions. All notes were uploaded to NVIVO for analysis.

***Methodological Challenges.*** There were several methodological challenges that had to be addressed during the course of this study. First, the study was conducted during the COVID-19 pandemic. In an effort to curb the spread of the virus, in-person events were postponed or cancelled; businesses, schools and government offices transitioned to virtual work (if possible) and the public was encouraged to quarantine if presenting COVID-like symptoms. First responders were on the frontlines of this response effort, experiencing increased call volume and staff shortages. This impacted the study as first responders were extremely busy which made scheduling interviews difficult. First responders also participated when they had free time which was typically in-between calls while on the job or in the car after work. Interviews were also frequently interrupted by emergency calls. This meant I had to be flexible with the amount of time allotted to the interview.

The COVID-19 Pandemic also impacted how interviews and observations were conducted. Lobbies of police and fire stations were closed in an effort to limit exposure, and agencies were encouraging first response agencies to conduct administrative meetings virtually. In addition, study protocol prohibited in-person study procedures. Thus, interviews had to be conducted virtually via zoom or over the phone. This unintentionally impacted rapport-building with participants which made snowball sampling less effective. This is one of the reasons gatekeepers became an important factor within this study.

Observations also had to be conducted virtually. During this time, many in-person events, particularly those hosted by first response agencies, were cancelled. Virtual events hosted by first response agencies were also limited during the time. Therefore, while observations included within this study had applications to the opioid epidemic and first responders generally, first response agencies typically were not a main focus within the community events included within this study.

Second, this study was conducted during the Black Lives Matter protests. This impacted the number of police and firefighters willing to participate within the study. Specifically, one police officer shared that I would have difficulty getting anyone to participate given the criticism surrounding police officers during this time. Many police officers were only willing to speak with me if I had someone they knew vouch for me. This made gatekeepers, particularly those with whom I had known for several years especially important in recruitment efforts.

## Data Analysis

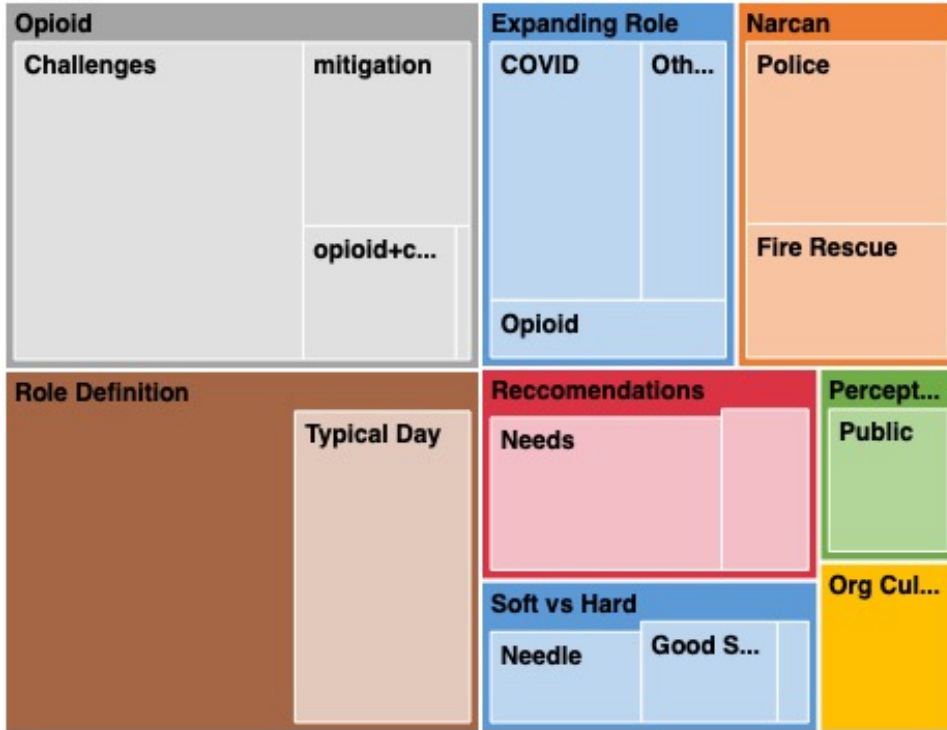
All data was uploaded to NVivo 12, a computer-assisted qualitative data analysis software. The data was analyzed using the following grounded coding techniques: (1) empirical data was inductively coded for emergent themes using an open coding techniques and a word frequency analysis (Figure 3.1), (2) axial coding was used to identify patterns of codes and to compare the emergent codes with a priori themes in the interview guides and existing literature (Figure 3.1), and (3) selective coding was used to compare categories of themes for analysis (Corbin & Strauss, 1990). This process produced a codebook (see Appendix F), and the data was re-coded using the codebook as a guideline. The final coding scheme is presented in Figure 3.2. Police officers and firefighters were coded as first responders (i.e., one category) during grounded coding and axial coding procedures. This allowed for the researcher to view overall patterns and impacts on first responders in general. During selective coding procedures, first responders were broken into their occupation to view differences in themes by occupation.

Figure 3.1 displays the word frequency clouds used during the open coding process. Open coding of interview data (left side of Figure 3.1) revealed that first responders wanted their role to be centered around people first-and-foremost. While impacted by the changing responses to health epidemics like the opioid epidemic and COVID-19 pandemic, they considered themselves part of the community and therefore, felt these changes generally aligned with their role of response. This differs slightly from the figure on the right which shows a greater significance of the opioid epidemic on the responsibilities of first responders. While both epidemics were impactful, they were not



describes the suggestions provided by participants on how organizations can support first responders during the opioid epidemic.

Figure 3.2. Coding Scheme Hierarchy Chart



Note: This figure depicts the prevalence of codes within the interview data. Abbreviated words include the following: opioid+covid (under opioid code), other events (under expanding role), Good Samaritan and diversion programs (under soft vs. hard), perceptions (green box), and organizational culture (yellow box).

Figure 3.2 depicts the prevalence of codes within the interview data. Within the blue box entitled *Expanding Role*, the impact of the opioid epidemic is just one section in the ever-expanding role of first responders. The COVID-19 pandemic as well as other crisis events compound together to expand the definition of what it means to be a first responder. This expanding role blends into *Role Definition* (brown box) which redefines first responders' typical workdays. *Narcan* (brand-name for naloxone) (orange box) plays a huge role in the perceived burden of the opioid epidemic on first responders, but

this burden is not straightforward but rather depend on the coordination of the response between police and fire rescue. This coordination can *mitigate* burden or lead to further *challenges* (gray box). Within the secondary blue box entitled *Soft vs Hard*, first responders discussed their thoughts on what some labeled as soft approaches to the opioid epidemic. These soft approaches often focused on harm reduction such as needle expansion programs, the Good Samaritan Act and diversion programs. Although not playing a huge role, the green box discussed the *Perceptions* of the public on the roles and duties of first responders. This was much more of a concern for police officers than for fire rescue and primarily centered around current events (e.g., Black Lives Matter protests) as well as what some described as misunderstandings of their role in responding to opioid overdoses. Finally, many first responders discussed *Recommendations* (red box) which included their *needs* in successful opioid response, the influence of *Organizational Culture* (yellow box) on their response, and *successes* (red box, not pictured due to space) in the field.

### **First Responder Role Expansion**

First responders generally expressed an expansion of their traditional roles. This was not only due to the opioid epidemic but because of the increased frequency of complex crises (e.g., COVID-19, school shootings) and a greater community focus within the profession which resulted in a more general and broader role definition. Figure 3.3 shows word frequencies from firefighter and police interviews depicting commonly used words for defining first responder roles.

As shown in Figure 3.3, the role of first responders is centered around their occupational identity of being a firefighter or a police officer. However, both types of



“[promote] quality of life in general. That encompasses so many other things.

That as citizens of this country, we can get up on a daily basis and feel a little bit more secure...Promoting awareness in general of things that do happen and knowing how to handle yourself as they do.”

This broader role definition may be in response to the changing complexities of responding to new and more complex emergencies. Many first responders described their role as constantly “evolving” to meet the needs of the community. Whether responding to overdoses, COVID-19, or other events, first responders play so many different roles because that’s what the profession requires of them. This constant role expansion is highlighted below:

Fifty years ago, when you were in the fire service, you fought fires and that's all you did. And then there was a need for people not only to fight fires, but to go on emergency calls. So, we took that on... And when we had hazardous materials calls, who's going to do that? Well, we took that on. Um, and then there was active shooters, and we took that. Not that we're used to it, it's what we do. We have to kind of adapt and overcome for these emergency situations. (Fire Chief)

[We] play so many roles. That's a hard question to answer. Cuz the honest truth, you come thinking you're gonna be a police officer. You're just going to enforce the law on people and that's it. But that's not, that's not it at all. One minute you're enforcing the law, next second you're trying to relate to this person ... as a counselor or a friend. We have so many roles ...this is just something about being a police officer. (Police Officer)

Therefore, when faced with responding to the opioid epidemic, first responders expect their role to change and adapt. However, it is not necessarily the expansion of their role that is causing role conflict but the frequency within which they need to perform additional roles that causes burden on first responders.

Police described additional roles such as performing Cardiopulmonary Resuscitation (CPR) or administering naloxone while waiting for fire rescue. These roles were not presented as a burden but it was the perpetuation of doing these roles on the same person that caused fatigue. One police captain reported the following after performing CPR on an overdose victim:

“[We've ] experienced so many overdoses now where it's almost common that officers are having to perform CPR and bagging a patient until the medics can get there... and they're back out an hour from the hospital and you see them again, you know, so it's frustrating.”

A fire chief echoed this frustration stating:

“They have a tendency to get lost in the system. And if anybody's been in this job long enough, you understand how it goes...all we would do is keep perpetuating that. We would run on 'em, they'd go into the ER, the ER would make sure that they're no longer in danger and then turn them loose.”

## **Policy Conflicts**

*Naloxone Expansion and Administration.* Naloxone is drug reversal medication that rapidly blocks the effects of opioids by temporarily reversing respiratory distress and reinstating normal breathing behavior. The easy-to-use nose spray application had led to widespread adoption of legislation to improve access to this medication. Although

differences in implementation exist, all 50 states and the District of Columbia have passed legislation aimed to improve access to naloxone. As first responders (both police and firefighters) are the first to the scene of a drug overdose, government leaders are encouraging first responders to carry naloxone. The Office of Drug Control Policy released a statement in 2013 stating that naloxone should be “in the patrol cars of every law enforcement professional across the nation” (Botticelli, 2013, para. 4). While this recommendation has been widely adopted and is standard-issue for fire departments, the decision on whether police officers carry naloxone vary from department to department. This decision impacts the perceived role conflict experienced by police officers.

Throughout the interviews, coordination between first responders on naloxone administration was a commonly mentioned way to mitigate role burden and conflict when responding to the opioid epidemic, especially for police officers. Police officers (whether they carried naloxone or not) typically described naloxone in positive terms calling it a “huge benefit” or “the difference between life and death.” However, police officers that didn’t carry naloxone often described themselves as “blessed” to have a fire rescue team with “fabulous” response times. One assistant police chief described why their police officers don’t carry Narcan® (brand-name for naloxone):

So, several years ago when there was an opportunity and some police departments were starting to issue the Narcan to their officers, uh, we made the decision to stick with our, our medics as being our primary administrators of Narcan, because number one, that's what they do... They're the professionals in it. It's one less thing for our officers to have to carry around in their car and be expected to be an expert on administering it.

Another police sergeant stated that they are not doctors, they don't know what the victims are on so it's better to leave it to their fire rescue team. In a news article in the *Miami Herald* entitled "In the middle of an opioid crisis, cops are arming themselves with a life-saving drug" the article described the adoption of naloxone within police departments across Florida. While it was acknowledged to be a "critical field tool", a member of the Fraternal Order of Police stated: "We aren't firefighters. We are law enforcement officers...If we begin responding to those calls in emergency mode, there will be a backlog of calls for service for those taxpayers that choose not to do drugs" (Ovalle, 2017, para. 10). Another article in the *Palm Beach Post* questioned how often first responders should administer naloxone, not because of role issues, but due to rising costs of the drug. In 2017, Palm Beach Fire Rescue spent \$205,000 on naloxone, prompting Martin County (neighboring county in Florida) to consider limiting naloxone administration, which was never passed (Whingham, 2017).

Despite these challenges, the police that did carry naloxone described it as an "amazing tool to have" but also never had to administer it because fire rescue was already there "providing better type of assistance." However, if fire rescue times are not as efficient, not having naloxone may increase the burden on police officers. One officer described working in a "heavy meth area" where he had to deal with a lot of overdoses. He described the frustration of having to watch the patient struggle as he had to wait for fire rescue to arrive.

For fire rescue, carrying naloxone is "just another medication [they're] responsible for." Although it is described as a relatively safe and very effective drug, it

can be administered inappropriately and to “just slam them with Narcan” can withdraw the patient too quickly from the overdose, making the patient combative and putting first responders at risk. One fire chief stated the following:

[It] saves lives and there's no doubt about it. But if given in the wrong capacity, it also can be very dangerous for the first responders...really what the goal is for us is to make sure that we stabilize the patient and slowly titrate the naloxone to slowly wake the patient up.

The process of slowly waking the patient up, focusing on airway management and the patient experience is something that fire rescue is trained to do. Fire rescue’s overall goal in opioid response is quality patient care, which is not something police officers are typically trained or expected to do.

***Harm Reduction Policies.*** Harm reduction policies are considered a pragmatic public health approach that tries to reduce the risk of death and harm when participating in risky behavior (Logan, 2010). For substance abuse, harm reduction policies take a value-neutral approach to drug use focusing on preventing diseases and death instead of treatment (Knaak et al., 2019). Thus, harm reduction policies would include needle exchange programs in which clean needles are provided in exchange for used needles. Despite promising results in reducing the spread of HIV, increasing access to healthcare, and decreasing mortality rates (Logan, 2010; Marlatt & Witkiewitz, 2010; Marshall et al., 2011), counties have been slow to adopt harm reduction policies. As of December 2021, five counties in Florida have adopted harm reduction policies including Palm Beach, Broward, Miami-Dade Hillsborough and Orange County (Florida Health, 2021).

Throughout the interviews, there was also a recognition that the “soft” approach to opioid abuse (i.e., recognizing addiction as a disease) was needed. However, there was a fine line between treating the disease and what some considered enabling it. For harm reduction policies like needle expansion, few were aware of these programs, and many didn’t think they were relevant to their role as a first responder. Moreover, there was concern over whether these programs were promoting drug use and increasing the number of needles available to the public. Some responders described these programs as being at odds with their life saving role. One assistant police chief even stated that, “you cannot use [needles] safely.” Even naloxone was brought up as a potentially enabling factor. A police sergeant stated, “It's definitely keeping people alive, but I don't, I don't necessarily know if it's helping people as far as getting recovery. It gives them a little bit of a false sense of security there.”

In sharp contrast, most of the news reports regarding needles exchange programs described them as “the new weapon” to fighting the opioid crisis (Solomon, 2019). In an article in the *Sun Sentinel*, county commissioners in Broward and Palm Beach were shocked by the success of Miami’s needle exchange program that safely disposed more than 11,000 needles the previous year (Solomon, 2019) and 250,000 since 2016 (Swisher, 2019). While many first responders felt that needle exchange programs went against their professional role, an article in *NPR* (2019) revealed that some police officers in Miami-Dade county including Miami Chief of Police Eldys Diaz felt such programs provided an “extraordinary source of comfort” for officers as the program in Miami safely discarded used needles and provided a special sharp container for clean needles which prevented accidental exposure for first responders. Interview participants may have had differing

opinions and awareness of harm reduction programs due to the relative newness of needle exchange programs within the counties. Both Broward and Palm Beach received legislative approval for these programs in 2019.

***Good Samaritan Laws.*** The Good Samaritan laws, called the Drug Prevention and Control Act in Florida (2021), provides immunity from criminal charges for anyone, including first responders and the general public, administering emergency and life-saving care to someone experiencing an overdose. According to the Government Accountability Office (2021), 48 states and the District of Columbia have enacted Good Samaritan laws for drug overdoses.

Within the interviews, policies related to the Good Samaritan laws were generally perceived as fitting in with the overall role of first responders. For fire rescue, having bystanders call 911 or even administering naloxone or CPR (if trained) while waiting for responders was welcomed. For police officers, there was generally a redefinition of their purpose and role at a drug overdose. They expressed that they were not legally allowed to arrest those experiencing an overdose, nor did they want to. They often labeled substance users as victims needing their help and assistance. One police officer even described the Good Samaritan law as fitting in with the police motto “See something. Say something.” However, a lack of awareness on the role of police officers during an overdose inhibited officers from doing their job.

While firefighters typically indicated that they had no issue with people communicating that it was an overdose, police often described being deceived when arriving to an overdose call. A police officer described this process below:

Here's the thing about us being officers, we get lied to a lot. And we expect that...that's understandable. But when someone overdoses, a loved one or friend, people don't want to tell us...because they don't want to incriminate themselves. The honest truth is I'm trying my best to get that information to fire rescue, so they can be ready, and they have a game plan. As well as Narcan, where we can deploy Narcan on them....them lying to me is actually not letting me actually save their loved one's life.

Another officer noted that sometimes when he was administering CPR, it was perceived as if he was not actually helping the patient. This police officer stated,

You never actually know how the family or the loved ones going to react to you actually doing CPR to someone. If you don't know any better, it looks like I'm not actually really helping that person at all.

This was echoed by another police officer who described how firefighters often get food and family recognition after saving someone's life, but police who administer CPR get "forgotten about." This police officer went on to say that he signed up for this job and doesn't expect any recognition but admitted that it was hard when he performs the same job as fire rescue and instead of getting a thank you gets looked at like he is the "bad guy." Many of the participants mentioned this concept of police officers become intensified following the Black Lives Matter protests. They described feeling as if they went from being "heroes" a few weeks earlier for their response to COVID-19 to "villains" shortly thereafter.

***Diversion Programs.*** Diversion policies include programs that attempt to divert substance users away from the criminal justice system into treatment and recovery

programs. Within the interviews, diversion programs were perceived as having a positive impact although many in fire rescue didn't necessarily know about these programs as referrals to treatment programs typically happened after they dropped patients off at the hospital. Police, especially those that were community police officers, seemed much more knowledgeable about treatment and diversion programs and willing to connect overdose victims to these services. This may be due to the focus of community policing which emphasizes improving the quality of life within a given area by building relationships with the public and developing a sense of community (Somerville, 2009). However, both fire rescue and police officers expressed concerns over the quality of treatment programs in the area.

Palm Beach and the surrounding areas have a billion-dollar drug treatment industry that has been critiqued for enabling drug use for profit (Seville et al., 2017). One headline in the *New York Times* read "Haven for recovering addicts now profits from their relapses" discussed how Delray Beach, FL (a city within Palm Beach County) became a "pipeline for relapses" (Alvarez, 2017). Another article discussed how detox programs in Palm Beach and other counties were using the "South Florida shuffle" to fraudulent pass drug users between facilities to game their insurance benefits, sometimes even encouraging drug use to continue to cycle (Wooten, 2018). Within the interviews, a police captain echoed these concerns stating: Helpful, genuine facilities, you know, whether it's faith-based, maybe not so much the private ones, depending on what their motivation is, but when they are coming from the right place, not a money grab...they could be a benefit." A firefighter even mentioned they were even working with police to

identify treatment facilities and sober homes to protect overdose victims (a potentially investigative role).

While many supported diversion programs, there were a few first responders that expressed concern over the general effectiveness of diversion program. A police chief stated:

People [are] like, 'Well, they shouldn't go to jail. They should go to rehab.' And that sounds like a great solution...But you know, uh, I had a brother that was an alcoholic...On the last day of rehab, they were in a circle...and they were saying to him, uh, 'What is your plan when you get outta here?'...And the guy next to him said, I got a big fat joint already rolled and waiting for me and a bottle of Jack Daniels in my freezer at home. As soon as I get home, I'm going to smoke that joint and drink a bottle of Jack Daniels. And the counselor said, 'Well, if that's your plan, why are you here?' And his answer was, 'Well, they sent me here. I was forced to go here.'

This police chief went on to say that the “soft approach” to drug abuse didn’t allow for people to hit rock bottom, stating,

If you haven’t reached rock bottom...forcing people to go to therapy.

Unfortunately, uh, most people’s rock bottom is when they wake up, hung over or with the shakes or... pill sickness, or heroin sickness on a bottom of a cold cement jail cell.”

Another police captain echoed this saying that he didn’t know, “if there’s a counseling strong enough to where you can witness somebody dying and you’re going to do the same thing.” This was echoed by a fire chief who stated, “If you've been in the field long

enough, you know that most people have to hit completely rock bottom before they're going to reach up and grab that help. And there's nothing that anybody is going to say or do to them.”

Most of the articles in local newspapers highlighted the benefits of using diversion programs, even praising the Miami Police Department for initiating a new detox treatment program in connection with the department that directly transitioned homeless into treatment (Flechas, 2018). However, another article titled “Miami might force addicts into treatment in planned cleanup of Overtown ‘drug den’” critiqued police for using the Marchman Act and Baker Act (two policies allowing for the persons to be involuntary held for a period of time for treatment or assessment) to force treatment on vulnerable populations, thereby removing their choices (Flechas & Chang, 2018). In an observation of a Palm Beach County Commissioners meeting, a developer thanked the commissioners for their support and innovation which allowed them to clean-up similar “drug dens” in Palm Beach County and asked for their continued support to continue to develop other parts of the county. While diversion programs act as one way to help those suffering from substance abuse (and can subsequently be used to clean-up areas with high crime and drug use), their implementation may remove patient choice, unintentionally continue the addiction cycle, and place extra burden on first responders.

### **Mitigating Role Conflict**

In general, police officers expressed more role conflict associated with opioid policies, but also described a greater effort to adapt their role to meet the needs of those experiencing overdoses. Conversely, firefighters expressed a stricter definition of their role and described some policies (e.g., diversion and harm reduction) as outside of their

expected roles and responsibilities. Despite this, many police and firefighters still felt that they did not have enough tools and resources within their traditional roles to effectively respond to the needs of overdose victims. Additionally, many first responder described the burden placed on their roles as stemming from the repetitive cycle of addiction. In response to these challenges, first responders provided a range of suggestions that typically centered around two recommendations: (1) a greater expansion of their organizational role, and (2) building on the organizational culture of first response.

***Greater Expansion of Organizational Role.*** The repetitive cycle of addiction was described as a major source of fatigue for first responders. Many front-line first responders described themselves as being at the end of the addiction cycle; really only able to provide “temporary help” to overdose victims. This cycle of addiction can be taxing on first responders and the system as first responders revive patient with naloxone, take them to the hospital only to have these patients “back on the streets” overdosing again. Both fire and police chiefs talked about how this “traditional model” of doing business needs to change. For some agencies, that required an organizational role expansion, not just a professional role expansion. In fact, several fire chiefs mentioned the mobile integrated health (MIH) unit as being a necessary expansion for fire rescue. MIH is a unit within the fire rescue team that provides follow-up and social support services to patients following an overdose (or other chronic illness). Some stations even hired social workers to lead these programs. One fire chief described the importance of this program:

The administration of our department has, uh, fully bought into the fact that we have to do something more than just run 911 calls, like, like we always do... We

had to connect these people with services... we weren't set up as a fire department to do that because we're just set up to run them on calls. We're not set up to be social workers...[So] we hired a social worker, you know, to run the whole thing.

Although not discussed in the interviews, one police station in Palm Beach has similar follow-up procedures. They hired a mental health professional to take on the role of Service Population Advocate. This is an employee of the police department follows up with overdose victims to provide support services (Delray Beach Police, 2019). In an interview with WPTV News (2017), the Service Population Advocate stated that she provides a more personalized approach that law enforcement can't provide: "Every individual is different and they're going to have a different story. You know one person I may have to spend two hours with. One it may have to be four hours" (1:32). This employee provides the next step after an overdose, connecting them to resources within the county or planting the seed that these options are available for when they need help. This additional employee was recently credited with helping to reduce the burden on police officers in the area as well as the number of overdose deaths (WPTV News, 2018). This represent broader organizational expansion also helps to reduce first responder role expansion allowing them to focus on "being responders" instead of "being social workers."

Other police stations focused on the larger threat—stopping the supply of opioids. These police stations implemented narcotics officers to follow-up with overdose survivors to identify and arrest sellers. A Police Captain for this unit stated

You know, some agencies and some cities make a bigger deal of it. Other cities and agencies just say, ‘Hey, there’s not much we can do about that.’ And they move on...Overdoses are, you know, it’s, it’s a death. I mean, and it’s a crime.”

Having police respond with fire rescue on overdose calls protects first responders as they can rely on them to secure the scene and provide support when talking down a combative patient. This also helps reaffirm traditional first responder roles of policing and fire rescue.

***Organizational Culture of First Response.*** Several aspects of organizational culture were mentioned as helping to mitigate the burden placed on first response agencies due to the opioid epidemic. For example, peer support played a role in relieving burnout as first responders could rotate burdensome workload or provide informal debriefs following a traumatic call. One fire chief described how he tried to change the “stoic culture” of fire service by having stress debriefs, groups discussions lead by mental health professionals or encouraged responders to reach out to others, especially newer members of the team, after a tough call. A police chief described a similar process where police officers were continually recognized and appreciated by members of their team as well as senior staff for the “demanding” work that they do:

We’ve got a history and a culture here, not just the police department, but our city of recognizing and appreciating the work that our employees do...I always said I had a kind of a three-prong approach. It was...it was holding them accountable because we work in a very demanding [area] and we are demanding on what our employees do. The second, the second prong of that was to, uh, make sure that we can support our employees by providing them with the best equipment to do their

job and the support that they need, whether it's policy support or support from the bosses. And the third thing is to show our appreciation for what they do and to recognize the good work that they do (Police Chief).

Training became another form of support for first responders during an opioid overdose call. Because overdose calls can be “unpredictable” and patients can regularly become “combative” first responders described needing to have a protocol in place that was built around the latest science (i.e., how much naloxone to give) and training both fire and police to recognize the signs of overdoses and potentially hazardous materials. When implemented correctly, these calls can become like “muscle memory” and having established roles where fire rescue can respond to the overdose while police clear the scene and keep fire rescue safe provide was described as providing the best response. Fire rescue and police also described receiving grants from the state of Florida for the purchase of naloxone. This frees up department budgets allowing for additional training and continued service.

Finally, sense of duty coincided with this broader definition of what it means to be a first responder. Specifically, both police and firefighters described wanting to save lives, not just providing a “temporary fix” for overdoses. However, as described earlier, many felt that this was “above the first responder level.” One police chief stated, “We're kind of the last stop... and you don't have a resource to put them anywhere other than the hospital for a couple of hours, and then they turn around and walk out and go overdose again.” This was echoed by Police Chief Jorge Colina in an article in the *Miami Herald* where he stated, “Addiction may be a law enforcement problem, but there is no law

enforcement solution for addiction” (Flechas, 2018, para. 8). Despite this fatigue in both the resources available and ability to respond to the addiction cycle, both fire rescue and police officers described a duty to respond to overdose victims. This duty was reinforced by the leadership staff who tried to connect all community needs to the roles of first responders. In the words of one EMS chief:

I think it's great [to expand our role]. I think it's a good thing. Um, again, it gives us more access to the community to keep them safe. It gives us, um, a deeper understanding of how the federal level comes all the way down to the local level and vice versa. Um, it gives us more of an opportunity to expand our service, to take care of the community...It's a hard thing, but it's definitely a good thing.

An assistant EMS chief echoed this stating it was their job to be responsive to the needs of the public and that included overdose victims. He stated,

We prepare for the worst every morning...We can run calls where it's overdose after overdose, and we can run calls where there are no overdoses whatsoever...we just come in and we prepare for the worst.”

In this way, overdoses are just another part of the job responsibilities of a first responder. In addition to the suggestions mention above, some frontline first responders wanted tougher laws for practitioners to prevent the misuse of prescription opioid, and some firefighters felt that more support was needed to help police combat the illicit drug trade.

### **Discussion**

This study highlights the role of first responders in the opioid epidemic. This paper contributes to literature in emergency management and public administration that seeks to understand and mitigate the burdens placed on emergency responders

(Remington & Ganapati, 2017; Kroll et al., 2021). Until recently, the field has focused almost exclusively on natural hazards, ignoring the impact that health epidemics, such as opioid abuse, can have on public servants. First responders are a unique type of public servant, and while police have been a focus of public administration scholarship for decades, fire rescue has been somewhat ignored. This has left gaps in our understanding of what burdens health epidemics have placed on first responders in general, and how firefighters specifically experience these impacts. This study fills this gap by assessing how policies associated with the opioid epidemic impact both fire and police occupations. Additionally, this study contributes to social role theory suggesting that organizational role expansion can serve as a mitigating factors to relieve role conflict and role expansion associated with public health epidemics. Role theory has been applied to various professions but is rarely examined within the context of public health events and the first responders who manage them. Finally, this study contributes to emerging research examining the limits of first responders (Trainor & Barsky, 2011; Lindsell, 2012). This study finds that, although burdened by the addiction cycle, first responders generally believe that responding to the opioid epidemic aligns with their roles and expectations of the job. As such, the type of health epidemic and the extent that first responders are able to determine their role within the epidemic (e.g., fire setting stricter standards, police having more lenient role definition) may impact these perceived limits.

Consistent with literature on emergency workers and first responders, this study finds that first responders are experiencing an expansion of the traditional, structural role of first response, requiring a need for first responders to redefine and take an interactionist approach to their roles and responsibilities when responding to emergency

situations (Trainor & Barskey, 2011; Adams & Anderson, 2019). Within the opioid epidemic, this may require a medical role for police officers who can administer CPR or naloxone, or an investigative role for firefighters who can work with police to investigate sober home operators. While at times, this expanded role can conflict with the structural role of first response, as is the case with needle expansion programs, this expanded role is typically embraced, especially if it fits in with the overall expanded role of the profession (e.g., focusing on community needs). This coincides with Stryker's (1980) concept of identity salience with roles that are more central to the occupational identity of first response (e.g., service, response) guiding the individual's acceptance of role expansion.

This study also finds that it is not necessarily role expansion that is causing role conflict but the frequency of responding to the repetitive nature of the cycle of addiction that is causing fatigue and burnout. This fatigue could be exacerbated by first responder sense of duty as many interviewees felt that they were only providing a temporary, and sometimes an ineffective, fix for overdose victims. Findings from this study suggest that expanding the organizational role of first responder agencies by having a dedicated person or unit to follow-up with overdose victims can relieve some of this burden.

Additionally, reinforcing the structural role of first responders during an overdose call by having police secure the area and fire rescue administer naloxone can reduce the need for role expansion, especially for police officers. These coincide with Goode's (1960) recommendation that continual role expansion can create unrealistic expectations for workers and delegating and prioritizing role may be preferred. Finally, this study finds that an organizational culture that encourages up-to-date training for police and fire, and support and recognition from colleagues as well as administrative leadership can help

mitigate mental and physical burdens associated with the epidemic. This organizational support may be particularly important for police officers who felt “forgotten” and even questioned after saving an overdose victim’s life.

### **Conclusion**

Overall, the findings of this study indicate that there is a significant burden placed on first responders due to the opioid epidemic. While first responders generally welcomed an expansion of their role in order to meet the growing needs of the community, opioid response can place additional burdens on first responders. Although role expansion is often necessary when responding to epidemics, the long-term nature of public health events can place an extended burden on first responders. Organizations and researchers should examine the crisis response in light of these long-term burdens to ensure that emergency response practices are in line with the structural roles and expectations of first responders. Although first responders are willing to take on additional burden, public managers need to consider the demanding nature of the job and proactively seek to relieve the burden of role conflict so that first responder can focus on their ultimate duty—saving lives.

Although the opioid epidemic continues to be a significant burden on public service agencies, this is one of only a few studies that examines the impact of this epidemic on first responders. Continued research is needed to fully understand the implications of health epidemics on first responders. This study takes a critical first step in acknowledging the potential long-term role impacts that health epidemics can have on the agencies tasked with responding to them. However, the scope of this study is limited to the opioid epidemic and the sample of first responders in Palm Beach County, FL and

Broward County, FL. While opioid abuse is a unique health epidemic, the results of this study could be transferred to other health contexts that require a long-term emergency response presence. Future research is needed to understand specific elements of opioid response such as the effectiveness and efficiency of coordinating overdose response with police and the challenges and opportunities of implementing a MIH programs.

Researchers could examine these challenges by conducting separate in-depth interviews and case studies with specific first responder professions (e.g., firefighters, EMS, etc.) and social workers working with these agencies.

Palm Beach County, FL is considered a wealthy metropolitan area which may impact the institutional capacity of coordinating such a response. This study also only uses two counties in the analysis of first responder role burden. More research is needed to understand the feasibility of coordination in other states and counties, especially within rural areas. Additionally, the first responders in this study had limited knowledge of needle expansion program. While somewhat consistent with literature (Pike et al., 2019), this may be due to relative newness of the program, which was passed in 2019. First responder perception and use of the program is still unknown and more research is needed to build community buy-in. Finally, a notable limitation of the study is the context within which data collection took place. The COVID-19 pandemic and Black Lives Matter movement dramatically impacted data collection procedures. While these concurrent crises were not a focal part of this paper, future studies could incorporate these events to better understand their impact on first responders and the opioid epidemic.

This study has several implications for first response agencies. First, it encourages agencies to take stock of the impact of health epidemics, like opioid abuse, on first

responders and their response to calls. Calls associated with overdoses can be taxing on the system especially for repeat victims. Instead of accepting this role expansion, agencies should consider the cost-effectiveness of hiring a social worker or creating a MIH to follow-up on repeat callers. This may reduce the burden on first responders to performing roles outside of their traditional, structural definition. Two, it encourages administrators to revisit operating procedures and, if possible, consider a coordinated approach to overdoses that address first responder safety concerns and reinforce the structural role of police and fire rescue.

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## **CONCLUSION**

### **Future Directions for Research Studying the Opioid Epidemic**

As public health emergencies, like the opioid epidemic, are becoming more common, strategies are needed at all levels of government to respond to these complex crises. While significant progress had been made in the field of public health, limited research exists on the role and influence of the government (outside of health departments) in responding to these issues. Moreover, the field of emergency management has made monumental strides in the study of natural hazards, but the progress in this field has yet to be applied to man-made crises, especially public health emergencies. This has led to questions on whether strategies studied within the context of emergency management can be applied to public health events. Specifically, the opioid epidemic has many unique challenges (e.g., stigma associated with drug use, long-term nature of recovery) that complicate response efforts. This makes studying this public health epidemic particularly important given the recent adoption of many typical emergency management strategies.

### **Summary of Dissertation Chapters**

Combining literature from both emergency management and public health disciplines, the aim of this dissertation was to understand how government organizations and public servants respond to the opioid epidemic and whether these responses are effective in producing policy changes. To answer this research question, a mixed method approach was used. This allowed for a robust analysis on the factors influencing the impact of emergency management strategies on policy formulation and enactment within the opioid epidemic.

Essay 1 focused on statewide emergency management strategies—opioid response plans and emergency declarations—and anticipated that states with an opioid plan and/or emergency declaration would influence the speed and the number of opioid-related policies enacted. This essay began with an overview of literature within emergency management and public health epidemics focusing on applying plan quality assessments and emergency declarations typically used in within natural hazard settings to public health contexts. A brief overview of policy enactment within emergency settings following outlining how crises events (such as the opioid epidemic) opened a policy window (Kingdon, 1989). Using a legislative scan and plan quality assessment, balanced random-effects Poisson regression models determined that the presence of an opioid plan influenced the number of opioid policies enacted. Alternatively, emergency declarations used by themselves or in conjunction with plans were not a significant factor in policy enactment, until about a year after implementation. Additionally, both plans and emergency declarations increased the number of days it took to pass opioid-related policies. Overall, these findings demonstrated that not all emergency management strategies are effective in producing policy enactment. Plans may serve as a steppingstone to policy enactment due to their goal-oriented and action-oriented nature while emergency declarations are often vague lacking specific and detailed strategies necessary for policy enactment. This essay suggests that state governments should consider following quality planning procedures to help jump start opioid policy enactment.

Essay 2 focused on a county emergency management strategy—cross-sector task forces. This essay started with an overview of collaborative governance literature outlining the potential for public sector organizations to use collaborations as a form of

policy capture—a way to circumvent the goals of the task force to ensure that organizational and industry-specific goals are upheld. Network analysis, specifically homophily and network centrality, was used as a way to conceptualize and measure policy capture. It was anticipated that private organizations were more likely to form ties with each other (i.e., homophily) as a way to influence policy outcomes while public and nonprofit would use homophily as a way to prevent policy capture. Using a case study approach, this essay applied quantitative and qualitative analysis to understand the potential for policy capture within the Palm Beach Sober Homes Task Force. Data included meeting minutes, handouts, agendas, and verbatim transcriptions of meeting audio recordings.

The quantitative results of the exponential random graph models showed that private sector homophily was a significant factor in tie formation. Conversely, public and nonprofit homophily was not a significant factor within the network indicating that policy capture may be present within this network. Qualitative analysis of data revealed strategies that helped and hindered policy capture. Strategies that helped included selective policy participation and a lack of government interagency collaboration. Strategies that hindered or prevented policy capture included clearly defined leadership and transparency, a mix of private sector professionals and guidelines for speaking. Although this case revealed a potential for policy capture, this may have been due to the large number of public sector organizations included within the network. However, this was an intentional and a direct response to failed attempts at regulating the sober home industry within Palm Beach County, FL. This essay suggests that organizers of task forces need to be aware of policy capture and take active steps in order to prevent it.

Overall, this task force was successful in passing policy regulation. Therefore, this case is used as a model for other areas wishing to implement policy changes within the opioid epidemic.

Finally, Essay 3 focused on the consequences of implementing policy responses to the opioid epidemic on first responders. This essay started with an overview of the occupational roles of first responders. I then discussed the potential for opioid policy responses, such as naloxone administration and harm reduction policies, to influence and change the occupational roles of first responders, thereby increasing the potential for role conflict. This essay aimed to answer two main research questions: 1) : 1) how do policy responses to the opioid epidemic influence the occupational roles of first responders, and 2) how can fire and police organizations mitigate the negative impact of the opioid epidemic? While mitigation strategies are commonly administered at the individual level, strategies at the organizational level can be particularly influential in mitigating role conflict.

This analysis used qualitative methods including 30 semi-structured interviews with first responders in two counties in Florida, 161 secondary sources (strategic plans, newspaper articles, social media posts) and 10 virtual observations. The qualitative analysis found three main themes: 1) first responder role expansion which outlines the changing profession in light of emergencies like the opioid epidemic; 2) policy conflicts which outlines the impact of specific opioid policies including naloxone expansion, harm reduction polices, Good Samaritan laws, and diversion programs, on the roles and responsibilities of first responders; 3) mitigating role conflict which describes the suggestions provided by participants on how organizations can support first responders

during the opioid epidemic. Overall, the findings indicate that first responder roles are generally expanding in order to meet growing and complex community needs. This is not necessarily a burden if this expanded role helps first responders meet these growing needs. The repetitive cycle of addiction which includes repeat calls with the same person, increases role conflicts and burnout. This study also finds that expansion of organizational roles (i.e., inclusion of social workers) can help reduce burden associated with the opioid epidemic.

### **Strengths and Limitations**

The use of a mixed method approach brings several strengths to the study. First, it allows researchers to develop an understanding of events within specific contexts. Because this study aims to understand the context of policy development and implementation within the opioid epidemic, a mixed-method approach is necessary to analyze the intricacies and unique characteristics of the situation. Second, a mixed-method approach allows the flexibility to study how an event occurs and the factors that contribute to its success. To satisfy the need to use both quantitative and qualitative methods, this study was designed using a separate but linked research approach. This approach compiles a quantitative component to understand the effectiveness of statewide plans and emergency declarations and a qualitative component to understand how local and state responses can influence policy enactment and implementation (Marshall & Rossman, 2011). Third, a mixed-method approach can account for the limitations of a single-design method while validating results (Johnson, Onwuegbuzie, & Turner, 2007) and triangulating findings (Jick, 1979). Finally, many scholars studying cross-sector collaborations encourage researchers to take a mixed-method approach that can account

for the dynamic nature of collaborations and the specific context and purpose of the collaboration (Bryson, Crosby & Stone, 2015). This study satisfies this call by using a mixed-method approach.

This study also contributes to the literature in three different areas. First, it contributes to literature on planning and emergency management by studying the crossover between emergency management responses and responses to healthcare epidemics. Within research on health epidemics, responses continue to be siloed often ignoring the experience of local government and the existing emergency management infrastructure. This dissertation fills this gap by examining ways that local government and front-line public servants can utilize existing emergency responses to improve local responses to these complex health events. Second, it contributes to the literature on collaborative governance by studying the relationship between policy capture and agenda setting. While research in this area acknowledges power imbalances, there is a limited understanding of how to respond to and deal with these imbalances. Finally, this study adds to the literature on organizational culture and change by examining the occupational paradoxes caused by implementing opioid-related policies. First responders, specifically firefighters, continue to be overlooked within public administration research, despite their growing role within emergency response. Therefore, the results of this study will help both policymakers and researchers understand the challenges and barriers to implementing current policy solutions to the opioid epidemic and will also provide recommendations to improving local and statewide responses to the epidemic.

There are several limitations to the research design. Essay 1 (plan analysis) includes a limited number of plans (n=69). While this is common for plan evaluations

(see Lyles & Stevens, 2014), this is a notable limitation. Essay 1 also includes limited observations for states with emergency declarations (n=8). This may be one factor impacting the results for the analysis. In addition, Essay 2 and Essay 3 are conducted within one case location. This limits the ability to compare results between cases. However, it also provides an opportunity for prolonged engagement and a deeper understanding of a particular context. Furthermore, the interviews with police officers and firefighters only capture one point-of-view. The perspective of those most impacted (i.e., those going through treatment) are not captured. Additionally, this dissertation focuses on the context of the opioid epidemic. This is one unique public health emergency, and the applicability of the findings need to be assessed within different contexts. Finally, conducting research during the COVID-19 Pandemic posed several challenges to data collection. Specifically, first responders were extremely busy during this time due to increased calls. Additionally, police officers were hesitant to speak to me due to increased police scrutiny brought on by the Black Lives Matter movement. The policy responses to COVID-19 also challenged in-person data collection meaning that interviews and observations had to be conducted virtually, removing some opportunities for relationship and trust-building between participants.

### **Implications and Future Research**

The main contribution of this dissertation is to emergency management, collaborative governance, and organizational literatures. First, Essay 1 contributes to the emergency management literature by applying two emergency management strategies (plan quality and emergency declarations) to the context of the opioid epidemic (a public health emergency context). This was one of the first studies to analyze the impact of these

emergency management strategies in a public health context and its implications on policy enactment. Future research could examine the nuances of these emergency management strategies within other public health epidemics and whether these results hold when compared to natural hazard settings. Specifically, the factors associated with plan quality that are most influential to policy enactment and the long-term impacts of these factors are still unknown. Additionally, more research is needed to understand the influence and application of emergency declarations on public health epidemics. Future research could conduct comparative case studies analyzing states that have used an emergency declaration in response to public health epidemics to those that took other strategies in order to identify the use, effectiveness and efficiency of using emergency declarations within these settings. Future research could also examine the influence of other factors that may impact emergency declarations such as how they may increase awareness and improve provider prescribing behavior.

Second, Essay 2 contributes to collaborative governance literatures by examining and measuring the influence of policy capture on policy formulation and offers strategies to prevent policy capture. Most studies acknowledge the presence of policy capture, but few actually study it. This is one of the first studies to offer solutions to policy capture within collaborative governance settings, especially within the context of public health collaborations. However, more research is needed to understand the applicability of these results to contexts outside of healthcare collaborations. Additionally, this study primarily uses secondary data; future research could conduct interviews, observations, and network surveys to gain a deeper understanding of the role of policy capture within a collaborative setting. While the purpose of this study was to assess the impacts of collaborations on

policy formulation, future research could examine the impacts of collaborations on policy enactment and the overall health epidemic.

Third, Essay 3 contributes to the organizational behavior literature, specifically role theory, role conflict and organizational theory, by examining the impact of opioid policies on the roles and responsibilities of first responders. This is one of a few studies examining the impact of the opioid epidemic on frontline public servants and adds to growing literature acknowledging the limits of first responders in responding to public health crisis events. More research is needed to understand the applicability of the findings to settings outside of the case study locations. Future research could examine the impact of the opioid epidemic in other opioid “hot spot” areas and rural counties. Future research could also examine the feasibility of strategies such as expanding organizational roles to protect from first responder role expansion and role conflict. These strategies may work for the case study location but may face obstacles in other areas.

### **Policy Implications**

This dissertation has several policy implications. First, states should consider implementing state opioid plans and emergency declarations in order to galvanize opioid policy enactment. While the impact of emergency declarations may take longer, their influence was more impactful than plans a year after implementation. Although these strategies did not lead to speedy policy enactment, they did improve the overall number of enacted policies and could be used at different times to improve policy outcomes. Second, local governments should be aware of policy capture within collaborations and take active steps in order to prevent policy manipulation. Local governments can use the strategies suggested within this dissertation as a first step to preventing policy capture.

Finally, organizations should consider expanding their organizational role instead of the individual first responder occupational role in order to relieve role conflict during healthcare epidemics. Some ways organizations can do this is by including social workers or integrative health units to provide wrap-around services to patients. This can prevent first responders from having to take on this role.

## **Conclusion**

This dissertation examines the impact of different government responses to the opioid epidemic on policy formulation, enactment, and front-line public servants (i.e., first responders). At the state level, states are beginning to use emergency management strategies like response plans and emergency declarations to respond to the opioid epidemic. Until this point, the effectiveness of these strategies within a public health context were unexplored. This dissertation found that opioid plans impacted the speed and number of opioid policies enacted. Emergency declarations had no significant impact on opioid policies.

At the county level, cross-sector collaborations are common local government responses to public health emergencies. While extant research has examined multiple facets of collaborations, studies on power dynamics, in particular policy capture, are lacking. A case study of a county task force in West Palm Beach, FL found that policy capture was present within the task force, but the organizers were aware of this potential and therefore implemented strategies to prevent it.

Finally, at the organizational level, opioid policies have changed the way that first responders do their job and organizations need to be aware of this and take active steps in order to mitigate role conflict. The impacts of opioid policies on first responders are an

understudied topic of research in both public health and public administration. This study found that the roles of first responders is generally expanding in response to greater community needs. Specifically, policies like naloxone administration, Good Samaritan laws, and diversion programs, are temporary fixes to the epidemic and may place additional burdens on first responders, specifically police officers. Organizations should consider expanding the organizational role of these organizations by including social workers instead of placing additional burdens on first responders.

While the opioid epidemic is pervasive and complex, governance strategies like the ones mentioned in this dissertation are beginning to show promise. Specifically, the stigma associated with drug use has challenged policy development, enactment, and implementation. This dissertation takes one step forward in attempting to understand the impacts of state, local and organizational responses to the opioid epidemic. As the opioid epidemic and other public health emergencies continue to impact society, more research is needed to understand these responses and find effective government solutions to these complex crisis events.

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## APPENDIX A

### State Opioid Plans

State	Year	Plan Name
AL	2017	STATE OF ALABAMA OPIOID ACTION PLAN
AK	2017	Alaska Opioid Policy Task Force Final Recommendations
AK	2018	2018-2022 STATEWIDE OPIOID ACTION PLAN
AZ	2017	Opioid Action Plan
AZ	2019	ARIZONA OPIOID ACTION PLAN VERSION 2.0
AR	2020	Comprehensive Opioid Abuse Program Strategic Plan
CA	2016	State of California Strategies to Address Prescription Drug (Opioid) Misuse, Abuse, and Overdose Epidemic in California
CO	2018	Opioid and Other Substance Use Disorder Study Committee
CO	2019	Colorado's Statewide Strategic Plan for Substance Use Disorder Recovery: 2020-2025
CT	2016	Triennial Report 2016 Opioid Annex
CT	2019	Triennial Report 2019 Opioid Annex
DE	2015	Continuing Efforts to Address Substance Use Disorder in Delaware.”
DE	2016	Addressing Substance Use Disorder in Delaware: An Update and Plan for Future Action
DE	2017	Addressing Substance Use Disorder in Delaware: Third Annual Update and Plan for Future Action
DE	2018	Addressing Substance Use Disorder in Delaware: Fourth Annual Update and Plan for Future Action
DE	2019	Drug Overdose Mortality Surveillance Report
DC	2018	Live. Long. DC. Washington, DC's Strategic Plan to Reduce Opioid Use, Misuse, and Related Deaths
DC	2019	Live. Long. DC. Washington, DC's Strategic Plan to Reduce Opioid Use, Misuse, and Related Deaths
FL	2020	Florida Statewide Task Force on Opioid Abuse: Findings and Recommendations of the Statewide Task Force on Opioid Abuse
GA	2018	Multi-Stakeholder Opioid & Substance Use Response Plan
HI	2017	The Hawaii Opioid Initiative: A Statewide Response
HI	2019	The Opioid Initiative 2.0: A Statewide Response to Opioid Use and Other Substance Misuse
ID	2017	Idaho Opioid Misuse and Overdose Strategic Plan
ID	2020	2020 Update: Idaho Opioid Misuse and Overdose Strategic Plan 2017-2022
IL	2017	State of Illinois: Opioid Action Plan
IN	2016	Governor's Task Force on Drug Enforcement, Treatment and Prevention: Final Report
IN	2017	A Strategic Approach to Addressing Substance Abuse in Indiana

KS	2018	Kansas Prescription Drug and Opioid Misuse and Overdose Strategic Plan
LA	2019	Louisiana's Opioid Response Plan: A Roadmap to Decreasing the Effects of the Opioid Epidemic
ME	2019	Maine Opioid Response Strategic Action Plan
MD	2013	Maryland Opioid Overdose Prevention Plan
MD	2015	Heroin & Opioid Task Force: Final Report
MD	2020	Maryland's Inter-agency Opioid Coordination Plan
MA	2015	Recommendations of the Governor's Opioid Working Group
MI	2015	Michigan Prescription Drug and Opioid Abuse Task Force: Report of Findings and Recommendations for Action
MN	2018	Minnesota's Opioid Action Plan
MS	2017	Governor's Opioid and Heroin Study Task Force
MT	2017	Addressing Substance Use Disorder in Montana: Strategic Plan
MT	2020	Montana Substance Use Disorder Task Force Strategic Plan
NE	2017	Nebraska Coalition to Prevent Opioid Abuse
NV	2014	State of Nevada Plan to Reduce Prescription Drug Abuse
NV	2019	Nevada Substance Abuse Working Group Report
NH	2017	The Opiate/Opioid Public Health Crisis: Update on the State of New Hampshire's Comprehensive Response
NJ	2014	Confronting New Jersey's New Drug Problem: A Strategic Action Plan to Address A Burgeoning Heroin/Opiate Epidemic Among Adolescents and Young Adults
NM	2015	Prescription Drug Misuse and Overdose Prevention and Pain Management Advisory Council 2015 Recommendations
NY	2016	Combatting the Heroin and Opioid Crisis
NY	2020	Report of the Joint Senate Task Force on Opioid, Addiction and Overdose Prevention
NC	2017	North Carolina Opioid Action Plan
NC	2019	North Carolina Opioid Action Plan: Updates and Opportunities Version 2.0
OH	2017	Recovery Ohio Plan
OK	2013	A State Plan: Reducing Prescription Drug Abuse in Oklahoma
OK	2016	Reducing Prescription Drug Abuse in Oklahoma
OR	2015	Oregon Prescription Drug Overdose, Misuse and Dependency Prevention Plan
RI	2015	Rhode Island's Strategic Plan on Addiction and Overdose
RI	2016	Rhode Island Overdose Prevention and Intervention Task Force Action Plan
RI	2019	Strategic Plan Update: Outlining Strategies and Actions through December 2021
SC	2014	State Plan to Prevent and Treat Prescription Drug Abuse
SC	2018	South Carolina Opioid Emergency Response Plan
TN	2018	TN Together: A Comprehensive Plan to End the Opioid Crisis In Tennessee

UT	2019	Utah Coalition for Opioid Overdose Prevention Strategic Plan: Translating Data to Action 2019-2021
VT	2018	Vermont Opioid Coordination Council: Initial Report of Recommended Strategies
VT	2019	Building Bridges: The Opioid Coordination Council's Recommended Strategies from 2019
VA	2015	Recommendations of the Governor's Task Force on Prescription Drug and Heroin Abuse: Implementation Plan
WA	2016	Washington State Interagency Opioid Working Plan
WA	2017	Washington State Interagency Opioid Working Plan
WA	2018	Washington State Opioid Response Plan
WV	2018	Opioid Response Plan for the State of West Virginia
WI	2017	Combating Opioid Abuse: A Report to Governor Scott Walker

APPENDIX B

Code Book for Plan Quality Assessment

Indicators	Scoring		
<b>Factual Base/ Problem Identification</b> (Brody, 2003a; Lyles et al., 2014)	<b>0</b>	<b>1</b>	<b>2</b>
1.1 Identify the scope, nature, and prevalence of the problem (i.e., problem identification; how the problem developed, how it changed overtime and how it will change in the future)	Not described	Vague description	Detailed description with data
1.2 Identify vulnerable community aspects (i.e., who or which area is impacted the most)	Not described	Vague description	Detailed description with data
1.3 Outline existing programs and policies that have been implemented in the past to response to this issue.	Not described	Vague description	Detailed description with data
<b>Goals and Objectives</b> (Brody, 2003b)	<b>0</b>	<b>1</b>	<b>2</b>
2.1 General statements regarding the long-term goals and aspirations of the plan	No goal statement	Mentions goal but not specifically identified	Detailed goal statement
2.2. Specific measurable objectives that the plan is intended to achieve	No objectives	Vague objectives; no details on how to achieve it	Measurable objectives
<b>Policies, Tools, and Strategies</b> (Brody, 2003b; Berke & Godschalk, 2009)	<b>0</b>	<b>1</b>	<b>2</b>
3.1. Recommendations are specific and contain definitive actions (Berke & Godschalk, 2009; Bunnell & Jepson, 2011; Laurian et al., 2004)	No recommendations	Vague description	Detailed recommendations

3.2. Rationale for recommendations is present (Baer, 1997; Bunnell & Jepson, 2011)	No rationale	Rationale is vague	Detailed rationale
3.2 Identified policies to be enacted	No policies identified	Mention of policies to enact	Detailed policies mentioned
3.4 Identifies other options outside of proposed recommendations	No alternatives	Mentions considering alternatives	Alternatives mentioned and detailed
3.5. Aspects the set of recommendations address (National Drug Control Strategy, 2019)	# of type of recommendations included in plan		
3.5.1 Prevention	Absent	Present	-
3.5.2. Treatment	Absent	Present	-
3.5.3 Criminal Justice	Absent	Present	-
3.5.4. Tracking and Measuring Opioid Abuse	Absent	Present	-
<b>Interorganizational Coordination (Brody, 2003b)</b>	<b>0</b>	<b>1</b>	<b>2</b>
4.1 Identify <b>major</b> stakeholders and interests (Knox, 2017; Brody 2003b)	No stakeholders mentioned	Vague description of stakeholders	Detailed description of stakeholders included
4.2 Extent of Participation (Arnstein, 1969)	None	Consultation /Feedback	Partnership / Part of decision process
4.3 Interagency Involvement Development	# of type of interagency involved in plan development		
4.3.1. Federal actor coordination	Absent	Present	-
4.3.2. Other state actor coordination	Absent	Present	-
4.3.3. Local actor coordination	Absent	Present	-
4.3.4. Private actors coordination	Absent	Present	-
4.3.5. Nonprofit actor coordination	Absent	Present	-

4.4. Plan Governance Structure Identified (Provan & Kenis, 2008)	No identification	Vague description of who's leading the plan	Detailed identification of leading agency
4.4.1. Lead organization	Absent	Present	-
4.4.2. Participant-governed - Member list	Absent	Present	-
<b>Implementation and Monitoring</b> (Knox, 2017; Tang, 2008; Brody, 2003b; Berke & Godschalk, 2009; Lyles, Berke & Smith, 2014)	<b>0</b>	<b>1</b>	<b>2</b>
5.1. Designation of responsibilities; (organizations are identified that are responsible for plan implementation)	No responsibilities delegated	Vague description	Detailed description of responsibilities
5.2 Interagency Involvement Implementation	# of agencies included in recommendations		
5.2.1. Federal actor roles	Absent	Present	-
5.2.2. Other state actor roles	Absent	Present	-
5.2.3. Local actor roles	Absent	Present	-
5.2.4. Private actors roles	Absent	Present	-
5.2.5. Nonprofit actor roles	Absent	Present	-
5.3. Clear timeline for roles	No timeline	Vague timeline (occur in a few years; around 2020)	Detailed timeline
5.4 Political feasibility (Support from elected or political appointees)	No elected official mentioned	Mentioned that they sought out political support	Names of supporters
5.5. Identification of costs or sources of funding	No cost or funding identified	Mention that they are looking for funding	Detailed description of how to get funds
5.6. Monitoring and review	Sum of monitoring activities		
5.6.1. Provisions for tracking change in community conditions	No tracking identified	Mention that tracking will occur	Detailed tracking activity mentioned

5.6.2. Regular plan updates to respond to new/changing information or amendment procedures	No updates mentioned	Mention that updated will occur	Detailed updating procedures
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APPENDIX C

Correlation Matrix, VIF Scores, Overdispersion Test and Results of Negative-Binomial Random-Effects Model

Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Policy Enactment	<b>1.00</b>													
(2) Speed of Enactment	0.29	<b>1.00</b>												
(3) Presence of Plan	0.10	0.09	<b>1.00</b>											
(4) Plan Quality	0.09	0.06	0.94	<b>1.00</b>										
(5) Presence of ED	0.04	0.04	0.05	0.05	<b>1.00</b>									
(6) Appropriations	0.32	-0.01	-0.01	-0.02	-0.01	<b>1.00</b>								
(7) Rep. Governor	-0.02	-0.12	-0.07	-0.05	-0.02	-0.02	<b>1.00</b>							
(8) Dem. State Gov.	0.06	0.07	0.08	0.04	-0.03	0.03	-0.62	<b>1.00</b>						
(9) Divided State Gov.	-0.05	-0.03	-0.01	0.01	0.05	-0.01	-0.20	-0.37	<b>1.00</b>					
(10) OD Death Rate	0.15	0.12	0.17	0.15	0.08	0.00	-0.11	0.01	0.10	<b>1.00</b>				
(11) Labor Force	0.17	0.21	-0.04	-0.04	0.06	-0.01	0.02	0.02	0.01	-0.02	<b>1.00</b>			
(12) SAMHSA Grants	0.06	0.03	0.28	0.27	0.02	0.00	-0.07	0.03	-0.06	0.51	-0.34	<b>1.00</b>		
(13) Year	0.11	-0.01	0.26	0.26	0.06	0.05	0.03	-0.04	-0.06	0.47	0.02	0.67	<b>1.00</b>	
(14) Leg. Session Days	0.10	0.47	0.08	0.03	0.02	-0.01	-0.12	0.07	0.03	0.26	0.18	0.08	0.07	<b>1.00</b>

Note: ED is emergency declaration. OD is overdose. The variables plan and plan quality are not included in the same model. Models were run without democratic state government and the year variables with little differences in significance.

VIF Scores

Variables	VIF Scores			
	Policy	Policy	Speed	Speed
(3) Presence of Plan	1.11	-	-	1.11
(4) Plan Quality	-	1.1	1.1	
(5) Presence of ED	1.01	-	-	1.01
(6) Appropriations	1.01	1.01	1.01	1.01
(7) Rep. Governor	2.56	2.56	2.57	2.57
(8) Dem. State	2.84	2.83	2.83	2.84
(9) State Divided	1.84	1.84	1.85	1.84
(10) OD Death Rate	1.49	1.49	1.57	1.57
(11) Labor Force	1.31	1.31	1.37	1.37
(12) SAMHSA Grants	2.65	2.65	2.66	2.66
(13) Year	2.16	2.17	2.19	2.18
(14) Leg. Session Days	-	-	1.14	1.14
X	1.8	1.88	1.83	1.76

Likelihood-Ratio Test of Alpha for Overdispersion

Models	Chibar2	p-value
M1	389.19	0.00
M2	385.21	0.00
M3	389.33	0.00
M4	383.87	0.00
M5	396.88	0.00
M6	389.16	0.00
M7	388.20	0.00

Random-effects Negative-binomial Panel Regression

Variables	Policy Enactment						
	M1	M2	M3	M4	M5	M6	M7
Presence of Plan	0.22*** (0.064)	0.23*** (0.073)	-	-	-	-	0.21*** (0.202)
Presence of Plan Lag		0.08 (0.087)	-	-	-	-	-
Plan Quality	-	-	0.00*** (0.001)	0.00*** (0.001)	-	-	-
Plan Quality Lag	-	-	-	0.00 (0.001)	-	-	-
Presence of ED	-	-	-	-	0.34** (0.149)	0.41*** (0.002)	0.28 (0.073)
Presence of ED Lag	-	-	-	-	-	0.61* (0.026)	-
EDXPlan	-	-	-	-	-	-	0.17 (0.300)
Appropriations	0.48*** (0.076)	0.48*** (0.103)	0.48*** (0.087)	0.48*** (0.099)	0.48*** (0.099)	0.48*** (0.092)	0.49*** (0.099)
Rep. Governor	-0.14 (0.142)	-0.14 (0.149)	-0.14 (0.136)	-0.14 (0.141)	-0.12 (0.144)	-0.12 (0.163)	-0.13 (0.185)
Dem. State	-0.27 (0.194)	-0.28 (0.217)	-0.26 (0.205)	-0.27 (0.225)	-0.24 (0.199)	-0.24 (0.222)	-0.26 (0.257)
State Divided	-0.25 (0.146)	-0.25 (0.164)	-0.25 (0.158)	-0.26 (0.160)	-0.23 (0.148)	-0.25 (0.142)	-0.25 (0.199)
OD Death Rate	0.01 (0.007)	0.01 (0.007)	0.01 (0.009)	0.01 (0.008)	0.01 (0.009)	0.01 (0.007)	0.01 (0.007)
Labor Force	0.22 (0.238)	0.23 (0.192)	0.23 (0.238)	0.24 (0.235)	0.23 (0.238)	0.21 (0.238)	0.22 (0.174)
SAMHSA Grants	0.00 (0.006)	0.00 (0.007)	0.00 (0.006)	0.00 (0.007)	0.01 (0.007)	0.00 (0.007)	0.00 (0.007)
Year	-0.01 (0.015)	-0.01 (0.016)	-0.01 (0.016)	-0.01 (0.200)	-0.01 (0.019)	-0.01 (0.016)	-0.01 (0.016)
Log Pseudo-likelihood	-1257.10	-1256.71	-1257.76	-1257.28	-1258.93	-1255.62	-1256.08
Wald X2 (p-value)	62.72***	72.42***	82.54***	75.75***	74.97***	68.18***	95.28***
Wald df	9	10	9	10	9	9	11
Observations	561	561	561	561	561	561	561

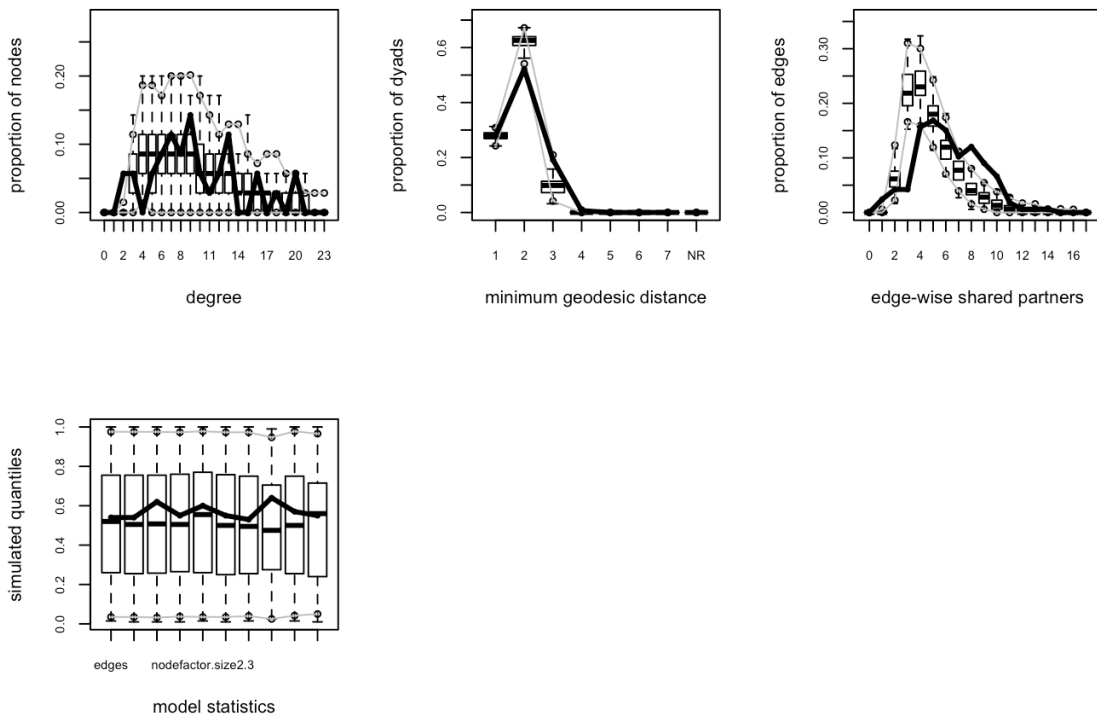
Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001. Bootstrap standard errors in parenthesis. Cluster-robust standard errors are not an option in random-effects negative-binomial panel regression in Stata (Stata, n.d.). M9-M10 (speed of policy enactment) cannot be executed in this analysis due to square root transformed dependent variable.

## Appendix D

### Goodness of Fit Measures for Essay 2

Goodness of fit plots (Hunter et al., 2008) for Model 1 indicate a satisfactory fit for the binary ERGM. While there is no meaningful goodness of fit method for valued networks using count.ergm (see Krivitsky, 2012), previous scholars have used model degeneracy (Scott, 2016) or conducted binary ERGMS with valued ERGMS to validate results (Vogle and Windzio 2016; Pilny and Atouba 2018). Given that the valued ERGM contains similar variables and yields similar results to the binary ERGM and that the binary ERGM contains an acceptable fit, we can be fairly confident that results of the valued ERGM are valid. Finally, the AIC/BIC for Model 1 and Model 2 (taken the natural log) indicate a better fit than the base model further validating results.

### Goodness-of-fit diagnostics



## APPENDIX E

### Semi-structured Interview Guide and Supplemental Questions for Essay 3

Interviewer:	
Date:	
Place:	
Starting Time:	
Interviewee/ Pseudonym:	

#### Typical Day and Issue Description

1. What inspired you to become a first responder?
2. What do you consider your primary duty (or role) to be as a first responder?
3. Can you walk me through your typical workday?
4. Can you describe the impact of opioid use and abuse in your jurisdiction?

#### Policies and Procedures

5. What were the challenges you faced when responding to a drug-related call before COVID?
  - a. How has this changed with COVID?
6. In what ways is your response to a call dealing with opioids different than other calls?
  - a. How is dealing with COVID different than responding to opioid-related calls?
  - b. In what ways has the COVID-19 pandemic changed how you respond to opioid-related calls?
7. Can you describe any changes to policies and/or procedures related to responding to an opioid call before COVID?
  - a. Can you describe any changes after COVID?
  - b. In what ways have these changes helped or hindered your response to the epidemic?

#### Role Reversal

8. Can you describe any instances in which you have taken on additional roles because of the increase in opioid-related calls?
  - a. In what ways have the expectations from **supervisors** increased or decreased
  - b. In what ways have expectations from **coworkers** increased or decreased
  - c. In what ways have expectations from the **public** increased or decreased

9. Can you describe any instances in which you've had to take on additional roles that other first responders would normally do?
  - a. [Police] In what ways do you feel that you are doing work that firefighters or EMTs should be doing?
  - b. [Fire] In what ways do you feel that you are doing work that police should be doing?
  - c. How has administering **Naloxone** (opioid reversal drug) impacted your roles and responsibilities?
  - d. How has **Good Samaritan Laws** (protections for people calling for assistance with a drug overdose) impact your roles and responsibilities?
  - e. How has **needle expansion** impacted your roles and responsibilities?
  - f. In what ways does **diverting** people for treatment instead of arresting them impact your roles and responsibilities?
10. How has the opioid epidemic changed your view of what your role should/shouldn't be?
11. How has your **role** changed since the beginning of the epidemic?
  - a. How has your sense of duty changed since the beginning of the opioid epidemic?
  - b. How has your sense of duty changed since the beginning of the COVID epidemic?
12. How do you feel the opioid epidemic has impacted your work as a first responder?
  - a. How has the impact of both of these epidemics (opioid and COVID) put a strain on first responders?

## Mitigation

13. What formal or informal support mechanisms are to help you overcome any burdens placed on you due to the opioid epidemic?
  - a. In what ways has **agency leadership** helped or hindered your response?
  - b. In what ways has the **political environment** helped or hindered your response?
  - c. In what ways has the **culture of the organization** helped or hindered your response?
14. In what ways has your **agency** helped you mitigate (alleviate) any burdens placed on you due to the opioid epidemic before COVID?
  - a. In what ways has your agency helped you mitigate (alleviate) any burdens placed on you due to the opioid epidemic after COVID?
15. In what ways have your **colleagues** helped you mitigate any burdens placed on you due to the opioid epidemic before COVID?
  - a. In what ways have your colleagues helped you mitigate any burdens placed on you due to the opioid epidemic after COVID?
16. Palm Beach County has a task force dedicated to this issue. What impact (if any) has this how you respond to the opioid epidemic?

- a. Can you describe any inter-agency collaborations that you or your department are involved in for dealing with the opioid epidemic?

**Improvements:**

- 17. In your opinion, what else can be done to help you respond to the opioid epidemic?
  - a. What can be done to help you respond to COVID?
- 18. What would you do differently if you were **chief**?
  - a. What would you do differently if you were the **mayor**?
  - b. What would you do differently if you were the **governor**?

**DEMOGRAPHIC QUESTIONS**

*For analysis and publication purposes, please fill out the following section about your background. All questions are optional and you can stop the survey at any time.*

- 1. How old are you?
  - 18-24
  - 25-34
  - 35-44
  - 45-54
  - 55-64
  - 65 and older
- 2. What is your gender? (optional)
  - Male
  - Female
  - Other \_\_\_\_\_
  - Prefer not to answer
- 3. What race do you identify with? Please choose all that apply.
  - White
  - Black or African American
  - Hispanic, Latino or Spanish origin
  - American Indian or Alaska Native
  - Asian

- Native Hawaiian and Pacific Islander
  - Other race or origin
4. What ethnicity do you identify with?
- Hispanic, Latino or Spanish origin
  - Not of Hispanic, Latino or Spanish origin
  - Prefer not to answer
5. What is the highest degree or level of school you have completed?
- Less than high school
  - High school
  - Technical degree or professional certification
  - College without a degree
  - Bachelor's degree
  - Master's degree
  - Other (please specify) \_\_\_\_\_
6. What is your primary position?
- Police Officer
  - Fire Fighter
7. Which agency do you work for? \_\_\_\_\_
8. What is your rank in the organization? \_\_\_\_\_
9. Where is your place of work? Please write the name of your organization.  
\_\_\_\_\_
10. How long have you been working for this agency?
- Less than 1 year
  - 1-5 years
  - 6-10 years
  - 11 years or more
11. How long have you been in this occupation?
- Less than 1 year
  - 1-5 years

- 6-10 years
- 11 years or more

THANK YOU!

APPENDIX F

Codebook for Essay 3

Code	Description
Expanding Role	Top level node detailing how and in what ways first responder roles are changing. This includes any mention of adaptations or the way that they respond to people, places or events.
Opioid Epidemic	A sub-node detailing role changes as a result of the opioid epidemic or increased drug use.
Challenges	A child node outlining the specific challenges faced when responding to opioid-related calls.
Mitigation	A child node outlining strategies for reducing the burden for first responders and front-line workers when responding to opioid-related calls.
Partnerships	A child node detailing the partnerships and/or collaborations between fire and police or other agencies in response to the opioid epidemic or when responding to opioid-related calls.
Opioid + COVID	A sub-node outlining the changes in everyday roles and responsibilities due to both the opioid epidemic and COVID-19. Includes mentions of the impact of COVID-19 on their responses to epidemic and whether the epidemic has gotten worse or better since COVID-19.
Other Disasters	A sub-node outlining other crisis events that have changed the roles and responsibilities of first responders.
Opioid Policies	A top-level node outlining the impact of opioid policies on first responders.
Naloxone Administration	A sub-node detailing the impact of using/administering naloxone on opioid-related calls.
Soft vs. Hard Approaches	A sub-node focusing on what the participants described as hard approaches (arresting offenders) vs. soft approaches (public health approach) to the opioid epidemic.
Diversion Programs	A child node detailing the impact of diversion programs (treatment instead of arresting) on the responsibilities of first responders.
Good Samaritan	A child node detailing the impact of Good Samaritan laws (protections for those calling for help for an overdose) on the responsibilities of first responders.

Needle Exchange Programs	A child node detailing the impact of needle exchange programs (exchanging clean needles for used needles) on the responsibilities of first responders.
Role Definition	A top-level node detailing how participants described their roles and first responders.
Typical Day	A sub-node in which participants described their typical day and how that fits in with their own definition of what it means to be a first responder.
Crisis Context	A sub-node outlining how emergencies and disasters impact how they define their role. This may include cross-over with typical day (i.e., expect the unexpected, every day there is a crisis).
Perception vs. Reality	A sub-node outlining how they perceive their role versus how the public perceived their role. This captured the influence of negative police and first responder stereotypes.
Recommendations	A top-level node capturing participant recommendation on how to reduce burden and role expansion.
Needs Moving Forward	A sub-node focusing on needs (i.e., what participants felt they needed to successfully respond to opioid-related calls or the opioid epidemic).
Successes	A sub-node outlining successful programs and partnership that were initiated to relieve the burden on first responders during an overdose call.
Organizational Culture	A sub-node outlining suggestions, changes or implemented programs that spoke to aspects of organizational culture.

## VITA

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Born, Baltimore, Maryland

- 2008-2012                    B.S., Psychology, Sociology  
                                  Jacksonville University  
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- 2012-2014                    M.S.W, Social Work  
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                                  Miami, Florida

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