

Evaluation of Policies to Address Opioid Overdose in Rhode Island

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This report was authored by Traci C. Green, PhD, MSc; Holly Hackman, MD, MPH; and Haley Fiske, MPH at the Boston Medical Center Injury Prevention Center

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Introduction

Rhode Island is in the midst of an opioid overdose epidemic.¹ Opioids are a class of drug that include agents such as heroin, fentanyl, oxycodone, methadone, hydrocodone, morphine, and others. Some opioids are prescribed by medical and dental providers for pain relief. Prescription opioids can also be obtained and used illicitly. There are other types of opioids that are not available by prescription, such as heroin and illicitly manufactured fentanyl (IMF). Opioids of any source can be very addictive if they are not used correctly. If they are taken in amounts the body cannot handle or with other sedating drugs, both prescribed and illicit opioids can slow a person's breathing and lead to overdose and death. Opioid overdoses can be reversed, if addressed in time, by calling 911, administering naloxone (also known by the brand name Narcan®), a lifesaving antidote, and performing rescue breathing until medical assistance arrives.

The data highlights the extent of this public health problem in Rhode Island and its changing nature. Driven by opioids, unintentional drug overdose deaths have surged from 138 in 2009 to 336 in 2016, a 143% increase.² Prescription drugs, which were associated with 78% of all drug overdose deaths in 2009, were associated with 36.3% of these deaths in 2016, indicating a large shift in the types of drugs causing overdoses and their lethality.² IMF has been increasingly associated with drug overdose deaths in Rhode Island, present in 5% of these deaths 2009 and rising to 58% in 2016.² Additional changes have occurred demographically, with a growing proportion of deaths occurring among young adults. From 2009 through 2016, the proportion of the unintentional drug overdose deaths that were among individuals age 25-34 increased from 15.9% to 28.6%.²

To address this epidemic, Rhode Island implemented and expanded numerous policies and programming initiatives, and in 2015, developed a strategic plan to guide the State's work of addressing addiction and overdose.¹ This report, prepared for a general audience, presents an evaluation of policy developments in four specific areas. They are:

1. Legislation to enable help-seeking behaviors in an overdose situation, also known as the Good Samaritan law;
2. Regulations and legislation to expand registration and use of the Rhode Island Prescription Drug Monitoring Program (PDMP) database;
3. Regulations to improve the timeliness and quality of data on opioid overdoses; and
4. Regulations to improve access to, and use of, naloxone, the lifesaving antidote during an opioid overdose.

Table I-A briefly outlines these four policy areas. Additional information on these policy areas is provided in subsequent chapters.

Table I-A: Policy Areas Addressed in This Report

Policy area; regulatory or legislative reference(s)	Description
<p>Good Samaritan protections on criminal charges if seeking medical care during an overdose; RI General Law Chapters 21-28.8 and 21-28.9^{3,4}</p>	<ul style="list-style-type: none"> • Protects persons seeking medical care for someone experiencing a drug overdose, and those experiencing an overdose, from criminal charges or prosecution of any drug-related crime except manufacture or possession with intent to manufacture a controlled substance if the evidence was gained as a result of seeking medical care; Protects someone administering naloxone in good faith from liability (2012 - expired June 2015) • Protects persons seeking medical care for someone experiencing a drug overdose, and those experiencing an overdose, from criminal charges or prosecution of any crime related to the possession of a controlled substance or drug paraphernalia or the operation of a drug-involved premises if the evidence was gained as a result of seeking medical care; Immunity extends to a violation of probation and/or parole. Protects someone administering naloxone in good faith from liability (January 2016)
<p>Prescriber requirements related to the PDMP; RI21-28-CSD, RI General Law Chapters 21-28, Sec 3.32^{5,6}</p>	<ul style="list-style-type: none"> • Requires all prescribers with an active Controlled Substance Registration (CSR) to register for the PDMP (P.L. 2014, ch.48, § 1) • Requires prescribers to check the PDMP prior to initiating an opioid and/or when a patient is on opioids for more than six months in a 12-month period. (Regulatory amendment, 2015) • Automatically enrolls prescribers in PDMP as a condition to prescribe controlled substances (P.L. 2016, ch.180, § 1; P.L. 2016, ch.199, § 1) • Enables PDMP access to designees (P.L. 2014, ch.48, § 1) and expands access (P.L. 2016, ch.194, § 1) • Limits initial opioid prescriptions for adults to no more than 30 morphine milligram equivalents (MME) daily and no more than a total of 20 doses; Requires prescribers to review the PDMP prior to beginning an opioid and every three months thereafter during continuous treatment. (Regulatory amendment, 2017)
<p>Mandated reporting of opioid overdoses (R23-1-OPIOID)⁷</p>	<ul style="list-style-type: none"> • Requires healthcare providers and hospitals to report "all opioid overdoses or suspected overdoses" to the Rhode Island Department of Health (RIDOH) within 48 hours (April and October 2014).
<p>Expansion of naloxone access and use; R23-1-OPIOID, Rules and Regulations for the Licensing of Behavioral Healthcare Organizations, RI General Laws Chapter 5 - 19.2-3, Chapter 27^{8,9,10}</p>	<ul style="list-style-type: none"> • Allows pharmacists at four Walgreens to dispense naloxone through a Collaborative Practice for Naloxone (CPAN) (2012), and expanded statewide to all other pharmacies (2014) • Requires all licensed substance abuse and mental health treatment sites to train staff and patients with opioid-use disorder on overdose education and naloxone (February 2014, expanded July 2014); Detox centers and residential treatment programs must offer patients access to naloxone on discharge (2014); Allows for prescribing and dispensing of naloxone directly or by non-patient-specific order (standing order) to individuals at risk of overdose or others in position to reverse an overdose. Provides protections on prescribing/dispensing of naloxone by health professionals. Allows dispensing of naloxone under standing order; Provides protection to individuals dispensing/ prescribing naloxone in good faith and permits EMT use when clinically indicated (2014) • Requires health insurance providers providing prescription coverage to include overdose preventative medicine/devices coverage (2016)

In 2015, RIDOH received funding through a four-year cooperative agreement with the Centers for Disease Control and Prevention (CDC) to prevent prescription drug overdoses. This agreement supports the evaluation of the four policy areas described above to understand their impact on the public's health. The Injury Prevention Center at Boston Medical Center (BMC) was engaged by RIDOH to conduct these policy evaluations. The key evaluation questions and indicators for each area were identified by project staff at BMC and RIDOH, and approved by the CDC. These are listed in Table I-B. The methods used by the Evaluation Team to assess these questions, the findings and discussions of the findings are detailed in the following chapters. The chapters also include additional and related findings beyond the original key questions and findings. As this is the first report of these findings, some evaluation questions that assess *changes* in measures will be reported in subsequent year-end reports.

Table I-B. Key Evaluation Questions and Indicators

Policy Area	Evaluation Questions	Indicator
Good Samaritan Overdose Prevention Act	To what extent does the <i>Good Samaritan Overdose Prevention Act</i> impact case dismissals?	<ul style="list-style-type: none"> Cases dismissed due to the <i>Good Samaritan Overdose Prevention Act</i>
	Has there been a change in law enforcement attitudes surrounding the <i>Good Samaritan Overdose Prevention Act</i> ?	<ul style="list-style-type: none"> Percentage of law enforcement with a favorable opinion of the <i>Good Samaritan Overdose Prevention Act</i>
	Has there been a change in awareness of <i>Good Samaritan Overdose Prevention Act</i> among people who use drugs?	<ul style="list-style-type: none"> Percentage of people who use drugs with an understanding of the <i>Good Samaritan Overdose Prevention Act</i>
Prescriber requirements to register and use the PDMP database	Does the mandatory registration law increase PDMP registration among required providers?	<ul style="list-style-type: none"> Percentage of required prescribers that register for the PDMP, by prescriber type
	Does the mandatory PDMP laws increase the number of PDMP queries by providers?	<ul style="list-style-type: none"> Number of unique prescribers who run reports in the PDMP, by prescriber type
	Is there an association between co-prescription of opioids and benzodiazepines and PDMP utilization?	<ul style="list-style-type: none"> Correlation of co-prescriptions of opioids and benzodiazepines and utilization of PDMP across time
	Is there an association between the number of patients dispensed more than 100 MME and PDMP utilization?	<ul style="list-style-type: none"> Correlation of prescriptions with more than 100 MME and utilization of PDMP across time
	Is there an association between PDMP utilization and occurrence of opioid overdose deaths and emergency department (ED_ visits by community?	<ul style="list-style-type: none"> Correlation of PDMP utilization rates with opioid overdose rates by community
	What are prescriber self-reported behaviors and beliefs in their capabilities related to opioid prescribing and using the PDMP?	<ul style="list-style-type: none"> Prevalence of self-reported counseling behaviors Percentage of prescribers with high self-efficacy (self-rated capacity) in using PDMP
Mandated reporting of opioid overdoses	Are required reports made within a 48-hour time frame?	<ul style="list-style-type: none"> Percentage of reports made within 48 hours of ED admission for overdose event
	What are the facilitators and barriers to hospitals' compliance with the 48-hour reporting mandate?	<ul style="list-style-type: none"> Number, type, and description of facilitators and barriers to hospital ED reporting to the system
	What is the concurrent validity of the Opioid Overdose Reporting System as a surveillance data source?	<ul style="list-style-type: none"> Percentage of field completeness Correlation of reports of overdose with other data systems
Expansion of naloxone access and use	What is the use of pre-hospital naloxone by law enforcement, EMS and lay persons?	<ul style="list-style-type: none"> Number of reports of pre-hospital naloxone use by EMS, law enforcement, or lay persons
	To what extent has pharmacist dispensing of naloxone changed?	<ul style="list-style-type: none"> Amount of naloxone dispensed from pharmacies Documentation of transition from Collaborative Practice to Standing Order

	How often are patients treated for overdose at EDs receiving naloxone upon discharge?	<ul style="list-style-type: none"> Amount of naloxone dispensed from EDs after an overdose
	Are individuals in treatment who are at high risk receiving naloxone?	<ul style="list-style-type: none"> Presence of protocols and practices for naloxone dispensing by treatment facilities
	Are community members who are at high risk receiving naloxone and overdose prevention training?	<ul style="list-style-type: none"> Amount of naloxone dispensed by harm-reduction programs
	Are inmates at risk of overdose receiving naloxone and overdose training upon release from the Rhode Island Department of Corrections (RIDOC)?	<ul style="list-style-type: none"> Amount of naloxone dispensed from RIDOC

Data Sources and General Methods

To examine the key evaluation questions across all four policy areas, a mixed-methods approach, involving both quantitative and qualitative data collection, was used. To conduct the evaluations, the team utilized existing data sources, where available, and collected new data through structured surveys, semi-structured interviews, and environmental scans. These data sources were then analyzed together, to inform each policy area in a comprehensive way. The multiple types and sources of data allow for validation or “checking” of findings, and allow for contrast in observations detected in any one data source. A brief description of the data sources and the policy evaluations where these were utilized for this report are described below. Additional details on the sources and the methods are provided in subsequent sections. Note: due to differences in the availability of data across sources, data from slightly different time frames were used for this report.

Opioid Overdose Reporting System

Reports of suspected or confirmed opioid overdoses treated at a Rhode Island hospital are mandated to be reported within 48 hours of discharge or death, to comply with the RIDOH’s regulatory requirements. Data are entered into an electronic database managed by the RIDOH known as the Opioid Overdose Reporting System. Evaluators utilized the reports submitted to this system from March 2014 through August 25, 2017, although much of the analyses were restricted to submissions from 2016 and 2017 for interpretive reasons. In addition to counts of individuals receiving care for opioid overdose and their demographics, this system also collects data on pre-hospital and hospital naloxone administration, naloxone provided to the patient to take with them at discharge, and other recovery-specific services offered.

Policy areas where this data source was utilized: a) Mandated reporting of opioid overdoses, b) Naloxone access and use, c) Prescriber requirements to register for and utilize the PDMP.

Key Informant Interviews

Interviews with 28 consenting stakeholders were conducted by the Evaluation Team using semi-structured questions to assess their attitudes, knowledge, experiences and challenges related to the implementation of several of the policies being evaluated. The individuals interviewed were identified by the Evaluation Team, RIDOH, and through nomination by key informants during the interview. Those interviewed include members of the broader overdose coalitions in Rhode Island, including the Governor’s Taskforce on Overdose and Prevention, legal and medical professionals, law enforcement and other public employees, and individuals working in the fields of recovery and harm reduction. In-person and telephone-based formats were used to conduct the interviews from November 2016 to June 2017. The interviews were digitally recorded, transcribed, anonymized and independently analyzed for emergent themes by three members of the Evaluation Team.

Policy areas where this data source was utilized: a) Mandated reporting of opioid overdoses, b) Naloxone access and use, and c) Good Samaritan Overdose Prevention Act.

Attorney General's data

Data submitted by police departments to the Office of the Rhode Island Attorney General Office per the *Good Samaritan Overdose Protection Act* were used to assess the number and trends in criminal charges removed through application of the Good Samaritan law from 2012-2016 (notwithstanding 2015, when the law sunset) and comparison counts of other criminal charges that resulted from 911 medical assistance calls.

Policy area where this data source was utilized: a) Good Samaritan Overdose Prevention Act.

Survey of Rhode Island law enforcement officers

A voluntary, anonymous survey of Rhode Island law enforcement officers was developed by the Evaluation Team in collaboration with RIDOH and the Rhode Island Police Chiefs' Association (RIPCA). The survey assessed knowledge and attitudes of overdose prevention and response, including naloxone administration and the Good Samaritan law, with questions based on a previous survey administered to law enforcement before and after naloxone trainings.¹¹ All police officers in Rhode Island were eligible. The distribution of the survey was through the secretary of the RIPCA, member police chiefs, and subsequently with law enforcement officers in their departments. It was administered from October 2016 through March 2017 in both paper and electronic formats. There were 543 respondents from 41 of 43 law enforcement agencies (95% of departments) with an estimated response rate of 16% (based on estimated number of total employed officers in the 43 agencies).

Policy area where this data source was utilized: a) Good Samaritan Overdose Prevention Act.

Survey and interviews of people who use drugs

Researchers at The Miriam and Rhode Island Hospitals collected structured survey and qualitative interview data from January through November 2016 from individuals in Rhode Island who reported using drugs illicitly in the past 30 days. These data, which include attitudes and knowledge of the Good Samaritan law, behaviors after witnessing an overdose, help-seeking in an overdose, and knowledge of naloxone, among other topics, were utilized for these policy evaluations through an interagency data sharing agreement. Eligible participants were at least 18 years old, current residents of Rhode Island, and self-reported misuse of opioids (including illicit opioids, use of diverted prescription opioids, or the deliberate misuse of opioids received through a prescription) in the previous 30 days. Participants were recruited through targeted canvassing at local needle-exchange programs, harm-reduction outreach programs, emergency departments, and community-based health clinics. All 150 participants were surveyed, and a subset of 50 were randomly selected for in-depth interviews. Additional details on the methodology used in the collection of these data are described elsewhere.¹² Transcripts of interviews were analyzed by two members of the Evaluation Team, applying content coding to identify emergent themes.

Policy areas where this data source was utilized: a) Good Samaritan Overdose Prevention Act, and b) Naloxone access and use.

Survey of Rhode Island prescribers

The Evaluation Team, in collaboration with individuals from RIDOH, developed a structured on-line survey of prescribers (physicians, dentists, advance practice nurses, physicians assistants, podiatrists) to assess their attitudes, self-reports of counseling patients on opioid risks, and belief in their capabilities surrounding use of the PDMP, and other related issues. The voluntary and anonymous survey was administered on-line from January 2017 to April 2017 to 3,000

prescribers with licenses to practice in Rhode Island, including all non-veterinary prescribers in Warren, West Warwick, Charlestown, Woonsocket, and Middletown and a random sample from prescribers with addresses in other towns in Rhode Island, Connecticut, and Massachusetts. (Select towns were oversampled for use of these data for a separate public health research project.) Responses were restricted to prescribers reporting their primary practice location was in Rhode Island. Retired prescribers and optometrists were also excluded resulting in 532 valid respondents for analysis (17.7% of sample).

Policy areas where this data source was utilized: a) Prescriber requirements to register for and utilize the PDMP.

Survey of Rhode Island Pharmacists

A survey of Rhode Island and Massachusetts pharmacists was administered electronically from April to July 2016 by Boston Medical Center. The survey was both voluntary and anonymous and sought to assess attitudes, self-reports of counseling and dispensing naloxone, and common pharmacy practices related to opioid safety and naloxone. RIDOH sent email invitations to all pharmacists licensed in Rhode Island, for which a valid email address was available. The estimated response rate was 10%, based on the calculated number of licensed pharmacists practicing in Rhode Island. Analyses presented in this report are restricted to pharmacists who indicated their primary place of practice was in Rhode Island (n=171).

Policy area where this data source was utilized: a) Naloxone access and use.

PDMP database

Information on all prescriptions for a controlled substance (Schedule II-IV) and filled by a Rhode Island pharmacy is required, by law, to be submitted electronically by pharmacists to the PDMP. These data include the prescription drug name and date dispensed, the days supplied, dose, prescriber and pharmacy identifiers, demographic information on the patient, prescriber and pharmacy, and other variables. De-identified data from the PDMP from January 2015 through March 2017 were utilized by the Evaluation Team.

Policy area where this data source was utilized: a) Prescriber requirements to register for and utilize the PDMP.

Utilizers and utilization reports from the PDMP

Aggregate counts of the number of users and searches made of the PDMP per month from April 2016 through July 2017, by type of provider (physician, dentist, pharmacist), including their delegates, was obtained from RIDOH's PDMP.

Policy area where this data source was utilized: a) Prescriber requirements to register for and utilize the PDMP.

Environmental scan of treatment facilities

In February 2016, the Evaluation Team undertook an environmental scan of all agencies licensed by the Rhode Island Department of Behavioral Healthcare, Developmental Disabilities, and Hospitals (BHDDH) to provide detoxification and residential treatment services for substance abuse. The purpose of the scan was to learn of their methods of providing patients with naloxone to take with them, quantify the amount of naloxone distributed by these agencies in the previous year, and ascertain the potential for partnerships between treatment agencies and community pharmacies. Using a semi-structured interview guide, facilities were contacted

by phone for a brief phone interview to collect these data. In February and March 2017, follow-up calls were made to those agencies that had not previously replied in order to complete data collection. The quantitative data were then entered into a database and contextual data were summarized to complete the environmental scan.

Policy area where this data source was utilized: a) Naloxone access and use.

Prevent Overdose RI website

RIDOH contracts with Brown University to manage a website, *Prevent Overdose RI* (preventoverdoseri.org) to inform practitioners and the public about the epidemic. The site contains a data warehouse, presented in a dashboard format, that curates several key indicator data used for this report including: naloxone dispensing, fatal and nonfatal overdoses, and naloxone administration. Some data are available to the public and other data are available only through a password-protected portal.

Policy area where this data source was utilized: a) Naloxone access and use.

Policy Area 1: *Good Samaritan Overdose Prevention Act*

Background

Opioid overdoses can be reversed if they are attended to in a timely manner using a rescue medication, naloxone. Calling 911 and using naloxone in the event of an opioid overdose saves lives. However, since drug users are also often engaging in illicit activities at the time of an overdose, they may fear the involvement of police and emergency personnel and may be hesitant to call 911 for rescue services.

To address this fear and encourage help seeking, states have enacted laws providing limited immunity from drug-related charges for those that witness or experience an overdose as well as providing immunity from criminal and/or civil liability to those that prescribe or administer naloxone in good faith. These laws, which protect individuals that respond to or experience an overdose emergency, are known as Good Samaritan Laws (GSL). Currently, 40 states and the District of Columbia have enacted a Good Samaritan Law or other form of legal protection for those that call 911 in the event of an overdose.¹³

On June 18, 2012, the Rhode Island General Assembly enacted the *Good Samaritan Overdose Protection Act* (GSOPA).³ The legislation states persons seeking medical assistance for someone experiencing a drug overdose or drug-related medical emergency, and persons experiencing a drug overdose, will not be charged or prosecuted for any drug-related crime, unless the crime involves “the manufacture or possession with the intent to manufacture a controlled substance or possess with intent to deliver a controlled substance.”³ The law also gives defined protections to individuals providing first aid or other medical assistance, such as naloxone, to someone who is experiencing a drug overdose or other drug-related medical emergency.³

The legislation also required the Office of the Rhode Island Attorney General to submit a report annually to the Rhode Island General Assembly that summarizes the impact of this chapter on law enforcement. A “sunset provision” (expiration of the law on July 1, 2015) was put into the language of the 2012 law. New legislation that expanded the 2012 law and removed the sunset provision was put forth in 2015 but, due to a legislative impasse, the *Good Samaritan Overdose Protection Act* of 2012 expired on July 1, 2015. For the subsequent six months (July 1, 2015 through January 26, 2016), Rhode Island did not have Good Samaritan overdose protections legally in place.

The *Good Samaritan Overdose Prevention Act of 2016* was introduced on January 6, 2016 and signed into law on January 27, 2016.⁴ The phrase “*shall not be charged or prosecuted for any crime under RIGL 21-28 or 21-28.5, except for a crime involving the manufacture or possession with the intent to manufacture a controlled substance or possession with intent to deliver a controlled substance...*” was altered to “*shall not be charged or prosecuted for any crime related to the possession of a controlled substance or drug paraphernalia, or the operation of a drug-involved premise...*” in 2016.⁴ The 2016 GSOPA also added a section extending the protections to people on probation and/or parole and removed the sunset provision. Protections related to the administration of first aid and medical assistance during an overdose were also reinstated, and the provision requiring annual reporting by the Office of the Attorney General were retained.⁴

Evaluation Findings

Question 1: To what extent does *Good Samaritan Overdose Prevention Act* impact case dismissals?

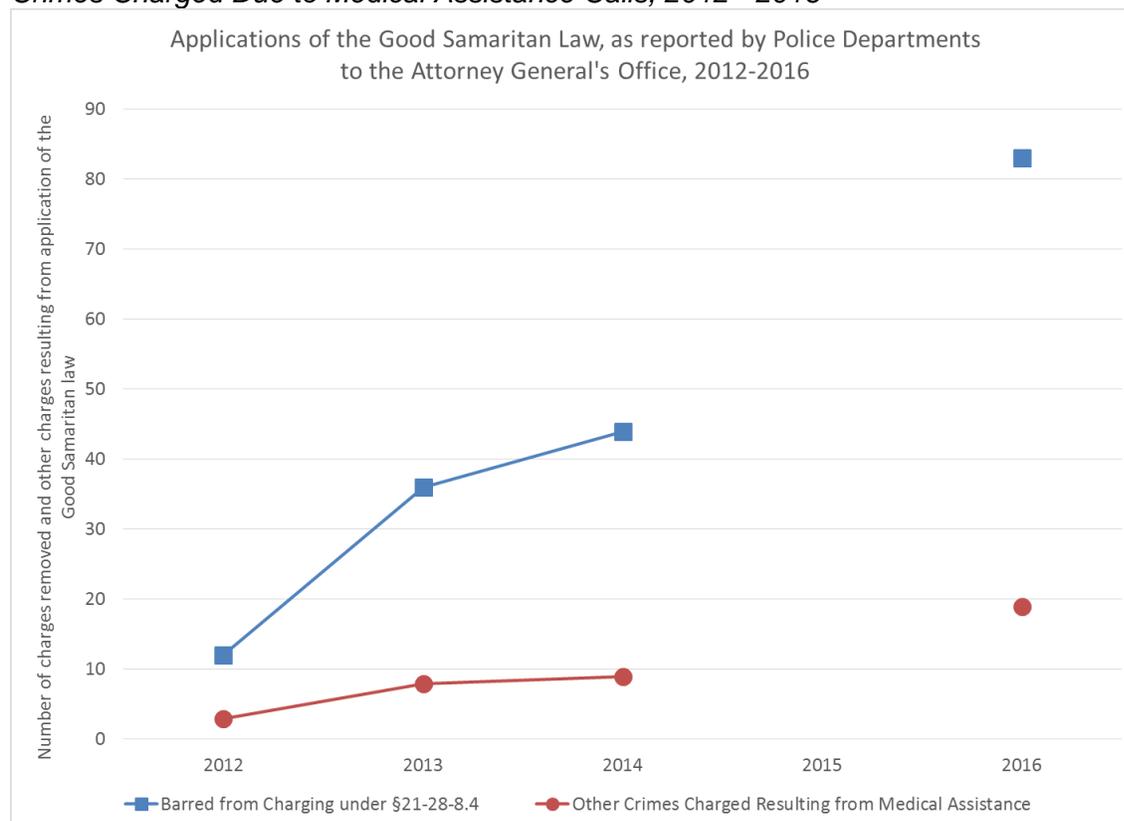
The findings suggest that the Good Samaritan law is being applied, and that few other criminal charges are resulting from arrests made at the scene of an overdose.

As reported to the Office of the Attorney General by municipal police departments, there was an increase in the number of drug-related charges that were dismissed because of applications of the Good Samaritan law (GSL) from 2012 (n=12) to 2016 (n=83) (see the blue line in Figure III-A - note: 2015 data were not collected).¹⁴

One may expect that the 2016 numbers would be substantially larger given the more expansive reach of the new law. Relative to the high number of drug-related arrests that occur in the state, these charges appear to be a very small proportion of the volume. To understand the impact of the law, it is important to point out the difference between a charge and an arrest. An arrest means that an individual is seized and taken into custody by law enforcement. A charge means that an individual is accused of an offense under law. A person may be arrested and then may be charged. In the case of an overdose, both the act of arresting and charging would result in removal of the witness and/or victim from the overdose scene. The *Good Samaritan Overdose Prevention Act* pertains to *charges*, but may in practice be applied to arrests.

On the one hand, the increased number of charges, even though they are dismissed, reflects a high number of arrests at the scenes of drug overdoses, which can be destabilizing for the community and upsetting and disruptive to the witnesses and victim. In this view, arrests at the scene of a drug overdose convey a clear law enforcement intervention approach to a medical emergency, which undermines the spirit of the witness's help-seeking and 911 call. In another view, this increase in dismissals of charges could be interpreted as an indication that the law is being applied appropriately. That is, in 2016, more than 80 overdose victims or witnesses who were actively seeking help in an overdose had some of their drug-related charges removed because of the GSL. It should be noted that the number of other crimes charged that resulted from the 911 medical assistance call (the red line in Figure III-A) has not increased at the same pace as the dismissals for the GSL, suggesting that arrests at a drug overdose are not productive arrests that result in additional criminal prosecutions. The type or severity of the other charges are not known, and could not be considered in this analysis. In sum, these data suggest that the GSL is being applied, and that few other criminal charges result from arrests made at overdose, which supports calls to refrain from arresting at the scene of an overdose as an appropriate public health response by law enforcement in medical emergencies.

*Figure III-A. Rhode Island Police Department Reports to the Office of the Attorney General, Number of Charges Removed Due to Applications of the Good Samaritan Law and Other Crimes Charged Due to Medical Assistance Calls, 2012 - 2016**



Source: Office of the Rhode Island Attorney General
 *2015 counts not collected

Question 2: Has there been a change in law enforcement attitudes surrounding the Good Samaritan Overdose Prevention Act?

Most Rhode Island law enforcement officers who responded to our survey do not feel that the Good Samaritan legislation encourages drug use or sends a message that drug use is okay. Furthermore, stakeholder interviews with law enforcement professionals conveyed the belief that support for the GSOPA within the law enforcement community has grown stronger over time. Attitudes toward people who use drugs, naloxone provision, and treatment receipt are evolving, but could improve further.

Findings from the survey of Rhode Island law enforcement officers

There were 543 respondents to the survey of Rhode Island law enforcement officers (see Section II for background details on this survey). This survey serves to establish baseline measures that will be assessed annually for changes.

Respondents were from 41 of 43 (95% participation) law enforcement agencies, including state, local, and other jurisdictions. The estimated response rate was 16% based upon an estimated 3,300 sworn officers in Rhode Island.¹¹ Respondents were predominantly male (91%), age 35-64 (70%), white (95%), non-Hispanic (97%), and the majority had obtained a college degree or higher (64%). Sixty-eight percent of respondents had been in law enforcement for 10 or more

years. Among respondents, 214 of 443 (48%) reported they personally knew someone with a current or past opioid addiction and 168 of 444 (38%) knew someone personally that had experienced an overdose. Furthermore, 298 of 460 respondents (65%) reported they had responded to at least one overdose in the preceding six months and among these individuals, 17% had administered naloxone.

The survey asked about beliefs in the effectiveness of overdose-prevention response strategies, including attitudes about the *Good Samaritan Overdose Prevention Act*. The findings are in Table III-A. Overall, the majority of respondents believe in the value of overdose prevention efforts and that first responders have a role in them. Most respondents do not feel that the GSL encourages drug use or sends a message that drug use is okay. However, several attitudinal responses reflect less consensus in addressing overdose prevention and applying harm reduction and public health approaches. Changes in these attitudes will be assessed by the Evaluation Team yearly to examine differences across time.

Table III-A. Rhode Island Law Enforcement Officer Self-Reported Beliefs

Survey Statement	Percentage who strongly disagree, disagree, somewhat disagree with the statement	Percentage who strongly agree, agree, somewhat agree with the statement	Mean score scale: 6= strongly agree to 1 = strongly disagree (standard deviation)
Overdose prevention for people who use drugs is a waste of time and money and resources. (n=441)	69.6	30.4	2.75 (1.42)
First responders (police, fire) have a role to play in injury prevention, including overdose prevention. (n=440)	18.2	81.4	4.44 (1.30)
A Good Samaritan law encourages more drug use. (n=437)	64.8	35.2	3.01 (1.43)
A Good Samaritan law sends the message that drug use is okay. (n=437)	68.2	31.8	2.80 (1.39)
Training people how to identify and respond to an overdose sends the message that drug use is okay. (n =440)	71.8	28.2	2.69 (1.48)
Drug addiction is a disease that should be dealt with through treatment and support services. (n=440)	16.6	83.4	4.54 (1.24)
You can't really help drug users because they don't want to help themselves. (n=439)	53.1	46.9	3.27 (1.39)
Drug users can stop using drugs whenever they want to. (n=436)	85.8	14.4	2.22 (1.18)
I'm worried about the people who use drugs because there's so much fentanyl in the drug supply. (n=436)	33.7	66.3%	4.02 (1.53)

Source: Survey of Rhode Island law enforcement officers, 2016-2017

Self-reported and actual knowledge of the Good Samaritan Law were assessed. Thirty-eight percent of officers responding reported having high or very high level of knowledge of the law, 45% reported moderate level of knowledge, 13% reported low level of knowledge and 4% reported they had never heard of the law (Table III-B). Officers reporting more than 20 years in the field were more likely to report a high or very high level of knowledge (48%) compared with officers with less experience (33%).

Table III-B. Law Enforcement Officer Self-Assessed Knowledge of Rhode Island's Good Samaritan Overdose Protection Act of 2016

Answer	Number Responding (%)
Never heard of it	19 (4%)
Low level of knowledge	58 (13%)
Moderate level of knowledge	210 (45%)
High level of knowledge	130 (28%)
Very high level of knowledge	46 (10%)
Total	463

Source: Survey of Rhode Island law enforcement officers, 2016-2017

Several true or false questions were asked of respondents about the law. Findings are displayed in Table III-C. Compared to responses from law enforcement officers assessed in 2014 and reported by Saucier et al., there has been a deterioration in knowledge of the law's restrictions on charging someone with drug possession if the substances are found at the scene; an item gauging knowledge of the GSL achieved near universal (97.8% correct) understanding, whereas a similar item in the current assessment found only 79.6% correctly identifying this GSL protection. Moreover, a substantial proportion of respondents indicated that they did not know the answer to the questions pertaining to the law. In particular, knowledge of the law among respondents was particularly limited in three areas: ability to arrest for drug possession and paraphernalia; the inability of overdose victims or people who call for help from being charged or prosecuted for operating a drug-involved premises, if the evidence for the charge was gained as a result of seeking medical assistance for the overdose; and protection from having their parole or probation violated on the basis of crimes for which immunity is provided under the law. The latter two areas were new provisions of the current, expanded law, and so would not have been addressed in the earlier trainings described and evaluated by Saucier et al., 2016.¹¹

Table III-C. True and False Responses to Statements on the Rhode Island Good Samaritan Law

Survey Statement on The 2016 Good Samaritan Law	Responded True	Responded False	Responded Don't Know	Correct Response
Prevents suspected overdose victims or people who call for help from being arrested for possession of controlled substances or paraphernalia	375/447 (83.9%)	41/447 (9.2%)	31/447 (6.9%)	False
Prevents suspected overdose victims or people who call for help from being charged or prosecuted for any crime related to possession of a controlled substance or drug paraphernalia, if the evidence for the charge was gained as a result of seeking medical assistance for the overdose	356/447 (79.6%)	53/447 (11.9%)	38/447 (8.5%)	True
Prevents suspected overdose victims or people who call for help from being charged or prosecuted for operating a drug-involved premises, if the evidence for the charge was gained as a result of seeking medical assistance for the overdose	216/445 (48.5%)	151/445 (33.9%)	78/445 (17.5%)	True
Protects suspected overdose victims or people who call for help from having their parole or probation violated on the basis of crimes for which immunity is provided under the law	196/446 (44.0%)	116/446 (26.0%)	134/446 (30.0%)	True
Protects people that administer naloxone in good faith from civil liability and criminal prosecution as a result of administering the naloxone	397/447 (88.8%)	8/447 (1.8%)	42/447 (9.4%)	True

Source: Survey of Rhode Island law enforcement officers, 2016-2017

* Percentages may not total 100% due to rounding.

The survey also assessed law enforcement officers' self-reported behaviors as they potentially relate to the GSL application at the scene of an overdose. Of those attending one or more suspected overdose calls in the past six months, 26 of 296 (9%) reported that one or more calls had resulted in the arrest of the witness or victim for any offense and 13 of 295 (4%) reported that one or more of the overdose calls had resulted in charges for possession of drugs or paraphernalia. Chi Square and Fisher's Exact tests (where appropriate) were used to examine if there were statistically significant differences in self-reported beliefs (listed in Table III-A) and self-reported level of knowledge of the GSL in law enforcement officers who reported either an arrest or a charge at an overdose call compared with those who did not. No difference was found. However, officers who self-report an arrest or charge at an overdose call were more likely to self-reported personally knowing someone who had overdosed (13% personally know someone versus 6% do not personally know someone ($\chi^2=4.16$, $df = 1$, $p=.04$)).

The survey explored whether law officers had received instructions or guidance from their department or other entities on how to respond to overdose calls after the first law had sunset and before the second law had been passed. Only 4.6% (20/440) of officers reported that they

received direction to “enforce the law as it existed from July 2015 until the law change in January 2016,” i.e. with no protections in place.

Findings from interviews with key stakeholders

Sixteen interviews were conducted with individuals who have been involved in the passage or implementation of Good Samaritan laws in Rhode Island, were in law enforcement, fire protection, and criminal justice, or who worked closely with individuals impacted by these policies. Questions probed the challenges faced in operationalizing and implementing the law; communication of the law; and attitudes regarding its impact. Transcripts were analyzed by the Evaluation Team for emergent themes.

Theme: Rollout of the law and effect of “sunset” of the original law

Some informants felt that the law was being executed well, codified what was essentially already in practice by law enforcement—even prior to the original (2012) law—and that the “sunset” of the original law had, for the most part, not impacted law enforcement behaviors at the scene of a drug overdose.

“Some of the older law enforcement officers were hesitant at first thinking it would enable drug use but most came around eventually. Otherwise, no, since it (the law’s protections) was how the department was already operating.”

The sunset of the original law, with the six-month period of time where there was no law, was felt by several informants to have hindered progress on awareness of the law and had created confusion. Those that identified this confusion and emphasized its impact were key informants that work closely with people who use drugs.

“The public didn’t know about it... so I would say that the Good Sam Law took a long time for anybody to know about it, and then it got lots of attention. So the whole thing that it, you know, had sunset got a lot of attention... and so even now when I go out to talk about the Good Sam Law, people are confused. It is still in effect? Is it not in effect? I mean, it’s according to who I’m talking to. If I’m talking to people... who are current users, they are more likely to know.”

Theme: Changes in attitudes over time

When asked if the attitude of law enforcement changed over time since the first law came out, one informant indicated that the fact that the epidemic has impacted all demographic groups promoted attitude changes.

“Yes... what has somewhat influenced that too, is... it was not some druggie... at the local hotel that was overdosing. It was sons and daughters of police officers. It was hitting home at every level... affecting the local public safety on a personal level... I think the more it got personal... the less skeptical people became.”

Several informants working with persons using drugs indicated that the spirit of the law was not being applied uniformly, and that more work is needed to repair the confusion and improve relations and to inform at risk populations about the protections offered by the law. Furthermore, there was a sentiment that “word gets around” among people who use drugs about isolated arrests, and that only a handful of cases can negatively influence attitudes and relationships. The core problem is that law enforcement is unaware of the impact of their actions—and inactions—on the community of people who use drugs.

“So there are circumstances which people aren’t really following the letter of the law and that does have a chilling effect on others because word gets around. ...Our perception is that

enforcement tends to be inconsistent across police departments. Many of the people who are involved in the world of drug dealing and drug consumption already have a pretty strong suspicion about the motives of the straight world. And our sense is that there's still a lack of confidence on the part of some people who are subject to it (the law)."

Question 3: Has there been a change in awareness of *Good Samaritan Overdose Prevention Act* among people who use drugs?

Changes in awareness of the GSOPA will be monitored over time. At baseline, (2016) there appears to be a moderate level of knowledge about the law among people who use drugs. Disparities in this knowledge exist among select demographic subgroups.

Findings from surveys with people who use drugs

Survey findings from 150 people who are actively using illicit drugs, collected in Rhode Island during 2016, were used to understand their awareness and knowledge of the law. Among respondents, slightly more than half (57%) said that they knew what the Good Samaritan law was. Among those who were aware of the law, 87% responded that the law was very important or absolutely necessary for encouraging people to call 911. Knowledge of the law did not differ across age groups, sex, race, "ever" arrest, or incarceration history. However, there were important differences in knowledge of the law across other demographics. Specifically, knowledge of the law was significantly lower among Hispanics (versus non-Hispanics), among those who had less formal education (less than high school versus completed high school or more), among those who had never witnessed an overdose (versus those who had), among those who were not currently on probation (versus people on probation) and among those who had never been treated with methadone (versus people who had been on methadone). Table III-D shows the frequencies and odds ratios for demographic groups with statistically significant differences in their knowledge of the law.

Table III-D. Knowledge of Good Samaritan Law Among Persons Who Actively Use Drugs, By Select Demographic Characteristics

Demographic Characteristic	Knows what Good Samaritan Law is (n):	Total (n)	Percent	Odds ratio (95% confidence interval)
Hispanic ethnicity				
Non-Hispanic	47	82	57.3	2.6 (1.1-6.2)
Hispanic	10	29	34.5	Reference
Education				
Up to some high school	17	46	37.0	Reference
High school graduate	36	58	62.1	2.8 (1.3-6.2)
Some college or more	26	36	72.2	4.4 (1.7-11.4)
Ever witnessed overdose				
Yes	74	121	61.2	Reference
No	6	18	33.3	.3 (0.1-0.9)
Currently on probation				
Yes	34	47	72.3	Reference
No	42	87	48.3	0.4 (0.2-0.8)
Ever received treatment with Methadone				
Yes	54	84	64.3	Reference
No	28	61	45.9	0.5 (0.2-0.9)

Source: Rhode Island Survey of Active Drug Users, 2016

Among respondents, 123 (82%) had witnessed an overdose, and 69% of these individuals reported that they had called 911 at the last overdose. Calling 911 did not differ by age subgroup, sex, white/non-white race, Hispanic ethnicity, education completed, knowledge of the Good Samaritan law, personal overdose history, incarceration or parole status. Changes in these baseline indicators will be monitored yearly.

Findings from interviews with people who use drugs

The interviews conducted with a subsample of survey respondents further explored their life experiences with respect to overdose risk, response, and the Good Samaritan law. Several themes emerged from the interviews that resonated with findings from the surveys with respect to differences in Good Samaritan knowledge and help seeking in an overdose.

Ethnicity/Spanish language, young people knowledge low

Knowledge of the GSL ranged among the population of people who use drugs. Most of those who did not know of the law conveyed that they would call 911 “anyway”, and therefore the presence of the GSL was not going to influence their actions in an overdose emergency:

INTERVIEWER: “...but if you see an overdose happening and you-“

117: “I’ll call 911”

INTERVIEWER: “you call 911? Mhmmm.”

117: “That’s what I call. I call 911. That’s what it’s for.”

Then later confirmed:

INTERVIEWER: “Do you have any anxiety about calling 911?”

117: “No, I’ll call ‘em in a minute. I’ll call ‘em, I don’t care, I’ll call ‘em.”

Nearly all interviewees stated they would call 911 in a suspected overdose emergency, and, after confirming the understanding of the law or explaining what the GSL covers, interviewees affirmed that the GSL was absolutely necessary. One user stated that the loss of the GSL [during sunset] would have an impact on his actions:

INTERVIEWER: "I see. But in other situations, would you call 911?"
118: "Yeah, of course. I know about the Good Samaritan Law."
INTERVIEWER: "Oh, you do?...So, it's not currently in effect in Rhode Island."
118: "Say so? Now I won't be calling 911."
INTERVIEWER: "Well, hopefully soon ... enough it will be in effect again. But so you think it's important to have it?"
118: "Mhmm."

Many users were aware of what a GSL would do, and many knew of the Rhode Island GSL specific to overdose:

"It's like a 'no questions asked' type of thing for the person that called [in an overdose]"

Some, like the interviewee below, even knew of the nuanced changes in the law's status, as this overdose response story conveys:

103: "One gentleman, we couldn't get back. We got him finally back, not through naloxone, just a lot of pickin him up, slappin him in the face, throwing cold water on him, cause we didn't have access to it [naloxone]. We finally decided to call 911 because my girlfriend is a nurse and she's smart enough to know the Good Samaritan law, and me, I'm always in trouble, so I'm always on probation. So, I'm scared of the, I'm scared of that, somebody going out on me. I'm not—never drug charges. But my charges are like, alluding police, all stupid sxxx. Never drug charges, but I don't want it to ever be that. So if somebody goes out on me, I get scared. But I've been with [my girlfriend] six years, and she's always taught me about the Good Samaritan law. That just cause that person, you know, goes out, you need to still save their life. That's why it's so important to have that [naloxone]. So, we've called. The paramedics come. The gentleman we ended up getting back—and he got back the minute the paramedics were there. [We were like,] '[name!], you went out on us, buddy, tell them that you came here like this!' Cause we didn't want no interaction with police or paramedics or nothing like that. So, that's it."

Emerging themes contextualizing the impact of the Good Samaritan law

Ethical imperative in overdose response

Across interviewees, an emergent theme was a clear sense of morality and ethical obligation to respond in an overdose emergency: it is not acceptable to leave someone to die, to not attempt to intervene, and to not call for help. Many individuals telegraphed this through loyalty to friends, commitment to family, and unwavering support of their network of using partners. Their loyalty brought clarity and purpose: they do not want death for others.

The following exchange with a drug user who was not aware of the GSL illustrates this point:

INTERVIEWER: "So, would you, you told me before that you called 911 for folks."
117: "Mhmm"
INTERVIEWER: "Would you be more likely to call 911, would it make any difference that that law existed?"
117: "I think I would call 'cause I'd be shocked, I'd be scared that this person's gonna die, you know. It wouldn't be someone I didn't know I was getting high with. It would be someone that I knew. It'd be my friend. If it's one of my friends, I'd call 911."
INTERVIEWER: "Yeah. Would that law make any difference for you?"
117: "I don't know. I really can't say."

Drug use experience and history shapes response

Another theme that emerged from the interviews was the importance of age and drug use history. Several interviewees were younger, with shorter drug using periods, and more limited experience witnessing or responding to overdose. For them, there was a degree of naiveté in

their anticipated responses to a witnessed overdose, as they felt they had no reason to worry, about negative police interactions at an overdose, or other concerns. One such user shared:

INTERVIEWER: "Yeah. If you saw someone having an opiate overdose, how would you be able to identify that someone was having an overdose?"

120: "Well, I haven't seen it before. I would just call 911."

In contrast, older and more experienced users often had histories of legal interactions that were not positive and tended to manage a witnessed overdose themselves. Some called 911 on location and left, others described instances where they ousted the victim into a public place and called 911 before leaving. Still others elaborated on their use of very proactive intervention methods, including driving to the pharmacy to obtain naloxone, driving the victim in a personal vehicle to drop them off at the emergency department, flagging down ambulances on the side of the road, aggressively trying to rouse the victim with water, slapping or other non-medical interventions, and, once revived, staying with and keeping the victim alert to prevent repeat overdose. Eventually, if their actions failed to succeed, or were not acting fast enough based on their past experience responding to overdose, all users clearly conveyed they did (and would again) call 911.

INTERVIEWER: "But you told me that you called 911 anyway. Would a law like that [GSL] change how likely you are to call 911 if someone overdoses?"

120: "Would I change? No."

INTERVIEWER: "Why is that?"

120: "Because I wouldn't want to see nobody die because of my not calling even though they might try to charge me. But I'm not gonna leave them dead."

INTERVIEWER: "Yeah, yeah, that's very good. So, would you say that the Good Samaritan law is important for encouraging other people?"

120: "Mhmm. Yup, yeah. Because a lot of people don't like to call the police."

INTERVIEWER: "So, if you were given the choice between kind of important and very important--"

120: "It's very important!"

INTERVIEWER: "Or absolutely necessary?"

120: "Necessary."

Interacting with professionals during overdose response and aftercare

Three groups of professionals featured prominently in the interviews, each shaped the experience of the drug user in an overdose situation. For the most part, interviewees reported police involvement or presence at the scene of an overdose in recent overdose situations, but their interactions were unremarkable. Numerous witnessed overdose stories recounted instances of inaction by police, where one could infer the GSL had been applied, and was "working", leading to no charges—and no arrests—of victim or witnesses. Charges were reportedly dismissed *at the scene*. Interactions with police were generally neutral.

INTERVIEWER: "Have you ever had the police show up when you call 911?"

104: "Sure. A couple times."

INTERVIEWER: "What happened?"

104: "Huh? Nothing."

INTERVIEWER: "Nothing?"

104: "Nothing"

INTERVIEWER: "They were cool?"

104: "They were cool, know what I'm sayin."

Another interviewee shared a more intimate experience with otherwise high potential for multiple arrests, but for which the GSL was again applicable:

114: "And he told me he need to use a bathroom, and he go to do drugs. They have a lot of people in my house because my – I had a roommate because I rent that room. It's a big house. He sell drugs, he's a dealer. And they got a lot of people. And that girl, she don't wake up. And I

try to put water with um salt because people wake up when you do that. And she don't come back, and I call 911. And tell him to pick up his stuff because sell drugs, and the police come here, and I said I don't care because I don't want that she die in the house. And I call 911."

INTERVIEWER: "Mhmmm. Mhmmm. Nice. And what happened when you called 911?"

114: "Not long, the police come, and they found drugs, and the girl, she got drugs in her, in her...(pointing to foot)"

INTERVIEWER: "In her sock?"

114: "Yeah, but they don't charge. They don't do nothing."

INTERVIEWER: "Okay, good."

114: "And the animal, the animal, the one with the police dog [police with K-9] told me to take care, and they left."

INTERVIEWER: "Wow. How did they treat everyone else in the house?"

114: "Everybody go run. Only three kids, the guys, they stay in the house...."

A few interviewees shared a recent negative interaction with law enforcement at the scene of a witnessed overdose but these did not result in charges or arrests.

INTERVIEWER: "Yeah, what's happened when you've called 911?"

115: "The only time that I had anybody shake me down was a [city in RI] cop, and I was at Honey Dew [a donut shop]. I called. But they were all in a truck. You know what I mean? It's kind of like more than me walking in on an overdose."

INTERVIEWER: "uh-huh"

115: "Cause I'm calling, the driver's freaking out, smacking him [the victim] around, and I' like: 'Dude, you need to get here! Now. Because the kid's gone! He's gone.' I slapped him three times. He's gone. You know? Time to wake up. I rubbed his chest, like the paramedics do. No more, I can't do it."

INTERVIEWER: "Yeah"

115: "(Police) get here. So, they get here but then I had a cop like: 'Run your pockets! What do you got on you?', You know what I mean? But that was it."

INTERVIEWER: "And that, did anybody end up-"

115: "Ran me for warrants, everything."

INTERVIEWER: "-getting arrested or anything?"

115: "No".

INTERVIEWER: "How long ago was that, if you don't mind me asking?"

115: "Honestly, probably two years" (about 2014, when first Good Samaritan Overdose Protection Act was in place).

Interactions with EMS providers were also mentioned by interviewees, and these ranged from neutral to positive. No interviewees complained of ill treatment by EMS, collusion with law enforcement, or overmedicating victims.

In contrast to the experiences in the pre-hospital setting with police and EMS professionals were the descriptions of interactions with healthcare professionals at hospital and emergency departments. Interviewees discussed interactions with emergency department and hospital staff following their overdose, ranging from neutral to very poor. Participants' descriptions of their treatment by staff influenced their avoidance of the hospital in general, refusals to be transported to the emergency department, disinterest in staying at the hospital for observation, and even motivated their avoidance of calling 911 in some instances. One interviewee recounted:

INTERVIEWER: "And what was your experience like with the EMTs or at the hospital?"

102: "Um, the EMTs were OK. They said, you know, you overdosed. We gave you narcan. That was it. And then when I got to the hospital they were very rude. Upon approach, they were, 'Oh, you know why you're here right? You overdosed.' And just like scooted my bed across, the next person come get me. And then they brought me into a room. The nurse came in. My parents

did walk in and at that time she (the nurse) said, again to me: ‘Do you know why you’re here?’ and ‘You’re here for an overdose, a heroin overdose,’ and I did need to say to her like, ‘What are you talking about’, like, I gave her a look, like, what are you talking about, can you please stop now, because of my parents. My mom was like to my dad, like, ‘Let’s leave, let’s give her some privacy’, and that’s when I said to her [the nurse]:, I’m 30 years old, like, who are you to speak that way in front of my parents? Where’s your respect or morals?’ I’m a nurse. Like, I would never say anything in front of another person’s family member without consent for speaking with them. That’s just the HIPAA law.”

INTERVIEWER: “How did you interpret her intention in doing that?”

102: “Um, I don’t know if she, like, to be, she was really rude. She could have said it when I was alone, you know, in a more softer—she was just like diarrhea of the mouth, didn’t really, thought she had to get her job done, tell me why I was there, tell me to wait for the doctor. I was there for that reason. And that was it. Basically.”

She continued later, in response to an inquiry about why she did not call 911 and why the victim was refusing transport at the last overdose she witnessed:

102: “Um, probably because of the, um...the name you get labeled. An addict. You know what I mean? How they just treat you different. That’s really what it comes down to.”

Another participant shared their recent overdose experience in a large public indoor mall, being effectively revived by first responders, only to have a negative hospital experience:

116: “Um...[at the mall]. Shot up there, overdosed, EMT came, shot me with Narcan, [name of hospital]. Pretty much it.”

INTERVIEWER: “How were the EMTs with you?”

116: “EMTs were good. It was the [name of hospital] that treats you like a f—like a drug addict. That’s the sucky part.”

Less often mentioned were the more neutral portrayals of hospital interactions, in which the delivery of Rhode Island programs like Anchor ED (peer support recovery specialists) and take home naloxone were described as routine.

These reported experiences indicate that it is imperative to call 911 in an overdose and to avoid delay of naloxone and emergency response if fentanyl use is suspected. It also suggests that observed use is safest so that people can respond appropriately as quickly as possible. The GSL has a critical role here in encouraging immediate medical intervention, both to treat the overdose and to treat any secondary injuries resulting from fentanyl or other use.

Synthesis of Findings and Recommendations

- Good Samaritan laws enable behavior change, but they do not in and of themselves change behavior. To improve help-seeking in the community, it is important to enable law enforcement interactions that are grounded in public health principles and in harm reduction.
- Awareness of the Good Samaritan Law among Rhode Island law enforcement officers, specifically recognition of the laws’ protections of charges for drug possession at the scene of a suspected overdose, has deteriorated since the first trainings for naloxone were instituted in 2014¹¹ (from 98% recognition to 80% recognition of the law), and the 2016 law’s components are not well understood. Among law enforcement officers who responded to the survey, 20% were not able to correctly identify that the law prevented suspected overdose victims or people who call for help from being charged or prosecuted for any crime related to possession of a controlled substance or drug paraphernalia if the evidence for the charge was gained as a result of seeking medical assistance and more than half (56%) were unable to correctly identify that the law protected overdose victims or people who call for

help from having their parole or probation violated on the basis of crimes for which immunity is provided through the law.

- According to our key informant interviews, law enforcement officers, for the most part, continued to implement the 2012 law despite its sunset. Survey findings support this; only 4.6% (20/440) of officers reported that they received direction to “enforce the law as it existed from July 2015 until the law change in January 2016,” i.e. with no protections in place.
- Many in the Rhode Island law enforcement community have been personally affected by addiction and overdose, and officers conveyed concern for people who use drugs because of the fentanyl drug supply. Personal experience can motivate incredible positive change in one’s life as well as professionally, but it can also fuel negative behaviors and disregard for rules and order. Knowing someone who had overdosed was the only predictor of arresting or charging at the scene of an overdose. These findings suggest the importance of opportunities to acknowledge the personal impact of overdose on members of law enforcement, reaffirm commitments to the Good Samaritan Law, and support good mental health and positive coping for law enforcement professionals, such as employee assistance programs.
- While application of the Good Samaritan law by law enforcement appears, by and large, to be occurring and is consistent with the spirit and letter of the law, there remain tensions around how to effectively address overdose, a considerable degree of ambivalence about harm-reduction interventions for people who use drugs (such as community access to naloxone), and a lack of understanding of the impact of law enforcement actions on the lives of people who use drugs. When components of the Rhode Island Good Samaritan Law are poorly understood, they may be applied inconsistently, and in turn, furthers tensions with people who use drugs. Key informants conveyed the toll this can take: only a handful of arrests can detrimentally impact attitudes and relationships between the community of people who use drugs and law enforcement.
- Findings indicate the need for a refresher training for law enforcement officers on the Rhode Island Good Samaritan Law. Trainings could review components of the recently passed law, share data about help-seeking trends and use of naloxone, and communicate survey findings such as attitudes assessed in this survey. More than two thirds (68.2%) of law enforcement officers surveyed disagreed with the statement, A Good Samaritan law sends the message the drug use is okay; however, there is room for improvement.
- Among people who actively use drugs, 57% reported that they knew what the Good Samaritan Law was, and among those who knew about it, 87% felt it was very important or absolutely necessary for encouraging people to call 911. Organized and targeted efforts to educate people who use drugs about the Good Samaritan Law, such as in methadone treatment programs and in the criminal justice system, appear to have been successful, as awareness was higher among these groups. However, knowledge of the law was lower among important subpopulations, including Hispanics, and those with less formal education. These findings suggest that communication campaigns or outreach about the law is needed and should include lower literacy and content in Spanish.
- While the GSL focuses on law enforcement and pre-hospital actions, findings suggest that help-seeking in an overdose emergency and help-receiving by people who use drugs are also influenced by the actions of healthcare professionals, perceived and experienced stigma in medical settings, and anticipated mistreatment in hospital and emergency department settings. Future evaluation work could explore this further.

Limitations

These findings are subject to several limitations. The estimated response rate to the survey of law enforcement officers was less than 20%, but may be higher if a better estimate of the number of active officers were available. Although this survey contained a robust sample size (543 individuals), those responding may differ in knowledge, attitudes, behaviors, and characteristics from individuals who did not participate. Efforts to generate the true number of active law enforcement officers could improve both sampling and response rate. Similarly, the sample of individuals completing the survey who actively use drugs, and the subsets that were interviewed, may not be fully representative of that population. While the Evaluation Team sought to identify individuals from a range of backgrounds and professions for the key informant interviews, their opinions and perspectives may not represent all, or the prevailing, perspectives on the topics discussed.

Policy Area 2: Prescriber Requirements to Register and Use the PDMP Database

Background

Prescription opioids, legitimately prescribed for pain relief, can lead to addiction when taken for long periods, at a high dose, or incorrectly. People who are on prescription opioids for longer periods of time may need higher and higher doses to control pain, putting them at risk for overdose and development of opioid-use disorder. Patients may also seek to obtain prescriptions from multiple prescribers or multiple pharmacies. Also, these behaviors are often associated with both diversion and onset of opioid-use disorder. To address these issues, and to promote safer opioid prescribing, the Centers for Disease Control and Prevention (CDC) has supported enhancements to states' Prescription Drug Monitoring databases. These databases are tools that provide prescribers and pharmacists with information on prescriptions for controlled substances that have been dispensed to patients. This information can inform treatment decisions, enable corrections in dose, and avert dangerous drug combinations. These databases also provide a tool for prescribers to use in the identification of substance-use disorders, which can facilitate the initiation of treatment.

Rhode Island's online PDMP database has been available to prescribers with a Rhode Island CSR since September 2012.¹⁵ The number of registrants increased dramatically around that time, which was related to outreach efforts by RIDOH.¹⁶ However, as of February 2014, only about 20% of licensed prescribers were registered.¹⁶

As part of work to address the opioid epidemic in Rhode Island, several policies were put in place to improve PDMP use by prescribers and pharmacists. Beginning in June 2014, prescribers with an active CSR were first required to register for the PDMP.⁶ The 2014 legislation also established an authorized designee role which was further articulated and specified in 2016, when it was more widely promoted by RIDOH and adopted by prescribers in the community.⁶ Authorized designees are individuals that may authorize the PDMP on behalf of a prescriber or pharmacist; these roles are tightly regulated. In March 2015, prescribers were required to consult the PDMP prior to initiating an opioid prescription and strongly encouraged to do so for any controlled substance.⁵ Prescribers were also required to check the PDMP if a patient who has been taking opioids for more than six months in a 12-month period.⁵ In June 2016, legislation was passed to update the prescriber requirement to register for the PDMP. Prescribers were automatically enrolled in the PDMP by making prescribers' initial registration or renewal of their authority to prescribe controlled substances contingent upon their enrollment.⁶ This law also updated the prescriber requirements for utilization of the PDMP. If a patient is prescribed an opioid medication for pain, their PDMP must be reviewed by the prescriber at least every three months if their prescription is for three months or longer.⁵

In November 2015, RIDOH released a Prescription Drug Monitoring Program Enforcement Plan, which had three phases.¹⁵ Phase I involved education which includes continuing education programs which integrate content on these PDMP policies. Phase II involved notification. In January 2016, email reminders were sent to prescribers with an active CSR and who had not yet registered for the PDMP and in February 2016, correspondence via certified mail was sent to those who had still not registered. Phase III involved enforcement. As of April 2016, prescribers with an active CSR who were not registered were referred to the appropriate professional board and as of May 2016, monthly audits of prescribers holding an active CSR and not registered for the PDMP were conducted and referred to their appropriate professional board.

In November 2015, the Rhode Island *Governor’s Strategic Plan on Opioid Addiction and Overdose* named reduction in the co-use of benzodiazepines and opioids (for pain or for treatment of opioid-use disorder) as the centerpiece of its prevention initiative.¹ To implement this initiative, the State carried out a number of activities, including the creation of a continuing medical education course on risks of benzodiazepines and alternative treatments for anxiety, sleep problems, and other conditions for which benzodiazepines are prescribed. In addition, the State successfully partnered with other communities and states as part of a citizens petition to the FDA to place a black-box warning—the most serious risk communication FDA employs in a product’s labeling—on all benzodiazepine and opioid products (more than 400 products in total) about the risk of respiratory depression and overdose when co-used. Finally, implementation plans for this initiative included patient and provider communications about risks of co-use and messaging to providers during the academic detailing efforts associated with PDMP enrollment and use, targeted to the top 200 prescribers of opioids in the State. As of writing, while the first two undertakings had been accomplished, the last initiative had not been implemented. Other risk communication efforts for prescribers and patients are underway but do not include incorporating this into provider academic detailing at this time.

Evaluation Findings

Question 1: Does the mandatory registration law increase PDMP registration among required providers?

The 2014 mandatory registration law and the RIDOH enforcement plan of this law increased PDMP registration but did not achieve universal enrollment among those mandated.

According to available data from RIDOH, the percent of all prescribers with an active CSR who had enrolled in the PDMP increased from 55% in September 2015 to 89% in June 2016, the month before required prescribers were automatically enrolled. Table IV-A provides details on the increase during this period before automatic enrollment, by provider type. As noted in the table, despite the 2014 law requiring registration and RIDOH’s enforcement plan, there were still substantial percentages of prescribers, across the spectrum of provider types, who had not enrolled by the fall of 2015. Furthermore, until automatic enrollment took place in July of 2016, there were still a small proportion of prescribers with a CSR who had not enrolled (11%). These findings demonstrate the need for the legislation requiring automatic enrollment.

Table IV-A. Changes in Number and Percentage of Prescribers Enrolled in the PDMP Database, By Prescriber Type, September 2015 - June 2016

	September 2015	December 2015	March 2016	June 2016	Percentage increase
Dentist	468 (75%)	507 (81%)	546 (87%)	572 (91%)	16%
Midwife	36 (60%)	41 (68%)	43 (72%)	48 (80%)	20%
Nurse	406 (46%)	485 (55%)	572 (65%)	818 (93%)	47%
Optometrist	80 (67%)	93 (78%)	98 (82%)	112 (94%)	27%
Physician	2,597 (50%)	3,403 (66%)	4,220 (82%)	4,536 (88%)	38%
Physician Assistant	321 (75%)	347 (81%)	372 (87%)	389 (91%)	16%
Podiatrist	83 (85%)	86 (88%)	89 (91%)	86 (88%)	3%
Veterinarian	230 (67%)	267 (77%)	275 (80%)	288 (83%)	16%
Total prescribers	4,221 (55%)	5,229 (68%)	6,215 (81%)	6,849 (89%)	34%

Source: Rhode Island PDMP, RIDOH

Question 2: Do the mandatory and automatic PDMP registration laws increase the number of PDMP queries by providers?

The implementation of Rhode Island's laws mandating and automating enrollment in the PDMP has resulted in an increase in the number of unique users of the PDMP each month and an increase in the number of searches or queries to the system.

From April 2016 through July 2017, the number of unique monthly healthcare professional users of the PDMP increased from 1,348 in April 2016 to 2,278 in May 2017 (69% increase). Users include prescribers with an active CSR (n=7,425, as of 3/22/17) and their delegates (n=600), and pharmacists (n=1,013) and their delegates (n=12). Types of prescribers that have active CSRs include physicians (medical doctors and doctors of osteopathy), dentists, medical residents and midwives with prescriptive authority, podiatrists, physician assistants, optometrists, veterinarians, and advanced practice nurses.

The trend in monthly unique users is shown in Figure IV-A. In July 2016, the month that automatic enrollment in the PDMP took place, there was a slight uptick in users, followed by a leveling off. In January 2017, there was another increase in unique users. Clinical Alerts to prescribers were enabled in the PDMP that month. This automatic alert, triggered when a patient meets or exceeds a threshold of risk in their prescription profile, is sent to the patient's prescribers, who are then directed to login to their PDMP account to view the specific details.

Figure IV-A. Unique Monthly Utilizers of the PDMP Database, By Month, April 2016 - July 2017, All Providers (Pharmacists, Prescribers, Delegates)



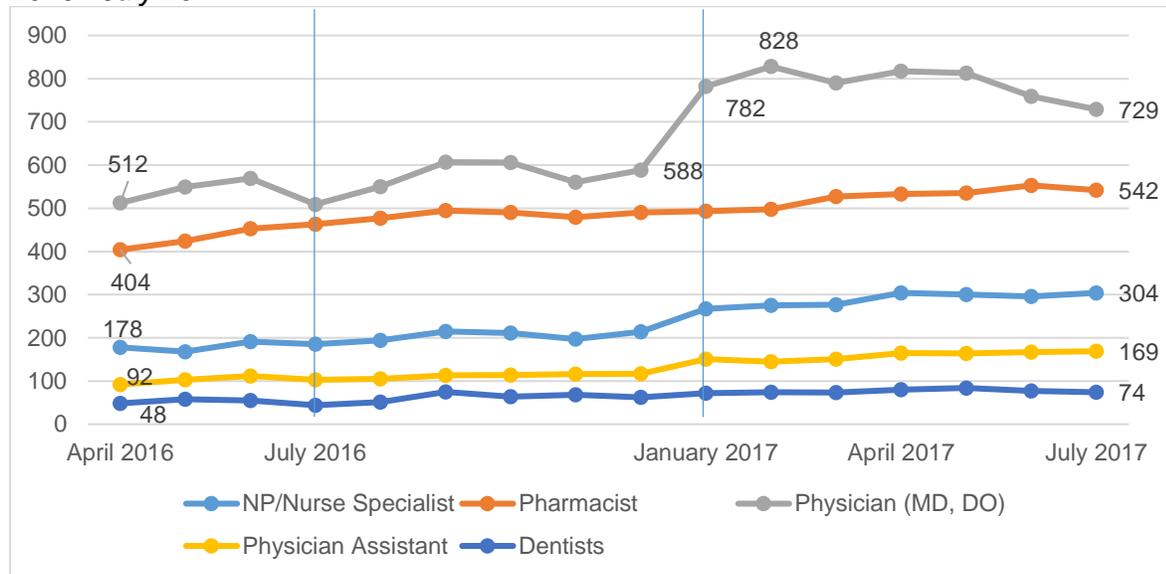
Source: Rhode Island PDMP, RIDOH

*The vertical line at July 2016 indicates the month that automatic enrollment began. The vertical line at January 2017 indicates the month that clinical alerts were enabled prompting some prescribers to check the PDMP.

In general, the number of monthly users of the system has increased across all types of providers during this period. Compared to April 2016, the number of monthly unique users in July 2017 increased among advanced practice nurses (34%), dentists (54%), physicians (42%), physician assistants (84%), and pharmacists (34%). Figure IV-B displays the trends in users during this period by selected types of providers. Unlicensed prescriber delegates (not shown in

Figure IV-B), who were authorized to use the system in 2014, increased from 35 in April 2016 to 229 in July 2017, a 554% increase. In March 2016, RIDOH sent prescribers communications and user-support manuals indicating that they could add an unlicensed delegate to their account (if the delegate’s supervisor was enrolled). The increase in use of the system by unlicensed prescriber delegates may explain some of the recent leveling off or declines in unique users seen among licensed prescribers, including physicians, nurse specialists, and dentists, although this may also suggest a regression to the mean.

Figure IV-B. Unique Users of the PDMP Database, By Select Provider Type and Month, April 2016 - July 2017

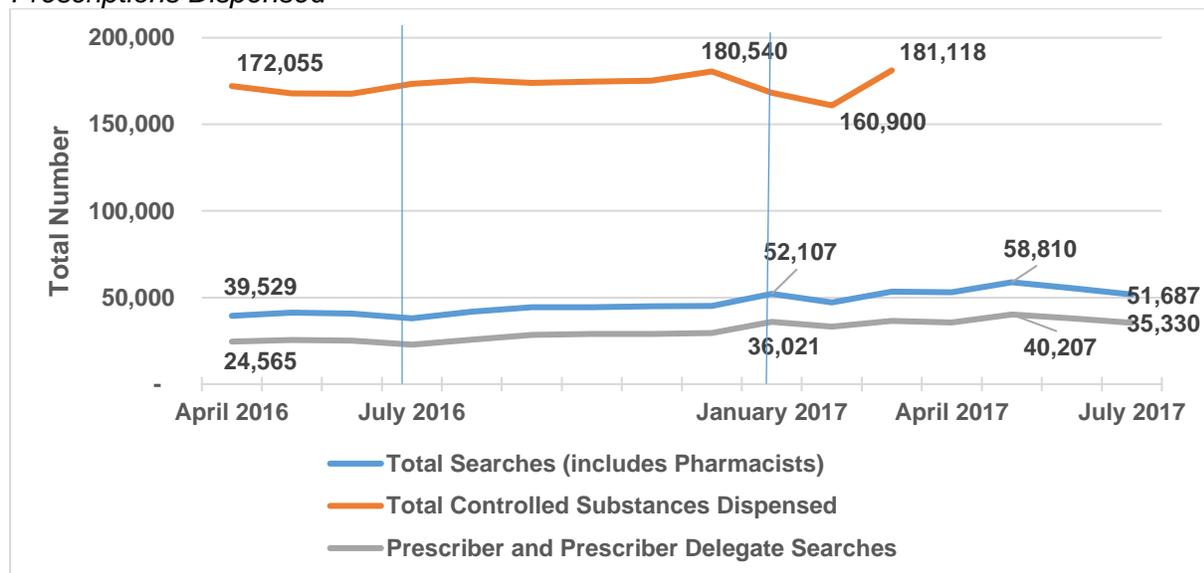


Source: Rhode Island PDMP, RIDOH

*The vertical line at July 2016 indicates the month that automatic enrollment began. The vertical line at January 2017 indicates the month that clinical alerts were enabled prompting some prescribers to check the PDMP.

The number of searches or queries of the PDMP by providers has also increased considerably over time. From April 2016 through July 2017, monthly searches increased 31% for all providers combined (Figure IV-C) and among provider sub-types (Table IV-B). Over time, the searches of the PDMP by delegates, either unlicensed prescriber delegates or licensed pharmacist delegates, has also increased representing 12.6% of all searches in July 2017. The monthly total searches made to the system did not significantly correlate with the number of controlled substances dispensed (Pearson $r=0.04$, $p=.91$).

Figure IV-C. Total Searches/Queries of the PDMP Database, All Providers (Pharmacists, Prescribers and Delegates), April 2016 - July 2017 and Total Controlled-Substance Prescriptions Dispensed



Source: Rhode Island PDMP, RIDOH

Differences in range of time shown is due to data availability.

*The vertical line at July 2016 indicates the month that automatic enrollment began. The vertical line at January 2017 indicates the month that clinical alerts were enabled prompting some prescribers to check the PDMP.

Table IV-B. Trends in Total Searches/Queries of the PDMP Database, By Select Provider Types

Prescriber Type	April 2016	July 2016	December 2016	April 2017	July 2017	Percentage Change
Dentist	1,076	965	1,460	1,247	1,382	28.4%
NP/Nurse Specialist	3,245	3,933	4,812	5,582	5,519	70.1%
Pharmacist	14,964	15,168	15,653	17,418	16,070	7.4%
Physician (MD, DO)	14,014	12,147	14,860	17,927	16,391	17.0%
Physician Assistant	4,826	3,676	4,063	4,722	5,078	5.2%
Prescriber delegate, unlicensed	950	1,528	3,690	5,457	6,221	555%

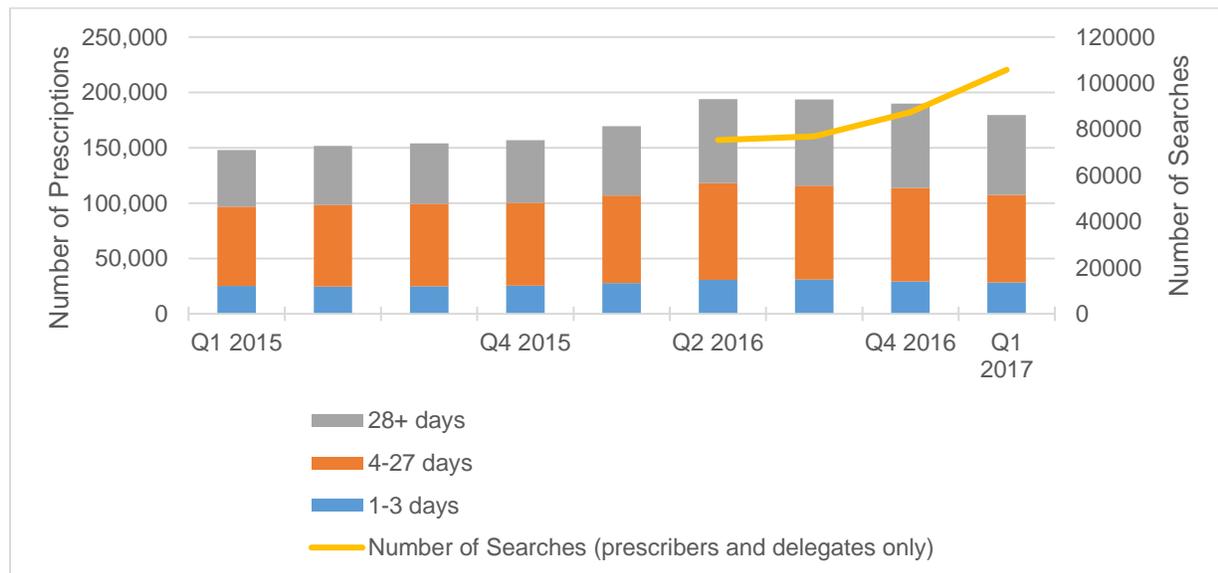
Source: Rhode Island PDMP, RIDOH

Question 3: Is there an association between a) the number of prescriptions for opioids dispensed and PDMP utilization, and b) co-prescription of opioids and benzodiazepines and PDMP utilization?

- a) There is a strong and negative association between the number of opioid prescriptions dispensed and PDMP use indicating that greater use of the system correlates with reduced dispensing of prescription opioids.
- b) There is no association between use of the PDMP and co-prescribing of opioids and benzodiazepines, and there has been no substantive reduction in the number of co-prescriptions of opioids and benzodiazepines.

The Evaluation Team examined the volume of opioid prescriptions dispensed by the number of days supplied, and the correlation of all opioid prescriptions filled with PDMP use. Trends in these indicators are displayed in Figure IV-D. Total opioid prescriptions dispensed from quarter 1 of 2015 through quarter 1 of 2017 peaked in quarters 2 and 3 of 2016 followed by slight decline since that time. Over this period, proportionally more opioid prescriptions were for 28 or more days' supply. There is a statistically significant negative linear correlation (Pearson $r = -0.68$, $p = 0.02$) between the total opioid prescriptions filled monthly from quarter 2 of 2016 through quarter 1 of 2017 and the monthly number of PDMP searches (as searches went up, total prescriptions went down).

Figure IV-D. Trends in Number of Opioid Prescriptions Filled, By Day's Supply and Quarter Year, 2015, 2016, and Quarter 1 2017, Compared with Number of PDMP Searches

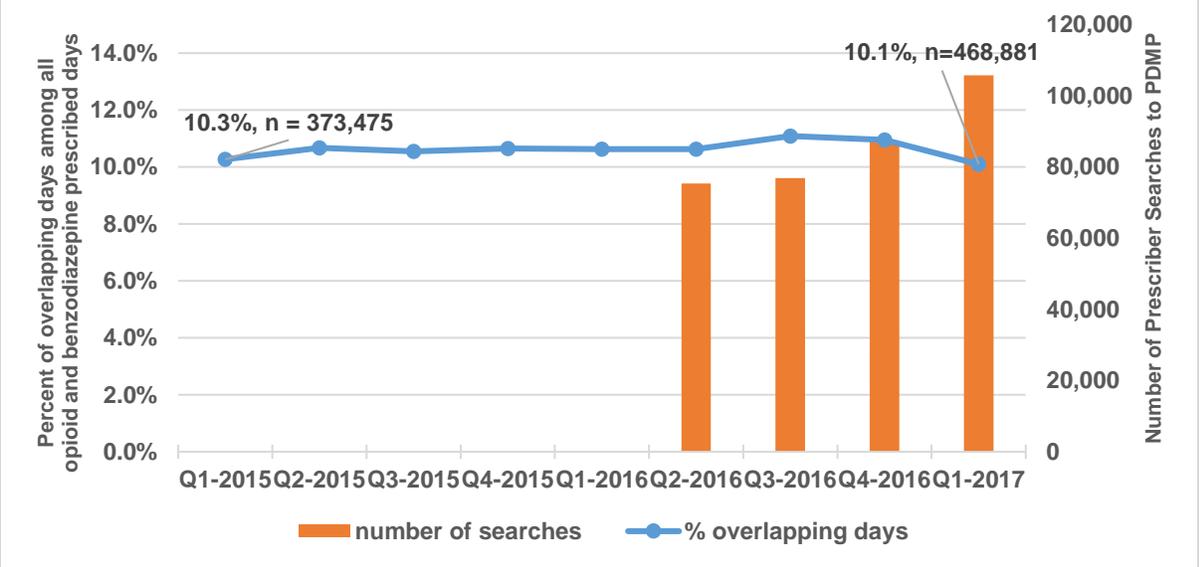


Source: Rhode Island PDMP, RIDOH
 *Differences in range of time shown are due to data availability.
 Includes prescriptions among Rhode Island residents only.

The Evaluation Team examined quarterly trends in co-prescribing of benzodiazepines and opioids among Rhode Island residents. When opioids, either prescribed or illicitly obtained, are taken in combination with benzodiazepines (a class of drug that is commonly used to treat anxiety, insomnia, and other medical conditions) the risk of overdose is increased. In August 2016, the US Food and Drug Administration issued a warning about the serious risks of respiratory depression when taking both opioids and benzodiazepines. Prescribers can use the PDMP to manage these risks by checking the types of controlled-substance prescriptions dispensed to any given patient.

Figure IV-E depicts the percentage of days when there was an overlapping opioid-benzodiazepine prescription in relation to all opioid and benzodiazepine prescription days, by quarter. This indicator increased from 10.3% in quarter 1 of 2015 to 11.0% in quarter 4 of 2016 and then decreased to 10.1% in quarter 1 of 2017. The correlation of co-prescribing with PDMP utilization was not significant (Pearson $r = -0.77$, $p = .23$) although due to the small number of corresponding data points available ($n = 4$), this finding should be interpreted with caution.

Figure IV-E. Percentage of All Days with Co-Prescriptions of Opioids or Benzodiazepines, By Quarter, 2015, 2016, and Quarter 1 2017 in Relation to Number of PDMP Searches By Prescribers and Delegates

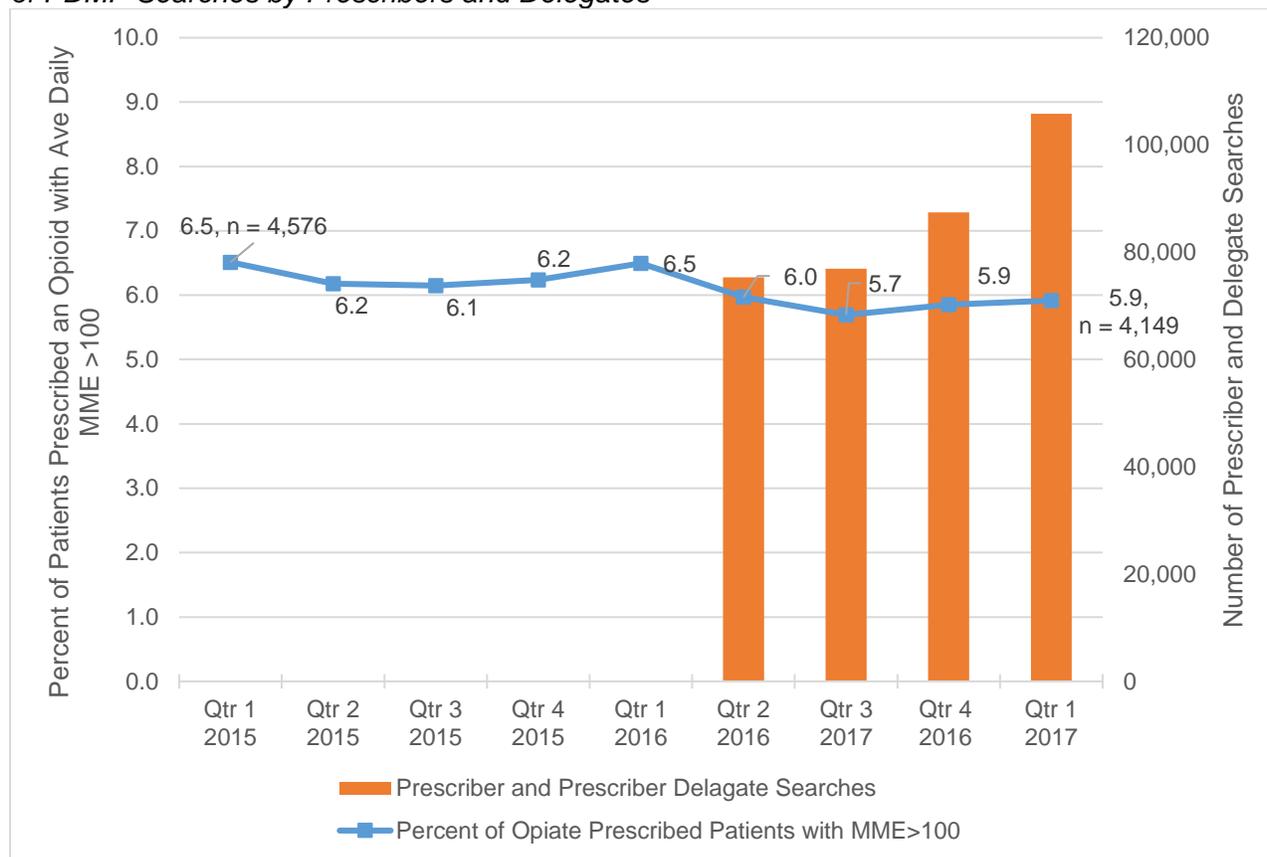


Source: Rhode Island PDMP, RIDOH
 Includes prescriptions among Rhode Island residents only. Ns listed represent overlapping days.
 *Differences in range of time shown is due to data availability.

Question 4: Is there an association between the number of patients dispensed more than 100 MMEs and PDMP utilization?
 Although there has been a slight decline in time in the average daily MME dose of opioids among Rhode Island residents receiving a prescription for an opioid, this did not significantly correlate with PDMP use, although the data points for these analyses were limited.

MME is a metric used to compare the potency of different opioids with one opioid, morphine. According to the CDC, “higher dosages of opioids are associated with higher risk of overdose and death—even relatively low dosages (20-50 MME per day) increase risk.”¹⁷ The CDC guidelines for opioid prescribing in chronic pain recommends clinicians avoid increasing opioid dosing more than 90 MME a day.¹⁸ The Evaluation Team utilized data from the Rhode Island PDMP’s database to examine the proportion of Rhode Island patients receiving an opioid prescription whose dose alone or combined with other opioid prescriptions totaled more than 100 MME per day. Prescriptions of buprenorphine, an opioid used to treat opioid addiction, were not included in the analysis. As can be seen in Figure IV-F, there has been a slight decline in the proportion of patients with an average daily MME of higher than 100. The correlation of high-dose prescribing with PDMP utilization from quarter 2 of 2016 through quarter 1 of 2017 was not significant (Pearson $r = 0.30$, $p = 0.70$) although due to small number of corresponding data points ($n = 4$) available at this time, this should be interpreted with caution.

Figure IV-F. Percentage of Rhode Island Patients Receiving an Opioid Prescription* With an Average Daily MME >100, By Quarter, 2015, 2016, and Quarter 1 2017 in Relation to Number of PDMP Searches by Prescribers and Delegates



Source: Rhode Island PDMP, RIDOH

*Excludes buprenorphine products. Includes prescriptions among Rhode Island residents only. Ns listed represent the number of patients with MMEs of more than 100.

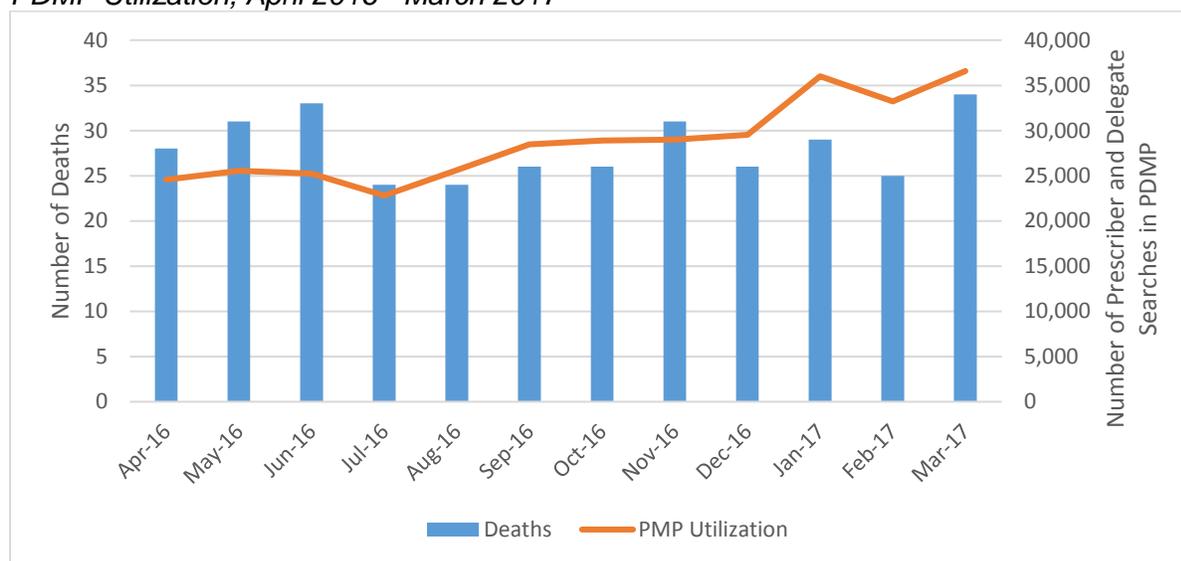
** Differences in range of time shown are due to data availability.

Question 5: Is there an association between PDMP utilization and occurrence of opioid overdose deaths and ED visits by community?

This evaluation question was not able to be examined by city/town due to data availability.

The correlation of statewide PDMP utilization with unintentional drug overdose deaths (from all agents) was analyzed. Monthly unintentional drug overdose death counts (for all agents) were not statistically correlated with monthly prescriber PDMP search counts (Pearson $r = 0.29$, $p = 0.36$). Trends in the counts of deaths compared with total prescriber searches is depicted in Figure IV-G.

Figure IV-G. Rhode Island Unintentional Drug Overdose Deaths, In Relation to Prescriber PDMP Utilization, April 2016 - March 2017



Sources: Rhode Island PDMP, RIDOH; <http://www.health.ri.gov/data/drugoverdoses/> Accessed 9/21/17.

Question 6: What are prescriber self-reported behaviors and beliefs in their capabilities related to opioid prescribing and using the PDMP?

Prescribers report a moderately high degree of proficiency and familiarity with the PDMP. Prescribers' self-reported counseling behaviors for patients receiving an opioid prescription suggest additional trainings and quality improvement methods may be beneficial.

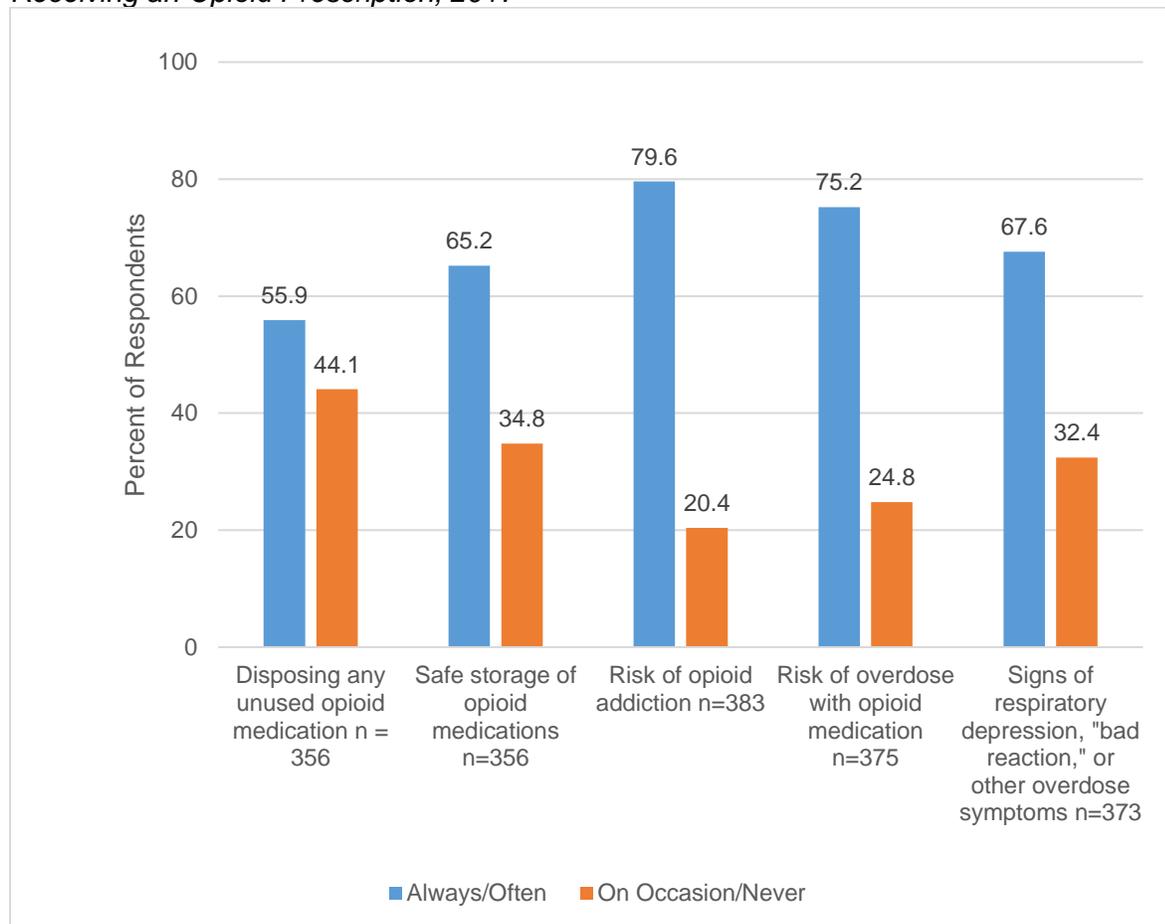
The Evaluation Team utilized findings from the Survey of Rhode Island Prescribers to assess prescribers' behaviors and beliefs in their capabilities related to opioid prescribing, addressing the opioid epidemic, and use of the PDMP database in their practice. See Section II for additional details on this survey.

Of the 3,000 prescribers sampled for the survey, there were 532 valid respondents (response rate 17.7%). Physicians made up 64% (n=342) of the respondents, nurses/nurse practitioners 19% (n=101), physician assistants 7% (n=38), dentists 9% (n=47) and other practitioners 1% (n=4). Forty-three percent of respondents had been in practice more than 20 years and 22% had practiced less than five years. Sixteen percent (16%) of respondents stated that they had, on average, prescribed opioids 30 or more times per month in the past year, and 44% reported that they typically treat patients with chronic pain in their practice. Twenty-seven percent of respondents stated that they (or their delegates) use the PDMP daily or almost daily and 23% reported that they use the PDMP weekly or almost weekly. Eighty-six percent of respondents strongly agreed or agreed with the statement "I am worried about the people who use drugs because there is so much fentanyl in the drug supply." More than a third of prescribers (37%) reported that they had prescribed naloxone to a patient or their caregiver(s) to prevent opioid overdose.

Prescribers were asked to report the frequency with which they counseled their patients or caregivers of patients who receive an opioid prescription about disposing unused opioid medication after treatment, safe storage of opioid medication, the risk of opioid addiction, the

risk of overdose with opioid medication, and the signs of respiratory depression, bad reaction, or other overdose symptoms. Response options were always, often, on occasion, never and not applicable to my practice. Categories always and often were summed, as were on occasion and never. The findings are shown in Figure IV-H. Of the behaviors surveyed, the most frequently performed were counseling in the risk of opioid addiction (79.6% always/often) and counseling on the risk of overdose with opioid medication (75.2% always/often) while the least often was counseling on disposal of any unused opioid medication (55.9% always/often). There were statistically significant variations in these behaviors by type of provider. Counseling on the risk of opioid addiction was most prevalent among nurses/nurse practitioners responding (90% always/often) and least prevalent among respondents who were dentists (50% always/often) ($\chi^2=19.6$, $df = 3$, $p = .0002$). Similarly, nurses/nurse practitioners most frequently said they discussed safe storage of opioid medication with their patients (85% always/often), compared with only 38% of dentists responding “always” or “often” ($\chi^2 = 19.7$, $df = 3$, $p = .0002$)

Figure IV-H. Rhode Island Prescribers Self-Reported Counseling Behaviors for Patients Receiving an Opioid Prescription, 2017



Source: Survey of Rhode Island Prescribers, 2017

Prescribers’ beliefs in their capabilities to address issues related to patient opioid safety were assessed on a scale of one (not at all well) to seven (extremely well). The self-assessment asked about accessing the PDMP and responding to RIDOH alerts; integrating the PDMP information into their clinical decision making and care; prescribing naloxone; conducting screening for problem drug use; managing patients who screen positive for current problem

drug use; managing pain using non-opioid modalities; tapering patients receiving opioids; and providing advice on medication-disposal techniques. The average scores for these tasks from respondents overall are in Table IV-C. Among the tasks surveyed, prescribers expressed greatest capacity in their ability to work with the PDMP, especially “integrating the information obtained in the PDMP into clinical decision making and care” (5.5 on a scale of 1-7), and conveyed a lower capacity in their ability to address addiction concerns, beginning at the most fundamental level of “conducting screening for problem drug use” (4.8 on a scale of 1-7) and “prescribing naloxone to my patients at risk” (4.1 on a scale of 1-7). Similar to differences seen in counseling behaviors, there were statistically significant differences in the mean scores of these beliefs by type of prescriber (as determined by one way ANOVA). Changes in these measures will be monitored in subsequent years.

Table IV-C. Rhode Island Prescribers Self-Reported Capability to Perform Tasks Related to Opioid Prescribing, Pain Management, and Drug Screening

Statement - "How well you feel you currently perform..."	Number Responding	Mean Score on a Scale (7 = Extremely Well to 1 = Not at All Well)*	Standard Deviation
Accessing the PDMP within my clinical practice	387	5.29	2.05
Integrating the information obtained in the PDMP into clinical decision making and care	381	5.5	1.88
Responding to alerts from the PDMP or RIDOH about my patients	363	5.01	1.85
Prescribing naloxone to my patients at risk and/or their caregivers	293	4.1	2.15
Conducting screening for problem drug use in my patients	359	4.83	1.83
Managing patients who screen positive for current problem drug use	336	4.52	1.85
Managing patient pain through non-opioid medications and non-pharmacologic treatment modalities	390	5.46	1.49
Tapering opioids in my patients receiving them for chronic pain	291	4.59	1.85
Providing advice to patients/caregivers on opioid medication disposal techniques	352	4.25	2.04

Source: Survey of Rhode Island Prescribers, 2017

*Excluding those reporting it was not applicable to their practice.

Summary of Findings

- Legislation requiring registration in the PDMP, among those with an active CSR, was associated with an increase in prescribers registered from 55% in September 2015 to 89% in June 2016, the month before automatic enrollment took place (data back to 2014 was not available). Registration among all prescriber types increased during this time period.
- More prescribers are using the PDMP. The number of unique monthly users of the PDMP increased substantially from April 2016 through May 2017. Since May 2017, however, there has been a slight decline in the monthly access numbers, suggesting a regression to the mean. Unique users of the PDMP increased across all user types and the number of searches being made have risen substantially.

- There has been no reduction in the co-dispensing of opioid and benzodiazepine. The proportion of days where there was an overlapping opioid and benzodiazepine prescription among all opioid and benzodiazepine prescribed days increased from 10.3% in quarter 1 of 2015 to 11.1% in quarter 4 of 2016 then declined to 10.1% in quarter 1 of 2017. Increased users of the PDMP and searches of the database have not lowered this risk. Lacking a targeted intervention such as a risk communication campaign or academic detailing, it is unclear how this trend will be affected.
- Proportionally fewer patients who are prescribed an opioid are dispensed one at high dose (>100 MME), a reduction from 6.5% in quarter 1 of 2015 to 5.9% in quarter 4 of 2016 and quarter 1 of 2017. Overall, the number of opioid prescriptions dispensed in Rhode Island stabilized from quarter 2 through quarter 4 of 2016 and declined slightly in 2017.
- Consistent with the increases in PDMP registration and data use, prescribers report a high degree of capacity to use, and familiarity with, the PDMP. Prescribers self-reported counseling behaviors for patients receiving an opioid prescription suggest additional trainings and quality improvement methods may be beneficial. While risk of negative outcomes are often discussed with patients, prevention of negative consequences and mitigation of risk for patients who do go home with opioids is less common. Provider skill-building is indicated in the areas of recognition of substance use disorder; screening for and speaking with patients about misuse; managing patients with opioid misuse; tapering patients on opioid medications; discussing storage and disposal of opioid medications; and counseling patients about how to recognize, plan to prevent, and respond to overdose symptoms.

Limitations

The PDMP use data were not available at the provider-specific level, so correlations are only provided on aggregate. Correlations are not causal, and only can convey the linear relationship between two trends. The PDMP does not contain information about the reason or diagnosis for which patients are receiving opioids (e.g., acute pain, chronic non-cancer pain, palliative care, cancerous pain), so it is unclear whether reductions in pain medication dispensing are affecting patient quality of care or medication access, and which patient populations are experiencing the greatest reductions. We can infer from the trends in prescribed days' supply (see Figure IV-E), that the greatest changes are in non-acute settings, as the majority of emergency departments in the state have instituted opioid prescription maximums of three-days' supply, as early as 2014.¹⁹ Additional research is needed to understand the impacts of the prescribing changes on patient care experience and quality of life.

Due to the timing of the receipt of the data (May 2017), the quarter 1 2017 PDMP data used by the Evaluation Team may not represent the complete counts of prescriptions dispensed if there were delays in submission. The survey of Rhode Island prescribers is limited by its low response rate (17.7%). Although this survey contained a robust sample size (532 individuals), those responding may differ in their knowledge, attitudes, behaviors, and characteristics from individuals who did not participate.

Policy Area 3: Requirements for Healthcare Providers and Hospitals to Report Opioid Overdoses to RIDOH and the Establishment of the Opioid Overdose Reporting System

Background

In April 2014, following an outbreak of fatal Illicitly Manufactured Fentanyl (IMF) involved overdoses and recognizing a gap in the availability of timely nonfatal overdose data, RIDOH passed emergency regulations requiring hospitals and health care providers to report “all opioid overdoses or suspected overdoses” treated at emergency departments to RIDOH within 48 hours.⁷ The purpose of these regulations was to assist the State in “identifying and mapping long-term solutions” to ending opioid misuse.⁷ Specifically, the regulations aimed to improve public health professionals’ understanding of the epidemic through improved data, including counts of nonfatal opioid overdoses, demographics on those at risk for opioid overdoses, and the use of naloxone by community members, first responders, and Emergency Medical Services (EMS). These data were also envisioned to provide a way to evaluate the potential benefits of programs put in place to respond to the epidemic.⁷ The emergency regulations were permanently adopted in October 2014.

Prior to the passage of these regulations, the only public health surveillance systems in Rhode Island that provided information on overdoses were from Vital Records, the State Office of the Medical Examiners (OSME), EMS records, and administrative claims data from the State’s emergency department and hospital discharge databases. With the exception of OSME and EMS data, there are lags of one to two years on data availability. These regulations aimed to greatly improve the timeliness of data and its usefulness for public health programming to address the epidemic.

Implementation and Enforcement by RIDOH

Reporting of opioid overdoses by hospitals was required immediately following promulgation of the regulations in April 2014. Initially, a fax-based data collection method was used, but the system transitioned to web-based submissions in September 2015. The information is entered into a surveillance system known as the Opioid Overdose Reporting System managed by RIDOH. The type of information collected has been modified several times since the policy’s inception to address emerging issues and improve the data’s utility (e.g., the range of services provided in the Emergency Department).

Communications related to the implementation of the policy’s requirements to hospitals by RIDOH included a letter from the Director of RIDOH, in-person meetings with points-of-contact at each hospital by RIDOH staff, and emails providing technical assistance to hospitals. RIDOH also conducted a process evaluation of the data system in early 2016, examining the methods used by hospitals for entering case reports, which identified and addressed areas of confusion. It is notable that during the period of implementation of the policy, several hospital systems migrated to new electronic medical record frameworks. The impact of these transitions were initially an influence both on reporting timeliness and adoption of the policy, but ultimately improved reporting by standardizing internal hospital record keeping.

Utilization and dissemination of findings have taken several forms. These include periodic reports of data findings sent to emergency department physicians and hospital leadership at each hospital; tables, figures and maps on the *Prevent Overdose RI* website; presentations of the data to the Governor’s Task Force on Overdose Prevention; and alerts to emergency

personnel and public health responders in communities where significant increases in nonfatal overdoses are reported.

Enforcement of this required reporting began in 2016 and in March 2017, the required reporting was included in the Level 3 (base level) of the Levels of Care for Rhode Island Emergency Departments and Hospitals for Treating Overdose and Opioid Use Disorder, conveying an expectation of compliance with the reporting in order for hospitals to achieve basic care capacity for these health conditions.²⁰

Evaluation Findings

Question 1: Are required reports made within the 48-hour time frame?

Timeliness of data submission by hospitals has improved, with 43% of reports in quarter 1 of 2017 occurring within the 48-hour time frame.

In August 2017, the Evaluation Team utilized a file from the Opioid Overdose Reporting System to assess the timeliness of submission for cases admitted in 2016 and quarter 1 of 2017 (see Section II for additional detail). Cases submitted in earlier years did not consistently collect the submission date. Analyses of timeliness relied upon the variable *admission date* as opposed to *discharge date* as the latter field was only available on the faxed form and not available on the electronic form. A timely submission was defined as occurring at least by the second day after the admission date to the ED, as information on the hour of submission was not available. Cases with an invalid elapsed time (negative value or invalid year) were excluded.

Descriptive measures of elapsed time for submission of 2016 and 2017 cases by hospitals are provided in Table V-A. In 2016, the median time (time at which 50% of cases were submitted) for submission for the state overall was nine days, a minimum time of zero days and maximum time of 367 days. All indicators varied widely across hospitals. Among quarter 1 2017 cases submitted, median time for cases overall had decreased to four days, with a range of zero to 37 days. Median submission time in quarter 1 2017 was substantially improved over 2016 for the Lifespan Hospital System (Rhode Island Hospital and Hasbro Children's Hospital, The Miriam Hospital, and Newport Hospital).

Table V-A. Timeliness Indicators for Submissions to RIDOH's Opioid Overdose Database, By Hospital, 2016 and Quarter 1 2017* Cases

Hospital	Submissions 2016	Minimum 2016 (Days)	Maximum 2016 (Days)	Median 2016 (Days)	Submissions Q1 2017	Minimum Q1 2017 (Days)	Maximum Q1 2017 (Days)	Median Q1 2017 (Days)
Butler	5	0	3	1	0	-	-	-
Hasbro	16	9	75	34	2	10	11	10.5
Kent	259	0	360	1	73	0	15	1
Landmark Medical Center	45	0	1	0	17	0	1	0
Memorial	142	0	362	2	27	0	13	2
Newport	67	2	77	12	11	5	20	9
Our Lady of Fatima	52	0	6	0	15	0	1	0
Rhode Island	664	2	367	53	127	0	37	8
Roger Williams	60	0	4	0	17	0	1	0
South County	43	0	12	2	7	0	5	2
The Miriam	142	1	366	48	17	2	26	8
Westerly	73	0	28	2	19	0	15	4
Women & Infants	0	-	-	-	1	1	1	1
All Hospitals	1568	0	367	9	333	0	37	4

Source: Rhode Island Opioid Overdose Reporting System, RIDOH.

*Includes cases submitted by August 25, 2017.

Compliance with the 48-hour requirement (analyzed here as two days) by hospital and quarter, is listed in Table V-B. For all hospitals combined in 2016, 31% of cases were reported in a time frame compliant with the regulation. Some hospitals (Landmark Medical Center, Our Lady of Fatima, Roger Williams) demonstrated consistently excellent timeliness in reporting, while others (Newport, Miriam, Rhode Island) have had significant difficulty meeting the time requirements for reporting. Timeliness of reporting from one hospital (Memorial), improved from 17% in quarter 1 to 67-78% for quarters 2-4 in 2016. Forty-three percent of the quarter 1 2017 cases reported to the system as of August 25, 2017, were submitted within two days, a 10% increase from the previous quarter.

Table V-B. Percentage of Submissions to RIDOH’s Opioid Overdose Database Received Within Two Days, By Hospital, 2016 and Quarter 1 2017 Cases

Hospital	Quarter 1 2016	Quarter 2 2016	Quarter 3 2016	Quarter 4 2016	Full Year 2016	Quarter 1 2017
Butler	50%	NA	50%	100%	60%	NA
Hasbro	0%	0%	NA	NA	0%	0%
Kent	88%	53%	60%	73%	64%	77%
Landmark Medical Center	100%	100%	100%	100%	100%	100%
Memorial	17%	78%	72%	67%	63%	52%
Newport	0%	8%	0%	0%	3%	0%
Our Lady of Fatima	94%	100%	100%	100%	98%	100%
Rhode Island	0%	0%	0%	1%	0%	7%
Roger Williams	100%	92%	100%	100%	97%	100%
South County	100%	75%	79%	43%	77%	57%
The Miriam	0%	0%	0%	9%	1%	6%
Westerly	56%	81%	41%	25%	51%	47%
Women & Infants	N/A	N/A	N/A	N/A	N/A	100%
All Hospitals	24%	37%	28%	33%	31%	43%

Source: Rhode Island Opioid Overdose Reporting System, RIDOH
 N/A indicates not applicable due to no submissions.

Question 2: What are the facilitators and barriers to hospitals complying with the 48-hour reporting mandate?
 Stakeholders identified several challenges that needed to be overcome in the build of this system, including the establishment of new protocols and processes for reporting these data within hospitals and in the centralized collection of these data. Most stakeholders felt the data was important but a few felt its utility is limited by the fact that the counts from this system have not been validated.

Findings from key informant interviews

Key informant interviews were conducted November 2016 through June 2017 with 12 stakeholders, including current and former professionals affiliated with hospitals and academic institutions, government agencies, and community organizations. Interviews explored the challenges and facilitators that stakeholders directly faced or were aware of in establishment of the system, the utility of the data generated, and areas for improvement or change. Themes which emerged from these interviews were broken down into three areas: the establishment and rollout of the surveillance system; the utility and applicability of the data; and concerns related to the validity and generalizability of the data.

Theme: Establishment and rollout

Stakeholders reported that the implementation of the April 2014 emergency regulations and development of the initial reporting form happened very quickly. Individuals reported that RIDOH processes, including staffing and early data entry, took time to establish and that the fax-based reporting, which was the initial submission route, had standardization problems. “People were all over the place in how they were responding to questions and then reporting was relatively

low.” Most of these issues were fixed when the system moved to electronic submission by implementing use of drop-down menus and requirements for completion of most fields.

Stakeholders who were involved in submitting data to the system said they faced other challenges. The completion of the form at some hospitals fell to the administrative staff as opposed to the clinicians. One individual stated that they were not offered any training about how to complete the form and that it took time for nurses to become comfortable with their role in reporting. Opinions of the reporting process varied widely. Some indicated it was not much of a problem while others indicated that reporting was difficult.

Getting the data reported to RIDOH within 48 hours was reported as a significant challenge that had to be overcome. Informants mentioned having substantial information technology issues within the hospitals which contributed to noncompliance. A few key informants acknowledged that the reporting to RIDOH and focusing on this health problem had led to system-wide changes in their hospital operations and quality-improvement efforts, including new investments from hospitals.

Some additional comments on the rollout conveyed stakeholder frustrations:

“It was forced upon all hospitals by the state without adequate resources to implement it. It is cumbersome. It is time consuming and it does not fit into the work flow of an emergency department...no one has the time to spend ten minutes completing a form on a computer when there are patients coming through the door that need to be seen...It was ‘just do it.’ The biggest barrier is no staff, no resources, no time.”

“... there was some difficulty getting the system to ... generate reports accurately to identify cases.”

“... it has taken a lot of time on our providers and it used to take a lot of time for our... nurses to go through the report to make sure we weren’t missing anyone. We’ve had a lot of work back and forth with IT people trying to reformat this report.... but... it’s moving in the right direction.”

“My... concern is that there are too many fields that are too time-consuming to extract from the patient record.”

To encourage adoption, timeliness, and completeness, stakeholders identified several facilitators to the build of the system and reporting by hospitals. These included leveraging existing relationships within hospitals and emergency departments, changing to web-based reporting, (the hospital) transitioning to electronic medical records, and automating the reporting within the hospital’s existing information technology platform.

The enforcement plan for the required reporting was released after most of the interviews had been completed, but at least one interviewee expressed concern about RIDOH’s plan to hold individual physicians responsible for the timeliness of reporting an overdose and possible impacts on data validity.

Theme: Data Utility

Stakeholders generally felt that the system produced “valuable information to have,” that it is “one of those pieces that is integral to getting the full picture,” and that “it gave us a place to advocate with our colleagues and the police... about how significant the problem was.”

Interviewees further specified how they use the data, and what it means to them in augmenting the work that they do:

“We utilize it for different grant applications to try to identify areas that seem to be having the highest level of burden or consequence from overdose...”

“We can say generally that a lot of people are entering the ED and being offered treatment and refusing treatment. So that’s definitely useful information.”

“It feeds into decision-making, the task force and at the legislature... helps shape the conversation and the thought processes around what we’re going to do or continue to do or change what we’re doing at a state level... one of our emergency departments had a big spike in overdose cases...so it’s not only to help the first responders and the police in that area to know that they’re in a hot spot, but it’s also something that makes the news, which increases public awareness, which includes the physician and other prescriber communities... so it’s good information to have.”

“One way we are using it is to determine—to track the proportion of patients that receive recovery coaches or naloxone... so we can identify which hospitals are doing a good job and which hospitals need improvement. So I think that’s very helpful. I don’t think right now it’s really functioning as originally intended, which was a way to sort of track overdoses in a really timely fashion.”

But some worried that the required reporting was too onerous, that some fields were unnecessary, and provided specific feedback about certain problematic data fields. For instance, multiple individuals pointed out that the sexual orientation field (added in 2017) was challenging to complete due to the lack of this information in the medical record. One respondent felt the “risk factor information” collected (recent incarceration, homelessness) on the form was often left blank because “we just don’t know.” On the other hand, some changes to the data collection form increased the ease of reporting, and thus the utility of the data, in the eyes of some informants. For instance, the addition of “patient refused” as an optional field on the form for treatment and naloxone provision was noted to be very helpful.

Theme: Validity of the Data

Concerns about the surveillance system’s ability to provide an accurate count of opioid overdoses treated by hospitals and healthcare providers was another theme discussed by many informants. Having a clear case definition is a critical component of any surveillance system, and for interpretation of comparisons across hospitals and time.

One informant voiced concerns that the case definition (for submission) isn’t clear, stating:

“I don’t even know if the hospitals are clear on what they should be reporting. I think it’s largely subjective—if it’s deemed an overdose by whoever has seen that patient and that gets reported.... And I think it is changing over time, which makes it really challenging for surveillance. So I do have some concerns to be honest.”

Validity of the data will impact utility. When asked about using the data for detection of “hot spots,” one informant stated:

“I just have so many concerns about underreporting that I feel like we’re getting false trends, or inaccurate, I should say...I don’t think we’re there yet.”

It is notable that concerns about validity were raised primarily by key informants external to RIDOH, whereas the concerns expressed by RIDOH key informants pertained to compliance, completeness, and timeliness of reporting.

Question 3: What is the completeness and concurrent validity of the Opioid Overdose Reporting System as a surveillance data source?

The completeness of data within each case report is generally excellent due to built-in system requirements. Concurrent validity of the data could not be assessed due to a lack of available comparison data at the time of this report.

The 2016 and 2017 year-to-date submissions to the Opioid Overdose Reporting System were used to assess completeness of the data. Thirteen hospitals reported to the system during this period. The Providence Veteran’s Administration Hospital had no submissions. Since most variables in the system are required to be completed before submission can be achieved, the Evaluation Team examined fields in the database where information was lacking (i.e., the proportion of cases receiving a value “unknown” among variables with that option, and the level of completeness for variables where there was a “check all that apply” option).

One optional variable, entitled “other risk factors,” contains 15 check boxes, each of which can be checked if relevant to the patient. Among the cases where the admission date was 2016 or 2017, 78% had at least one risk factor identified in the form. Completeness of this variable varied across hospitals, ranging from 68% to 100% completeness at all hospitals but one (Memorial Hospital) where only 29% of reported cases had an identified risk factor checked.

The prevalence of reporting a field as “unknown” was examined across several patient-level variables. The findings are in Table V-C. Overall, the frequency where an “unknown” value was used was relatively low for naloxone administration prior to ED arrival (3.4%) and race (7.1%); moderate for ethnicity (15.9%), provision of on-site counseling (19.2%), follow-up services (11.6%) and naloxone at discharge (15.2%); and high for a variable added in 2017 “self-report of gay, lesbian, bisexual and/or transgender” (74.3% unknown.)

Table V-C. Proportion of Cases with a Value “Unknown”, Selected Fields, 2016 and 2017 Year-to-Date, All Submitting Hospitals

Field Name	Percent Unknown
Ethnicity	15.9
Race	7.1
Was on-site counseling provided?	19.2
Follow-up treatment/recovery services provided?	11.6
Was naloxone administered prior to ED arrival?	3.4
Did the patient receive naloxone at discharge?	15.2
Does the patient self-report as gay, lesbian, bisexual, transgender?	74.3

Source: Rhode Island Opioid Overdose Reporting System, RIDOH

The concurrent validity of the mandatory overdose reporting will be assessed through correlation of EMS data reports, but is not available at this time.

Synthesis of Findings and Recommendations

- Timeliness of the mandatory reported overdose data submission by hospitals has improved, with the median time improving from nine days in 2016 to four days in quarter 1 of 2017. This improvement is linked to faster reporting by the Lifespan hospital system.
- Trends for 2017 suggest greater compliance with the 48-hour reporting window (43% quarter 1 2017 versus 33% quarter 4 2016). System-level self-improvements in the

hospitals such as increased attention to the submission processes, information technology investments, and clearer role definition for reporting staff, led to the observed improvements in mandatory reporting. Enforcement activities by RIDOH and the inclusion of the mandatory reporting in the levels of care designation have likely both had a role as well.

- Revisions to the existing form would be important to consider, especially if they can improve achieving better reporting in the 48-hour window. These include reconsideration of inclusion of variables with a high or moderately high percent of “unknown” values, which convey limited information. If maintained, supports or training for hospitals will be needed to improve the information collected.
- Key informant interviews about the mandatory reporting conveyed frustration with the rapidity of the roll-out and early implementation, but acknowledged that the system is now vastly improved. Utility of the data was high to community stakeholders, who felt that it had become “indispensable”. A range of uses of the data were mentioned by interviewees, including the timely identification of hot spots for community-level alerts, grant applications, stakeholder buy-in on the size of the problem, and program evaluation. Still, there remain serious concerns about the validity—or true content—of the data that limit its full potential. Identifying the best approaches to case ascertainment and a more comprehensive assessment of data validity are indicated. In addition, ongoing use and dissemination of the data from this system will likely further efforts to improve it.

Limitations

The data for 2016 and quarter 1 2017 presented in this report was obtained from RIDOH on August 25, 2017. Any cases submitted after that date may alter some of the data points presented. Also, while the Evaluation Team sought to identify individuals from a range of backgrounds and professions for the key informant interview component of this evaluation, the opinions and perspectives collected may not represent all or the prevailing perspectives on the topics discussed. Finally, the relatively wide timeframe in which interviews were conducted may have missed important nuances in implementation and new initiatives related to the system that have been established since the close of data collection. Several of the key informants interviewed voiced concerns about the validity and completeness of reporting of opioid overdose cases. These are critical attributes of this system and were not able to be assessed for in this report due to unavailable comparison data. Future evaluation efforts should focus on the validity of case counts and the methods being used for case ascertainment across hospitals to confirm the value of the data across and between hospitals.

Consideration should be given to conducting a more comprehensive evaluation of this surveillance system utilizing the framework described in CDC’s updated guidelines for evaluating public health surveillance systems.²¹ The attributes listed in that framework relevant to surveillance systems that were not measured in this evaluation include: simplicity, flexibility, data quality, sensitivity, predictive value positive (percent of cases reported that are truly opioid overdoses), and representativeness.

Policy Area 4: Naloxone Accessibility and Use

Background

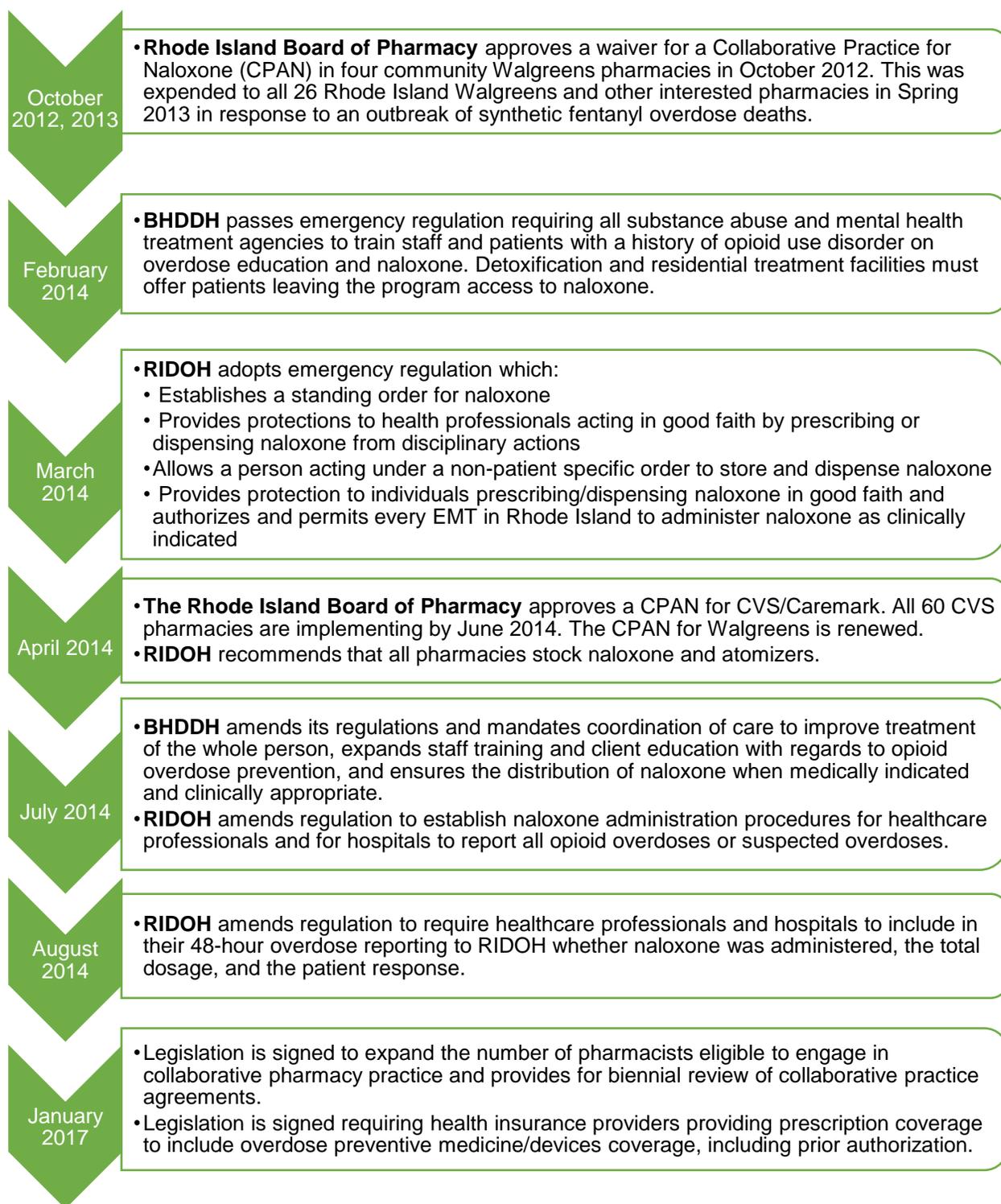
Naloxone is a rescue medication that is used to reverse the respiratory-depressing effects of opioids that cause overdose.²² During an opioid overdose, individuals experience respiratory depression which causes the breathing to gradually slow and then stop. If used at the proper dosage in a timely manner, the naloxone counters the effects of the opioid and helps restore normal breathing. Naloxone can be injected intravenously, intramuscularly, or subcutaneously. It can also be administered intranasally.²²

Many overdoses are witnessed by other people, who can intervene to help stop overdose and save a life. When trained and equipped with naloxone, a lay-person can administer naloxone so that the victim gets oxygen back into their body and brain faster, thereby increasing the chance of survival. It is for this reason that overdose education and naloxone distribution (OEND) to people who use drugs as well as to their friends and families, is necessary and effective. Data indicate substantial reductions in opioid related deaths in the communities in which naloxone access is high.²³

Since 2012, Rhode Island implemented several laws and regulations related to naloxone, to first create availability, and then to improve accessibility to the medication.

A timeline of naloxone regulations and legislations that are included in this evaluation is provided in Figure VI-A.

Figure VI-A. Timeline of Legislation and Regulation Affecting Naloxone Accessibility and Use



As a result of the regulations and legislation improving access to naloxone, there are now multiple places in Rhode Island where individuals can obtain the medication. These include harm-reduction programs, programs providing treatment for substance-use disorder, pharmacies, emergency departments, the Rhode Island Department of Corrections (RIDOC), the Veteran’s Administration, and Rhode Island Disaster Medical Assistance Team/Medical Reserve Corps. A summary of the expanded access points is found in Table VI-A.

Table VI-A. Selected Naloxone Distribution Sites in Rhode Island

Organization	Populations Served	Methods for Dispensing
AIDS Care Ocean State (ACOS) (Community Organization)	Adults, families, adolescents and children who are affected by or at risk for HIV infection	Outreach workers distribute naloxone kits on the street and to program attendees
Anchor Mobile Outreach Recovery Efforts (Anchor MORE) (Community Organization)	High-risk, high-need individuals with substance-use disorder	Deploys outreach workers to streets to deliver naloxone kits
Preventing Overdose and Naloxone Intervention (PONI) (Community Organization)	Individuals at high risk for experiencing or witnessing opioid overdose	Distributes naloxone kits at community trainings
Project Weber (Community Organization)	Individuals at high risk for experiencing or witnessing overdose; men and women, including the transgender community, and sex workers	Distributes naloxone kits to clients and people who come for drop-in services
Treatment Agencies	Individuals with substance use disorders seeking treatment	Variety of means, as described in this report, ranging from prescription, standing order, or Collaborative Practice Agreement
Pharmacies	Community at large, including people at high risk, people prescribed opioids, and family members/friends of opioid consumers	Prescription, standing order, Collaborative Practice Agreement
Emergency Departments	Individuals who enter the hospital presenting with overdose	Prescribers employ a standing order within the hospital, can involve peer support recovery coaches for training, and dispense naloxone at the bedside
RIDOC	Incarcerated individuals	Staff are equipped and inmates receive naloxone upon release
Veteran’s Administration	US Veterans	Prescription
NOPE-RI program of the Rhode Island Disaster Medical Assistance Team and Medical Reserve Corps	Law enforcement officers and health professionals	Serves as a clearing house for naloxone for law enforcement departments; provides trainings to law enforcement and health professionals

Law enforcement officers in Rhode Island began carrying naloxone in February 2014.¹¹ As of August 2017, 37 of the 38 municipal departments, State Police, Capitol Police, Airport Police, Sheriffs, and Department of Environmental Management all carried naloxone.

Police have been trained to administer naloxone. One department is in the process of purchasing its supply, and all other trained departments are currently equipped with naloxone. Law enforcement officers are often the first to arrive at a scene of a suspected overdose and prompt reversal of an overdose is essential to reduce fatalities.¹¹ For these reasons, equipping law enforcement officers with naloxone has been a priority.

Finally, due to the growing body of evidence regarding the risk of opioid overdose, the Rescue Initiative of the Rhode Island Strategic Plan named the goal of adopting naloxone as the Standard of Care when prescribing or dispensing opioids or selling syringes (i.e., at the pharmacy).¹

Evaluation Findings

Question 1: What is the use of pre-hospital naloxone by law enforcement, EMS and lay persons?

People who experience overdose in the community are administered naloxone by EMS, but increasingly by law enforcement and/or by family members and friends. If sent to the hospital, about three out of four overdose patients receives naloxone before they get to the hospital.

Use of pre-hospital naloxone in Rhode Island by EMS personnel and lay persons was assessed using data from the Opioid Overdose Reporting System (see Section II). As shown in Table VI-B, receipt of pre-hospital naloxone was reported given to 73% of patients with opioid overdose treated in 2015, 73% of those treated in 2016, and 74% of those treated in 2017 year-to-date. Among the patients receiving pre-hospital naloxone, EMS administered the naloxone more than 90% of the time. Administration by a family member, friend or lay person was reported in 6.7% of cases receiving pre-hospital naloxone in 2015, 7.9% in 2016, and increased to 9.3% of the cases reported in 2017, as of August 25, 2017. Since 911 is not called in all overdoses, not all overdoses attended by emergency responders are transported to the hospital, and lay responders may not stay to report naloxone administration to first responders, the emergency department based data underestimate true non-fatal overdose response trends. Still, it is notable that, among those transported to the emergency department for treatment of overdose, the proportion of overdoses where laypersons initially administered naloxone is increasing.

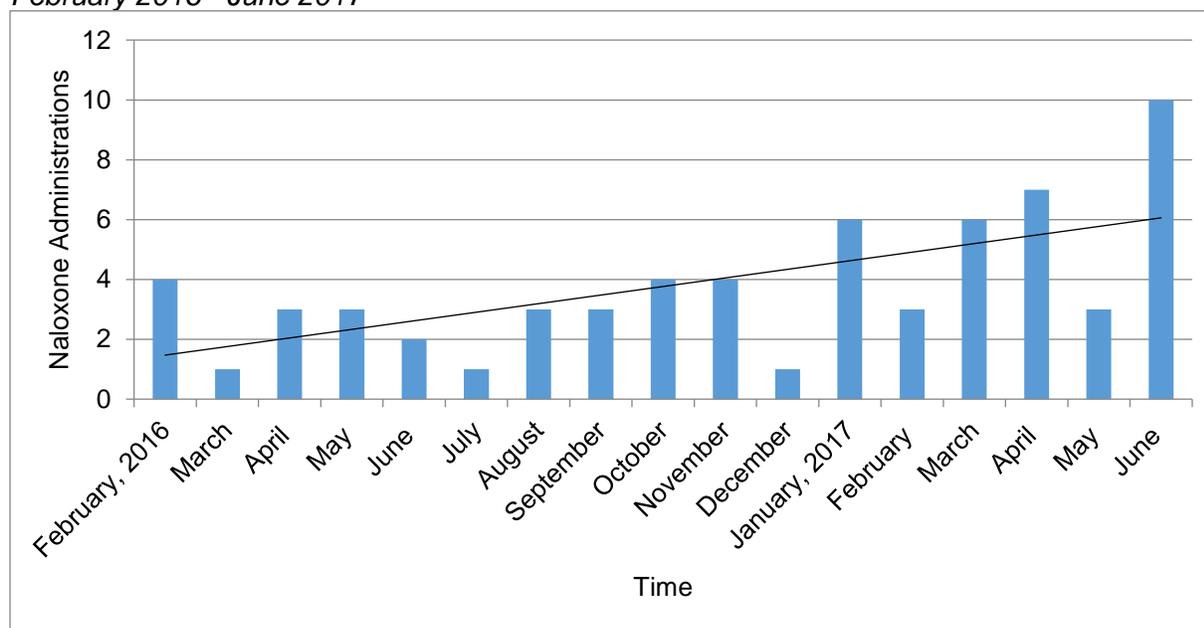
Table VI-B. Receipt of Pre-Hospital Naloxone by EMS Providers and Family/Friend/Lay Persons Among Patients with Opioid Overdose

	2015	2016	2017 (1/1/17 - 8/25/17)
	N (% of total cases)	N (% of total cases)	N (% of total cases)
Patient received pre-hospital naloxone	609 (73%)	1145 (73%)	751 (74%)
EMS provider	575	1064	677
Family Member, Friend, Lay Person	41	91	70
Total Cases Reported	837	1573	1021

Source: Rhode Island Opioid Overdose Reporting System, RIDOH
Law enforcement, other, and unknown persons not shown in table.

Systematic data collection of law enforcement administration of naloxone began in 2016. The Evaluation Team utilized data obtained on the *Prevent Overdose RI* website to obtain monthly numbers of administrations by law enforcement officers. Law enforcement administration of naloxone ranged from one administration per month (March 2016, July 2016, and December 2016) to 10 administrations per month (June 2017). Overall, naloxone administrations by law enforcement officials increased over time (positive linear trend, Figure VI-B).

Figure VI-B. Naloxone Administrations Reported by Rhode Island Law Enforcement Officers, February 2016 - June 2017



Source: PreventOverdoseRI.org, Accessed 7/28/17

Question 2: To what extent has pharmacist dispensing of naloxone changed?

Pharmacist dispensing of naloxone has increased substantially, a finding detected by self-report in a statewide survey and confirmed in dispensing data.

Findings from 2016 pharmacists survey

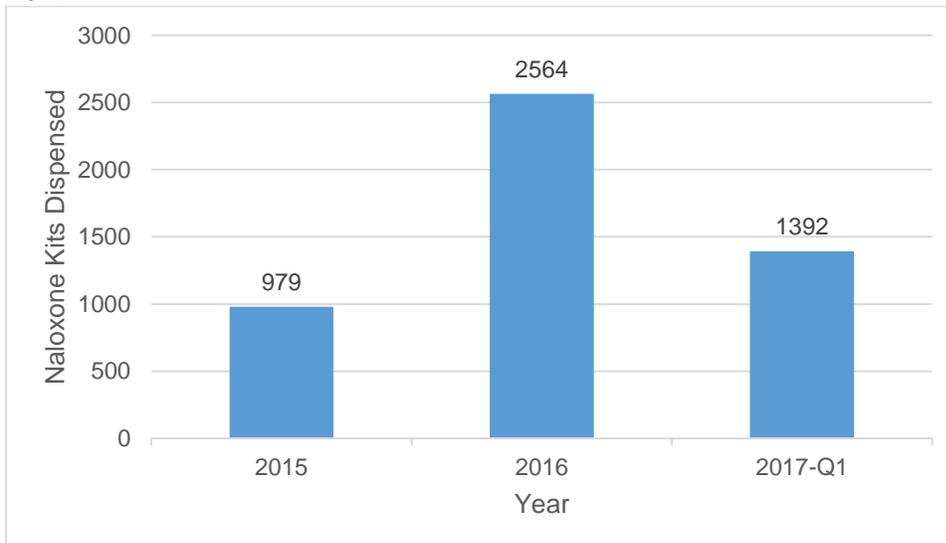
The estimated response rate of the pharmacist survey was 10%, with about 4,000 pharmacists receiving the invitation to participate. The following analysis is restricted to pharmacist respondents practicing in Rhode Island (n=171). Respondents were largely female (62%, n=105), age 35-64 (52%, n=89), white (86%, n=146, respondent could select multiple choices), non-Hispanic (95%, n=160), and the majority reported having a Doctor of Pharmacy (59%, n=98). Fifty one percent of respondents had practiced pharmacy for more than 10 years (n=86).

Nearly three in four pharmacist respondents (86 of 119, 72%) indicated that their pharmacy sold or stocked naloxone and more than half (71 of 122) indicated that their store had a standing order or collaborative pharmacy practice agreement for naloxone in place. Moreover, just more than half (60 of 118, 51%) had ever dispensed naloxone to an individual or family member to take home, and 58% of those (35 of 60) had dispensed naloxone in the past 30 days. Interestingly, 19 of 60 respondents who had dispensed naloxone (32%) had ever initiated naloxone therapy (i.e., suggested naloxone to a patient who may be at risk of overdose, versus having the patient initiate the naloxone request).

Pharmacy naloxone dispensing

The *Prevent Overdose RI* website collates naloxone dispensing from two of the major retail pharmacy chains in Rhode Island (CVS and Rite Aid) as well as several independent pharmacies known to have high naloxone dispensing. While not exhaustive, these counts reflect the best available indicator data for pharmacy naloxone dispensing. Figure VI-C shows the naloxone dispensing by Rhode Island pharmacies over time. Naloxone dispensing by pharmacies is clearly increasing.

Figure VI-C. Naloxone Dispensing by Rhode Island Pharmacists, 2015, 2016, and Quarter 1 of 2017



Source: *PreventOverdoseRI.org*, Accessed 7/28/17

*Includes only CVS, Rite Aid and several large-volume independent pharmacies

Going forward, tracking naloxone dispensing by pharmacies will be facilitated by collection and aggregate reporting within the PDMP of naloxone dispensed by pharmacies. The change in reporting was passed as part of 2017 legislation.

Findings from key informant interviews

The models by which naloxone is readily dispensed from the pharmacy have evolved. Naloxone is available by prescription, but there are also models that let patients obtain the medication without first seeing a prescriber. Initially, pharmacies did so using a Collaborative Practice Agreement for Naloxone (CPAN), which allowed for management of naloxone and initiation of naloxone therapy for CPAN trained pharmacists. The CPAN was permitted by a waiver from the Board of Pharmacy in 2013. Then, in 2014, an emergency regulation was put in place that permitted pharmacists to dispense naloxone under a standing order, and for prescribers to dispense naloxone as a pharmacy, under a standing order. Conceptually, the CPAN and the standing-order models are similar in that they allow pharmacists to dispense naloxone to patients that do not have a prescription for naloxone. One key difference between the two mechanisms is that the CPAN requires that the patient complete an enrollment form which allows for the exchange of information between pharmacist and prescriber. Because the origins of the collaborative pharmacy practice agreement are in more complex disease state management, this level of documentation is important to secure. No such form is required in the standing order model. Over time, many pharmacies, including the three major retail pharmacy chains in Rhode Island, established a standing order for naloxone and moved away from the CPAN model. Key informants (n=15) representing practicing pharmacists, clinical and academic pharmacists, pharmacy corporate leadership, regulatory leadership, and community advocates were interviewed about naloxone access in pharmacies.

While not commonly raised in interviews, some respondents indicated that the CPAN-required consent form was an “inadvertent barrier” to patients obtaining naloxone under the CPAN as it takes additional time to complete and may impede the perception of anonymity.

Motivating factors for the transition from CPAN to standing order was the perception that the standing order was the more appropriate model for dispensing:

You had to go to the Board of Pharmacy to get a waiver in terms of modifying the current Collaborative Practice Regulation to fit the Naloxone distribution model. So, there was always a little bit of trying to fit a round peg into a square hole. Migrating that to a standing order made a lot of sense [...] And, I think, from a regulatory perspective, it ended up being a much cleaner regulatory pathway for the state to follow.”

Another key informant indicated that the standing order provided more freedom to pharmacists:

So after those initial collaborative practice pieces went forward, the rules and regulations pertaining to opioid overdose and prevention then were put into place in March 2014. At first they were considered emergency and then became permanent. And within that, you can see that they also have a standing order and so that way, if you have a standing order, it's not a particular collaborative practice agreement between a pharmacist and that physician, you know, that relationship of standing order allows a little more, I guess, freedom. You don't necessarily have to have a relationship with that provider to do that.

The differences between the two models had minimal effect on clinical procedures and were largely perceived as administrative.

Procedurally, it did not change the clinical approach, I don't think. You know, the standing order, itself, was the same as what we have on the collaborative practice in terms of what we would

dispense, the directions, the quantities. It really was just more of an administrative implementation.

Another key informant confirmed the differences as minimal:

[...] those two terms [CPAN and standing order], depending on who you are speaking to, are almost interchangeable. So, I would have to read the two agreements to tell you the difference, if anything. But, most of the time, those are pretty much identical.

Although few identified major problems in naloxone dispensing during the transition from CPAN to standing order, one participant described the efforts involved in the transition to the standing order:

Well, we had to, you know, from our sites, we had to re-rollout the program. So, part of it is, you know, with Dr. NAME, getting a standing order in place and then operationally we had to implement that in all of the stores, which means, basically, revoking the existing Collaborative Practice Agreement, getting the pharmacist retrained at least on the existence of the standing order, and getting them to sign off on it and getting all of the appropriate documentation taken care of.

An “unanticipated consequence” of the CPAN and standing-order models was the confusion around billing and labeling of naloxone for caregivers obtaining naloxone (i.e., “third party billing”). Because the patient obtaining naloxone under the CPAN and standing order models has not met with a prescriber for a prescription, there is no explicit indication that the naloxone is for them. Caregivers such as parents, spouses, siblings, and children of people at risk for overdose are in a position to respond with naloxone in the event of an overdose and are empowered to get naloxone by the CPAN and standing order. The person to whom the medication is intended to be administered, however, may not be the caregiver obtaining the naloxone from the pharmacy. This created a gray area in which pharmacists were unclear as to whether billing the caregiver’s insurance was permissible and whether it was appropriate to label the medication with the caregiver’s name. Insurance was repeatedly mentioned as a barrier to pharmacy naloxone. Rhode Island passed legislation which became effective on January 1, 2017, requiring all insurers to cover at least one overdose prevention medication and necessary equipment, including in situations of third-party prescribing. This law came into effect after most interviews had been completed and was not the subject of this evaluation, though it will no doubt affect availability of pharmacy naloxone.

Question 3: How often are ED overdose patients receiving naloxone upon discharge?

Patients are increasingly receiving naloxone upon discharge, but this varies by hospital system; a minority of patients refuse naloxone when offered it to take with them.

Patient receipt of naloxone or a prescription for naloxone upon discharge from the hospital after treatment for an opioid overdose was assessed using data from the Opioid Overdose Reporting System (see Section II). Data for these analyses were restricted to the time frame for which detailed patient outcome information was available (April 2016 onward). Statewide, 40% of the patients discharged after an opioid overdose received a prescription for naloxone or were dispensed naloxone at discharge in 2016, compared to 48% in 2017. As shown in Table VI-C, this service provision varied across hospitals, with most hospitals improving their provision of naloxone at discharge in 2017, with the exception of Westerly and Landmark hospitals. Rhode Island Hospital and South County Hospital distributed naloxone kits or prescriptions to 70% and 76%, respectively, of patients they treated for opioid overdose in 2017 (year-to-date).

Table VI-C. Naloxone Dispensed or Naloxone Prescription Given Among Discharged Patients with Opioid Overdose, By Hospital, April 2016 - August 25, 2017

Hospital	Percentage receiving naloxone kit or prescription for Naloxone (2016)	Percentage receiving naloxone kit or prescription for naloxone (1/1/17 – 8/25/17)
Hasbro	0%	NA
Kent	24%	37%
Landmark Medical Center	72%	24%
Memorial	24%	45%
Newport	49%	65%
Our Lady of Fatima	4%	43%
Rhode Island	49%	70%
Roger Williams	42%	66%
South County	39%	76%
The Miriam	47%	45%
Westerly	3%	0%
Total	40%	48%

Source: Rhode Island Opioid Overdose Reporting System, RIDOH
 *Excludes patients with dispositions other than “patient was discharged.”
 Note: Some patients discharged refused naloxone (19% in 2016 and 17% in 2017).

Question 4: Are individuals in treatment who are at high risk receiving naloxone and overdose prevention training?
 Patients in treatment who are at high risk are receiving naloxone and overdose prevention training. Novel, sustainable pharmacy and treatment center collaborative models that connect patients to naloxone have emerged.

Findings from an environmental scan

Many treatment programs do provide naloxone training and/or access to naloxone; however, there is inconsistent provision of naloxone by treatment providers to detoxification and residential program clients, despite regulatory requirements for them to do so. Innovative models to ensure consistent and sustainable naloxone provision are emerging.

The Evaluation Team conducted an environmental scan of licensed substance-use-disorder treatment service agencies in February 2016 (follow-up data collection in February and March 2017) to examine the extent to which individuals receiving substance-use-disorder treatment at agencies licensed by BHDDH are also receiving overdose prevention training and having naloxone prescribed or dispensed to them. Because detoxification and residential treatment program attendance is associated with high risk of overdose, naloxone provision to this clientele is both crucial and State-mandated.

Detoxification treatment agencies

At the time of data collection, four BHDDH-licensed agencies provided detoxification services and were required to provide overdose education and naloxone to clients. A table summarizing the naloxone and overdose education practices there is found in Table VI-D. Three of four agencies provided educational trainings on overdose prevention and naloxone. Only half of the

agencies were equipped to distribute naloxone directly to patients, in compliance with the State regulations. The naloxone distributed at these agencies during the inquiry period was supplied to them by BHDDH and was used in instances where the patient did not have insurance to cover the cost of the naloxone, or when obtaining pharmacy naloxone was not appropriate.

The environmental scan also uncovered a new model of naloxone distribution, termed a dyad, which appears to have evolved due to the State’s requirement for naloxone provision at detoxification and residential programs. Dyads are formalized partnerships between substance-use-disorder treatment agencies and community pharmacies that allow patients to directly access naloxone, either through an existing mechanism of ordering and filling prescriptions for clients (similar to birth control or antibiotics) or through an arrangement between partners to encourage getting naloxone at the pharmacy with sufficient stock, consistent patient education, familiarity, and known medication prices or copays. In this way, dyads appear to have increased access to naloxone in a mutually beneficial and sustainable fashion.

Table VI-D. Naloxone and Overdose Education Practices at Detoxification Agencies, 2016

Agency	Provide educational trainings on overdose prevention and naloxone?	Distribute naloxone?	Directly access pharmacy naloxone? (Directed Dyad)	Pharmacy naloxone referral?
Adcare Rhode Island, Inc	✓	✓	✓	✓
Gateway Healthcare Inc. (PACS) -				✓
Phoenix House of New England, Inc.	✓	✓	✓	✓
Rhode Island Clinical Services LLC	✓			✓

Source: Environmental scan, 2016

Residential treatment agencies

There are 13 residential treatment agencies licensed by BHDDH to provide residential substance-use-disorder treatment services in Rhode Island at the time of data collection. The environmental scan found that all residential agencies provide education on overdose prevention and naloxone training, and all operational agencies had BHDDH-supplied naloxone to distribute directly to clients. Two of the detoxification programs and seven residential treatment agencies (58%) established a dyad partnership to equip patients with pharmacy-obtained naloxone by working with community pharmacies. The naloxone and overdose education practices at detoxification agencies is summarized in Table VI-E.

Table VI-E: Naloxone and Overdose Education Practices at Residential Agencies, 2016 and 2017

Agency	Provide educational trainings on overdose prevention and naloxone?	Distribute naloxone?	Directly access pharmacy naloxone? (Direct Dyad)	Pharmacy referral?
Adcare Rhode Island, Inc	✓	✓	✓	✓
Bridgemark	✓	✓	✓	✓
Community Care Alliance - Robert J. Wilson House	✓	✓		✓
Gateway Healthcare Inc. - Caritas House	✓	✓		✓
Gateway Healthcare Inc. - Eastman House	✓	✓	✓	✓
Galilee House	✓	✓	✓	✓
MAP Behavioral Health Services, Inc.	✓	✓	✓	✓
Phoenix Houses of New England, Inc. - Residential, Ottmar Building	✓	✓	✓	✓
Phoenix Houses of New England, Inc. - Exeter Residential Program, Ladd Campus	✓	✓	✓	✓
Phoenix Houses of New England, Inc. - Phoenix Academy at Wallum Lake/ Zambarano Campus	✓			✓
SSTARBIRTH	✓	✓		✓
The Providence Center Road to Recovery (Men's and Women's campuses)	✓		✓	✓

Source: Environmental scan, 2016 and 2017

Take a Closer Look: Dyads

The dyad partnerships between substance-use-disorder treatment agencies and community pharmacies provide a unique opportunity for high-volume, high-reach naloxone distribution. The pharmacy in the dyad benefits by creating a consistent and sustainable source of naloxone patients; the treatment site benefits by having a pharmacy dispenser of naloxone, without having to worry about stocking, labeling, storing, transporting, and securing the naloxone, and can typically bill to the patient's insurance. In addition, when patients must go to pick up the naloxone themselves, the treatment agency can be confident that the experience at the pharmacy will be a more normalized one for the pharmacist, which can work to reduce stigma of naloxone and of opioid-use disorder.

Dyads appear to develop in a number of ways, including pharmacies approaching treatment agencies or treatment agencies approaching pharmacies, but none were in place until the BHDDH emergency regulations (April 2014). Thus, it appears that the emergency regulations encouraged the structural evolution of this arrangement.

A dyad might also include a community-based organization and a pharmacy, although no such arrangement was cataloged for this evaluation. Dyad partnerships appear to emerge to meet the needs and capacity of the partner organizations. Below are diagrams outlining the most common arrangements, as catalogued by the Evaluation Team. There are numerous ways to alter and expand these basic models to establish a process that works for the pharmacy, community partner (e.g., clinic, program, shelter), and patients.

Figure VI-D. Direct Dyad Model – Naloxone Delivery

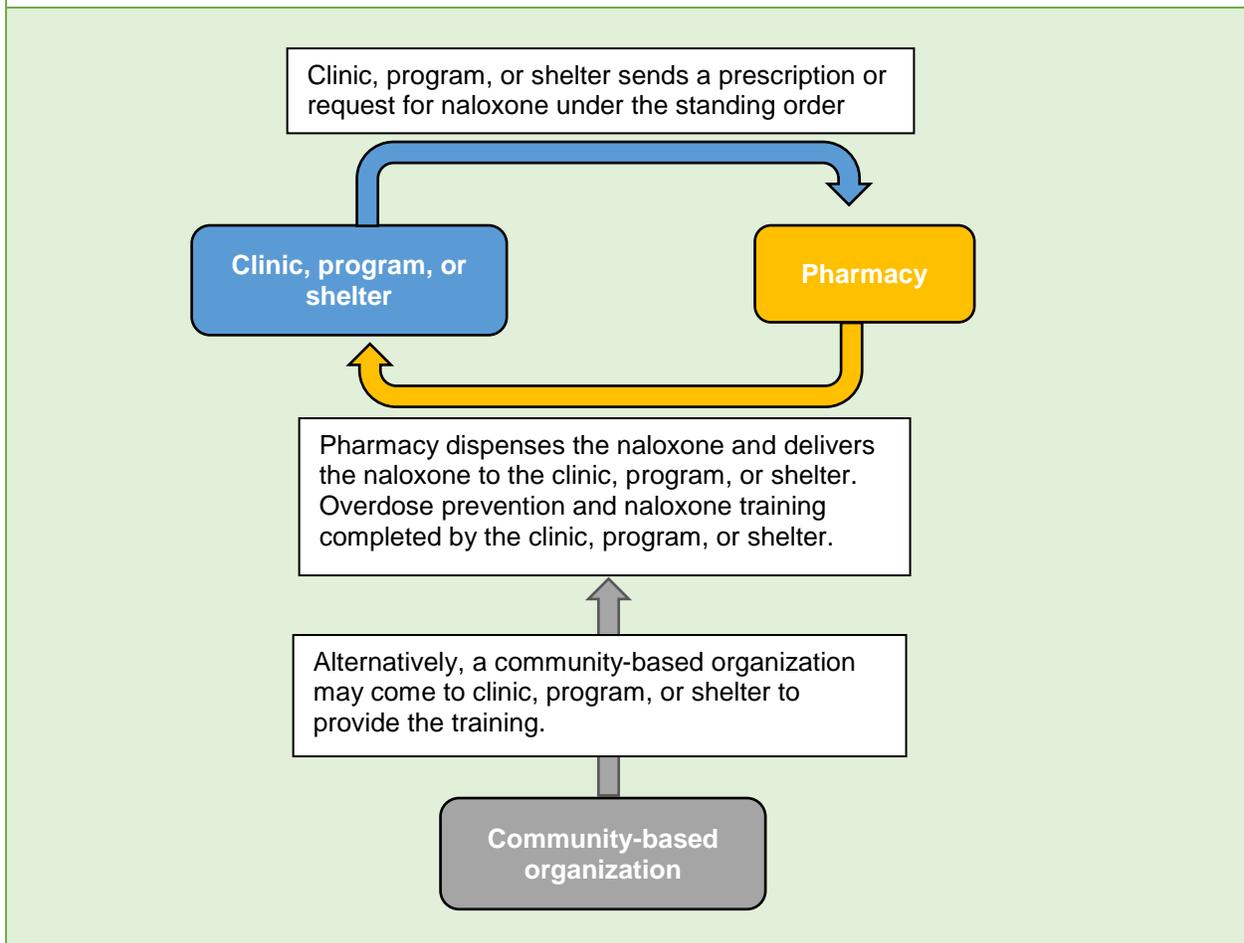


Figure VI-E. Direct Dyad Model – Naloxone Pick Up

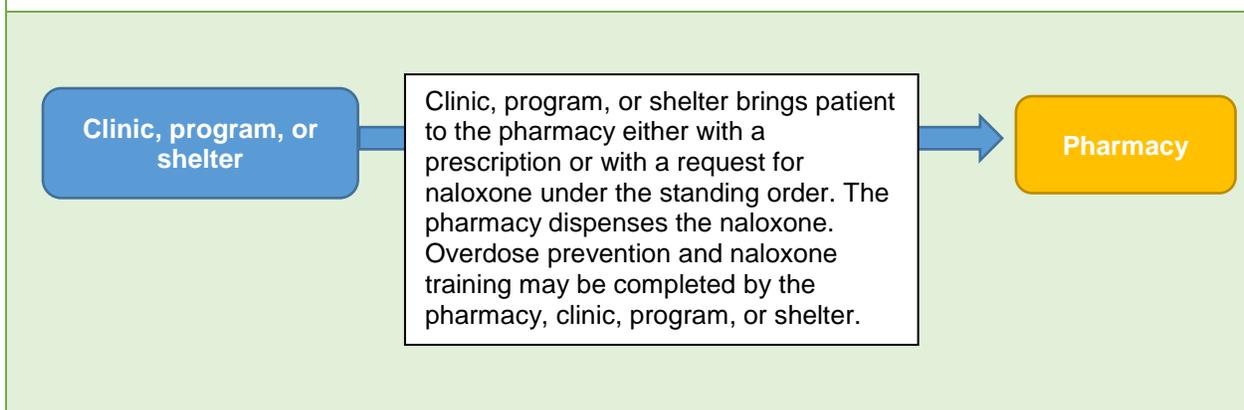
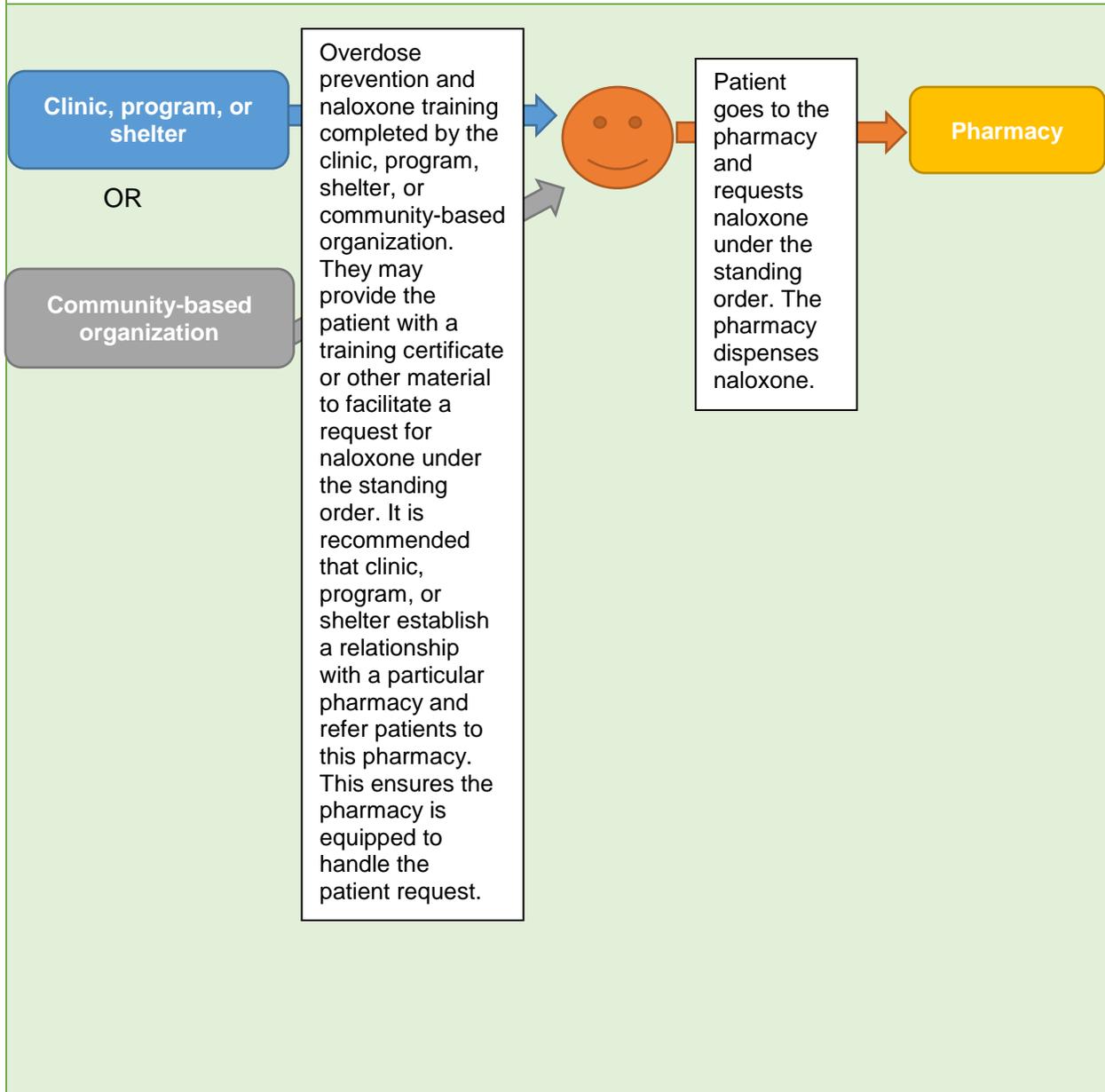


Figure VI-F. Pharmacy Naloxone Referral Model



Dyad Case Study: White Cross Pharmacy and CODAC

CODAC Behavioral Healthcare is a treatment organization licensed by BHDDH to provide treatment, recovery, and prevention services and has been doing so for more than 40 years.²⁴ CODAC has six locations throughout Rhode Island and dispenses methadone daily to thousands of Rhode Island clients with opioid-use disorder.²⁴

Prior to the dyad partnership, naloxone provision to CODAC clients had been accomplished by community-based organizations, namely NOPE-RI and PONI, who visited weekly to the CODAC locations. But the steady flow of clients and the high rates of insurance coverage suggested that a more sustainable and billable approach might benefit clients and staff. In addition, building a dyad partnership meant that the community organizations could refocus their resources and time on outreach to other populations and places in need of overdose prevention and naloxone. In this way, dyad-based naloxone distribution complements rather than displaces the community organization-based naloxone distribution. In 2016, CODAC established a standing order agreement with White Cross Pharmacy, an independent community pharmacy that specializes in providing pharmaceutical services to long-term care facilities such as nursing and assisted-living facilities.²⁵ They quickly began filling naloxone at the White Cross Pharmacy and delivering it to CODAC. This is an example of a Naloxone Delivery (direct) dyad.

Given the daily dosing schedule for methadone, many CODAC patients could fit the naloxone pick-up into their already established routines, and CODAC could remain in compliance with patient safety and state regulations. This dyad has resulted in high-volume distribution to hundreds of people at risk of experiencing or witnessing an overdose.

Question 5: Are community members who are at high risk receiving naloxone and overdose prevention training?

The large number and variety of naloxone distribution points in the community are reaching community members at high risk of overdose or are receiving naloxone and overdose prevention training.

Answering this evaluation question entailed both exploring current knowledge of naloxone among high-risk populations, receipt of naloxone as reported by community members and in publicly available administrative datasets, and talking with people who use drugs about the sources and accessibility of naloxone in the community.

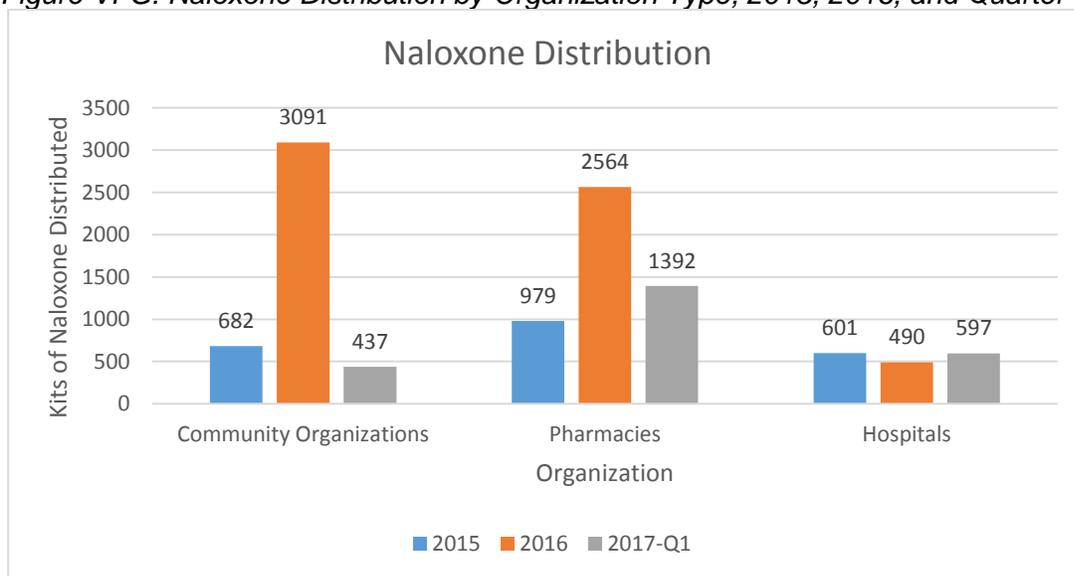
First, to examine current knowledge of naloxone among people who use drugs, the Evaluation Team utilized data from the 2016 survey of people who use drugs (see Section II for additional details). Among the 150 individuals surveyed, the majority knew what naloxone was (84%) and had been trained to use it (59% overall and 69% of those that knew about it). There were important socio-demographic differences in level of naloxone knowledge. Specifically, there was less naloxone knowledge among people age 18 – 25 who use drugs compared to other age groups. Knowledge of naloxone was higher among people who use drugs who were on parole and those who had ever received medication assisted treatment (MAT), compared to their counterparts who were not on parole and had never received MAT. These more knowledgeable sub-populations may reflect the cumulative effects of targeted naloxone outreach efforts (Protect Families First, PONI work at RIDOC), pharmacy naloxone and dyads (White Cross-

CODAC dyad), and public health programming on overdose education and naloxone distribution. Seventy percent who knew about naloxone said that they knew where to get it. Of these, the most commonly mentioned places that they would obtain naloxone were pharmacies (49%) and a syringe-exchange program (32%).

Second, to examine the extent to which Rhode Island’s regulations expanding naloxone access have resulted in increased distribution by community-based organizations servicing populations at higher risk for overdose (excludes RIDOC), the Evaluation Team utilized data from the *Prevent Overdose RI* website. In 2015, community organizations that focus on the highest risk populations distributed 682 naloxone kits. This number increased to 3,091 kits in 2016. In the first quarter of 2017, 437 naloxone kits were distributed by community organizations. Historically, PONI has distributed the most naloxone of community organizations and their reach was recently augmented by the work of the newly established Anchor MORE mobile outreach program. Both PONI and Anchor MORE operate under the Rhode Island regulations that established the legal parameters for expanded naloxone distribution, without restriction on volume, location, or other operational aspects.

Across the naloxone access points, Figure VI-G shows the overall naloxone distribution in Rhode Island by organization type, from 2015 through the first quarter of 2017. The number and type of distribution points is remarkable, with growth in the number and type of organization to expand community naloxone access. In 2015, community organizations and pharmacies distributed similar amounts of naloxone, but in 2016, community group distribution nearly quadrupled from 682 kits to 3091 kits. Pharmacy dispensing appears to be growing, and it appears that dispensing by hospitals (EDs) is also increasing. At the current pace, naloxone distribution is anticipated to reach more than 9,700 kits by the end of 2017.

Figure VI-G. Naloxone Distribution by Organization Type, 2015, 2016, and Quarter 1 2017



Sources: *PreventOverdoseRI.org*, Accessed 7/28/17; *Brown University* (personal communication)

*Community organizations include: *Anchor MORE, PONI, Recovery House, and ACOS.*

*Pharmacies includes *CVS, Rite Aid, and several large-volume independent pharmacies.*

Findings from interviews with people who use drugs

Third, the Evaluation Team examined data from the interviews of people who use drugs about naloxone availability and accessibility in the community. The interview data reflected the variety of naloxone access points and further confirmed the variety of naloxone access sites and the ready availability of naloxone in the community. The majority of interviewees were familiar with naloxone, and described obtaining naloxone training and/or kits at treatment agencies, harm-reduction organizations, the emergency department, and the RIDOC; others indicated awareness of availability of naloxone from pharmacies.

Efforts to optimize the social network of people who use drugs can have a large impact on dissemination of public health education and naloxone distribution. Many individuals included their social network, (family, friends, and significant others) while discussing training and access to naloxone:

INTERVIEWER: Have you yourself ever administered naloxone?

103: No. No. But I know how to do it because [my girlfriend teaches me]. We have it.

Another participant indicated that a friend connected them to naloxone training, reflecting the community caretaking among people who use drugs:

INTERVIEWER: It says here you've been trained to use Narcan or naloxone.

108: Yeah

INTERVIEWER: Who trained you?

108: Um, I went to a program. I forgot where it was. A friend of mine took me.

Another indicated they had trained those around them to respond with naloxone:

INTERVIEWER: ... You have been trained – you were trained at ACI [prison].

107: I was trained at the ACI, the methadone clinic, I was trained um at Adcare. I've seen the video, and I've been trained 6, 7 times.

INTERVIEWER: So you could be training other people?

107: I actually did. In my outpatient class I was um, nobody knew what to do, and I actually, I trained my little brother last night. I told him how to do it last night, and I said because god forbid that I ever, if something ever happens to me, this is what you do...

Multiple participants described using naloxone to reverse an overdose of a family member or friend or receiving naloxone from a family member or friend in the event of their own overdose.

111: Uhhhhhh, I seen two people overdose.

INTERVIEWER: And one of them got narcaned?

111: All of them did.

INTERVIEWER: All of them? By who?

111: By me... I'll be perfectly honest with you, it was my mom.

The collection of experiences noted above exemplified the variety of naloxone access points, the high degree of availability of the rescue medication, and the prospects for dissemination of naloxone within risk networks to maximize the public health benefit.

Question 6: Are inmates at risk of overdose receiving naloxone and overdose training upon release from RIDOC?

There is ongoing overdose training provided to inmates and a limited number of naloxone kits provided upon release from RIDOC, yet barriers remain.

Overdose prevention education efforts have been ongoing at RIDOC since 2005 when PONI began outreach to inmates and encouraged naloxone receipt after release. However, there was limited naloxone provision at release until pilot programs (Project SOON, 1R21DA029201 Rich (PI)) began in 2012. An examination of more recent data suggests high potential for a process of naloxone provision to inmates at release, but inconsistency in implementation. RIDOC distributed 250 naloxone kits in 2016, 246 in 2016, and 26 kits in the first quarter of 2017. RIDOC has faced logistic obstacles around a number of the key components of naloxone provision (storage, payment for medication, delivering the medication at release) which have limited their dispensing capacity. With the program treating inmates with opioid-use disorder now underway, renewed efforts for overdose prevention and new collaborations are encouraging signs that distribution will expand in the future.

Research suggests that naloxone's effectiveness in achieving overdose mortality reductions occurs when there is a sufficient level of naloxone saturation in the community. Bird and colleagues estimated that this reduction occurs when the number of naloxone kits dispensed approaches between nine and 20 times the number of opioid overdose deaths from the prior year.²⁶ Given the prominence of fentanyl and fentanyl analogs circulating in the community, the higher estimate may be the more appropriate and conservative target. Therefore, in 2015, the total community organization, hospital pharmacy, and RIDOC distribution approached, but did not meet, the target of 5,800 kits distributed (290 deaths times 20); however, in 2016, the number of kits distributed was 6,387, which approached the targeted level of 6,720 (336 deaths times 20) kits for the year. At the current overdose death rate and the pace of kit distribution for 2017, it appears that the number of kits will meet or exceed the 2017 target.

Synthesis of Findings and Recommendations

- Community naloxone provision rose rapidly during the evaluation period, keeping pace with the high need for the rescue medication and the high demand for layperson overdose response capacity. In particular, there has been enormous diversification in the naloxone access points in the state, to include pharmacies and hospitals (emergency departments), substance-use disorder treatment sites, RIDOC, law enforcement, and many new community-based organizations. While naloxone knowledge was high among the majority of people who use drugs who were surveyed for the evaluation, naloxone knowledge was substantially lower among young adults age 18 - 25.
- Concerted community advocacy and emergency regulations from the RIDOH and BHDDH, together, appear to have achieved high naloxone coverage. Specifically:
RIDOH: Shifting from a Collaborative Pharmacy Practice Agreement (CPA) to a Standing Order (SO) model for pharmacy-distributed naloxone appears to have been a natural evolution that reduced paperwork and monitoring and made it more palatable to patients, pharmacies, and the CPA/SO prescriber. Reducing impediments to naloxone access increased naloxone uptake. Pharmacies accounted for 40% of community naloxone distribution in 2016.
BHDDH: Dyads, or special arrangements between a pharmacy and a substance-use disorder treatment site or other institution caring for people at high risk of

overdose, emerged as workable and sustainable models, following the BHDDH emergency regulations requiring naloxone provision to clients enrolled in state-funded detoxification and residential treatment programs. While treatment sites have universally implemented prevention counseling, not all comply with regulations requiring the patients are offered naloxone.

- People leaving incarceration are at increased risk of overdose; however, naloxone provision at RIDOC lags. Recent efforts to expand MAT to inmates prior to, and at, release would benefit from simultaneously joining the effort to systematically provide naloxone at release.

Continuing or exceeding the current volume of naloxone distribution is critical to achieving overdose mortality reduction. Efforts should support no/low-cost and ready access to naloxone for people who use drugs, and for family members and friends across community access points.

Limitations

These findings are subject to several limitations. For the survey of pharmacists, the estimated response rate is 10%. Those responding may differ in knowledge, attitudes, behaviors, and characteristics from individuals who did not participate. This may be especially true for the questions around naloxone, as the sampling schema oversampled pharmacists that had participated in a continuing education course about opioid safety and naloxone that is hosted through the University of Rhode Island's College of Pharmacy.

Similarly, for the survey of people who use drugs and the subset that were interviewed, it is difficult to determine the sampling frame due to the illicit nature of drug use. The sample may therefore not be representative of the population of people in Rhode Island who use drugs.

For the key informant interviews, sample selection may also be subject to bias. While the Evaluation Team sought to identify individuals from a range of backgrounds and professions for the key informant interviews, the opinions and perspectives of the interviewees may not represent all or the prevailing perspectives on the topics discussed.

Findings may underestimate the community impact of naloxone distribution efforts from the pharmacy in two ways. First, in self-reported data, it is notable that someone who is on methadone and who obtained naloxone from their program may not be aware that the naloxone they are receiving was obtained from the pharmacy (a dyad partnership), but may instead perceive their naloxone was obtained from their treatment program. Administratively, the current naloxone distribution accounts for this and is tracked by RIDOH and the Evaluation Team; however, the provision process may not be well known to the patient. In this way, interview data from people who use drugs may undercount the reach of the pharmacy naloxone distribution and should be taken into account through interviews with people in treatment programs who have received naloxone through a dyad.

Another underestimate of the reach of pharmacies is found in the dispensing data. The naloxone dispensing data for pharmacies reported on the *Prevent Overdose RI* website is known to be an incomplete data set, in that it includes only two of the three major retail pharmacy chains and several high-volume independents. The accuracy of reporting will be greatly improved by the imminent addition of naloxone to the PDMP, as ordered by recent legislation.

Underestimates of non-fatal overdose and naloxone history from ED data are certain, as not all overdoses are intervened upon by medical professionals or transported to the emergency department. Therefore, naloxone administration counts should be interpreted with caution and considered conservative estimates at best. Finally, the environmental scan is limited by the relatively wide timeframe in which the scan was conducted. Policies and procedures may have evolved during the year, especially given the ongoing statewide efforts to address opioid safety and overdose prevention for those most at risk for overdose.

Summary of Indicator Findings

Table VII-A summarizes the evaluation questions and indicators described in the introduction with the results. This table is not a complete summary of the evaluation, as many data sources provided rich information on the policies examined, beyond the scope of the original evaluation questions.

Table VII-A: Key Evaluation Questions, Indicators, and Findings

Policy Area	Questions	Indicator(s)	Finding(s)
Good Samaritan Overdose Prevention Act	To what extent does the <i>Good Samaritan Overdose Prevention Act</i> impact case dismissals?	<ul style="list-style-type: none"> Cases dismissed due to the <i>Good Samaritan Overdose Prevention Act</i> 	Charges dismissed due to this Act increased from 12 in 2012 to 83 in 2016
	Has there been a change in law enforcement attitudes surrounding the <i>Good Samaritan Overdose Prevention Act</i> ?	<ul style="list-style-type: none"> Percentage of law enforcement with a favorable opinion of the <i>Good Samaritan Overdose Prevention Act</i> 	More than two-thirds (68.2%) of law enforcement officers responding to a 2016/2017 survey disagreed with the statement “a Good Samaritan law sends the message that drug use is okay.” (baseline)
	Has there been a change in awareness of <i>Good Samaritan Overdose Prevention Act</i> among people who use drugs?	<ul style="list-style-type: none"> Percentage of people who use drugs with an understanding of the <i>Good Samaritan Overdose Prevention Act</i> 	Among respondents to a 2016 survey of people who use drugs, 57% reported knowledge of the Good Samaritan Law. (baseline)
Prescriber requirements to register and use the PDMP’s database	Does the mandatory registration law increase PDMP registration among required providers?	<ul style="list-style-type: none"> Percentage of required prescribers that register for the PDMP, by prescriber type 	Percentage of all prescribers with an active CSR who had enrolled in the PDMP increased from 55% in September 2015 to 89% in June 2016, the month before required prescribers were automatically enrolled.
	Does the mandatory PDMP laws increase the number of PDMP queries by providers?	<ul style="list-style-type: none"> Number of unique prescribers who run reports in the PDMP, by prescriber type 	From April 2016 through July 2017, monthly searches increased 31% for all providers combined and among all specific provider types (physicians, dentists, etc.).

Prescriber requirements to register and use the PDMP's database	<p>Is there an association between:</p> <p>a) the number of prescriptions for opioids dispensed and PDMP utilization</p> <p>b) co-prescription of opioids and benzodiazepines and PDMP utilization?</p>	<ul style="list-style-type: none"> • Correlations of the number of prescriptions for opioids dispensed with utilization of PDMP • Correlations of co-prescriptions of opioids and benzodiazepines with utilization of PDMP 	<p>There was a significant negative linear correlation between the total opioid prescriptions filled monthly from quarter 2 of 2016 through quarter 1 of 2017 and the monthly number of PDMP searches.</p> <p>There was no association between trends in use of the PDMP and co-prescribed days of opioids and benzodiazepines during this time.</p>
	<p>Is there an association between the number of patients dispensed more than 100 MMEs and PDMP utilization?</p>	<ul style="list-style-type: none"> • Correlation of prescriptions with more than 100 MMEs and utilization of PDMP across time 	<p>There has been a slight decline in the average daily MME dose of opioids among Rhode Island residents receiving a prescription for an opioid, although it was not significantly correlated with PDMP use.</p>
	<p>Is there an association between PDMP utilization and occurrence of opioid overdose deaths and ED visits by community?</p>	<ul style="list-style-type: none"> • Correlation of PDMP utilization rates with opioid overdose rates, by community 	<p>From April 2016 through March 2017, monthly unintentional drug overdose death counts were not statistically correlated with prescriber PDMP search counts. Correlations at the community level were not able to be examined due to data availability.</p>
	<p>What are prescriber self-reported behaviors and beliefs in their capabilities related to opioid prescribing and using the PDMP?</p>	<ul style="list-style-type: none"> • Prevalence of self-reported counseling behaviors. • Percentage of prescribers with high self-efficacy (self-rated capacity) in using PDMP 	<p>The majority of prescribers responding to the 2017 survey affirmed they always or often counseled patients receiving opioid prescriptions about risks of addiction and overdose and less often on disposal and safe storage. Prescribers also reported high self-efficacy in response to accessing the PDMP within my clinical practice, and integrating the information obtained in the PDMP into clinical decision making and care, with an average score of 5.3 and 5.5, respectively, on a scale of 1 (not well at all) to 7 (extremely well). Lower scores were reported for practices related to substance-use disorder screening, treatment, and naloxone co-prescribing.</p>

Mandated reporting of opioid overdoses	Are required reports made within a 48-hour time frame?	<ul style="list-style-type: none"> Percentage of reports made within 48 hours of ED admission for overdose event 	43% of reports in quarter 1 of 2017 were submitted within a 48-hour time frame. This improved from 33% in quarter 4 of 2016.
	What are the facilitators and barriers to hospitals complying with the 48-hour reporting mandate?	<ul style="list-style-type: none"> Number, type and description of facilitators and barriers to hospital ED reporting to the system 	<p>Facilitators: existing relationships within hospitals and emergency departments; web-based reporting; electronic medical records; automated reporting within hospitals' information technology platform.</p> <p>Barriers (past and current): rapidity of rollout; lack of training; information technology issues; lack of funding to complete extra reporting; time required to complete; lack of staff available to complete</p>
	What is the concurrent validity of the Opioid Overdose Reporting System as a surveillance data source?	<ul style="list-style-type: none"> Percent of field completeness Correlation of reports of overdose with other data systems 	<p>Case submission is structured so that most variables are required to be completed before submission can be achieved.</p> <p>The concurrent validity of the mandatory overdose reporting will be assessed through correlation of EMS data reports, but these are not available at this time.</p>
Expansion of naloxone access and use	1) What is the use of pre-hospital naloxone by law enforcement, EMS, and lay persons?	<ul style="list-style-type: none"> Number of reports of pre-hospital naloxone use by EMS, law enforcement, or lay persons 	<p>From January 1 through August 25, 2017, there were 677 reported instances of EMS and 70 reported instances of layperson administration of pre-hospital naloxone representing 66% and 7% of overdose cases reported to RIDOH, respectively.</p> <p>There were 35 reported instances of law enforcement administration of pre-hospital naloxone from January through June 2017.</p>
	To what extent has pharmacist dispensing of naloxone changed?	<ul style="list-style-type: none"> Amount of naloxone dispensed from pharmacies Documentation of transition from collaborative 	<p>In 2016, 2,564 naloxone kits were dispensed from pharmacies. In the first quarter of 2017, 1,392 kits were dispensed.</p> <p>The transition from the Collaborative Practice</p>

		practice to standing order	Agreement to the Standing Order was perceived by key stakeholders as largely administrative and minimally impactful on the patient experience. The standing order is viewed as the more appropriate modality for naloxone dispensing at the pharmacy.
Expansion of naloxone access and use	How often are patients treated at EDs for overdose receiving naloxone upon discharge?	<ul style="list-style-type: none"> Amount of naloxone dispensed from EDs after an overdose 	For the first quarter of 2017, 48% of discharged patients with opioid overdose received a naloxone kit or a prescription for naloxone.
	Are individuals in treatment who are at high risk receiving naloxone?	<ul style="list-style-type: none"> Presence of protocols and practices for naloxone dispensing by treatment facilities 	<p>Three of four detoxification agencies provide overdose prevention and naloxone training. Two of four distribute naloxone provided by BHDDH, and two of four equipped patients directly with pharmacy-obtained naloxone.</p> <p>All 13 residential-treatment agencies provide overdose prevention and naloxone training, 12 of 13 distribute naloxone provided by BHDDH, and seven of 13 equip patients with pharmacy-obtained naloxone.</p>
	Are community members who are at high risk receiving naloxone and overdose prevention training?	<ul style="list-style-type: none"> Amount of naloxone dispensed by harm-reduction programs 	In 2016, community organizations targeting those at highest risk distributed 3,091 naloxone kits; in the first quarter of 2017, distributions totaled 437.
	Are inmates at risk of overdose receiving naloxone and overdose training upon release from the RIDOC?	<ul style="list-style-type: none"> Amount of naloxone dispensed from RIDOC 	In 2016, RIDOC distributed 246 naloxone kits. In the first quarter of 2017, RIDOC distributed 26.

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Acronyms

Acronym	Meaning
ACOS	AIDS Care Ocean State
Anchor MORE	Mobile Outreach Recovery Efforts
BHDDH	Behavioral Healthcare, Developmental Disabilities, and Hospitals
BMC	Boston Medical Center
CBO	Community-based organization
CDC	Centers for Disease Control and Prevention
COEs	Centers of Excellence
CPAN	Collaborative practice for naloxone
CPR	Cardiopulmonary resuscitation
CSR	Controlled Substance Registration
ED	Emergency department
EMS	Emergency Medical Service
EMT	Emergency medical technician
FDA	US Food and Drug Administration
GSL	Good Samaritan Law
GSOPA	<i>Good Samaritan Overdose Protection Act</i>
HIPAA	Health Insurance Portability and Accountability Act
HIV	Human Immunodeficiency Virus
HMO	Health maintenance organization
IMF	Illegally/Illicitly manufactured fentanyl
MME	Morphine milligram equivalents
NOPE-RI	Naloxone and Overdose Prevention Education Program of Rhode Island
OEND	Overdose Education and Naloxone Distribution
PDMP	Prescription Drug Monitoring Program
PONI	Preventing Overdose and Naloxone Intervention
RIDOC	Rhode Island Department of Corrections
RIDOH	Rhode Island Department of Health
RIGL	Rhode Island General Laws
RIPCA	Rhode Island Police Chiefs' Association
SO	Standing order
TPC	The Providence Center
YTD	Year-to-date

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