

Winter 1-25-2019

# Impact of Interactions Between First Responders and Opioid Drug Users

Rio Beardsley

*UVM Larner College of Medicine*

Pirapon Chaidarun

*UVM Larner College of Medicine*

Kalle Fjeld

*UVM Larner College of Medicine*

Benjamin Grebber

*UVM Larner College of Medicine*

Brian Muchmore

*UVM Larner College of Medicine*

*See next page for additional authors*

Follow this and additional works at: [https://scholarworks.uvm.edu/comphp\\_gallery](https://scholarworks.uvm.edu/comphp_gallery)

 Part of the [Community Health and Preventive Medicine Commons](#), and the [Health Services Research Commons](#)

## Recommended Citation

Beardsley, Rio; Chaidarun, Pirapon; Fjeld, Kalle; Grebber, Benjamin; Muchmore, Brian; Seyller, Ellen; Struck, Lauren; Tan, Heng; Jacobsen, Peter; and Larrabee, Jerry, "Impact of Interactions Between First Responders and Opioid Drug Users" (2019). *Public Health Projects, 2008-present*. 277.

[https://scholarworks.uvm.edu/comphp\\_gallery/277](https://scholarworks.uvm.edu/comphp_gallery/277)

This Book is brought to you for free and open access by the Public Health Projects, University of Vermont College of Medicine at ScholarWorks @ UVM. It has been accepted for inclusion in Public Health Projects, 2008-present by an authorized administrator of ScholarWorks @ UVM. For more information, please contact [donna.omalley@uvm.edu](mailto:donna.omalley@uvm.edu).

---

**Authors**

Rio Beardsley, Pirapon Chaidarun, Kalle Fjeld, Benjamin Grebber, Brian Muchmore, Ellen Seyller, Lauren Struck, Heng Tan, Peter Jacobsen, and Jerry Larrabee

# IMPACT OF INTERACTIONS BETWEEN FIRST RESPONDERS AND OPIOID DRUG USERS

## INTRODUCTION

In 2017, First Responders (EMS, Police, and Fire Department) in Vermont administered 848 doses of naloxone (Narcan®), an opioid antagonist that can block the effects of opioids in overdose. However, the rate of opioid-related fatalities has continued to rise from 74 in 2015 to 101 in 2017.

Vermont CARES, a nonprofit organization, helps address this issue by working “for and with Vermonters affected by HIV/AIDS to promote well-being through a continuum of prevention, support, and advocacy services.” Their syringe service programs throughout the state provide access to clean needles, overdose prevention education, and naloxone.

## AIMS

1. To better understand the perceived experience of opioid drug users (Vermont CARES clients) when interacting with First Responders following an overdose.
2. To explore how such interactions of a Vermont CARES client – essentially as positive or negative – affects the likelihood to request such help in the future.

## METHODS

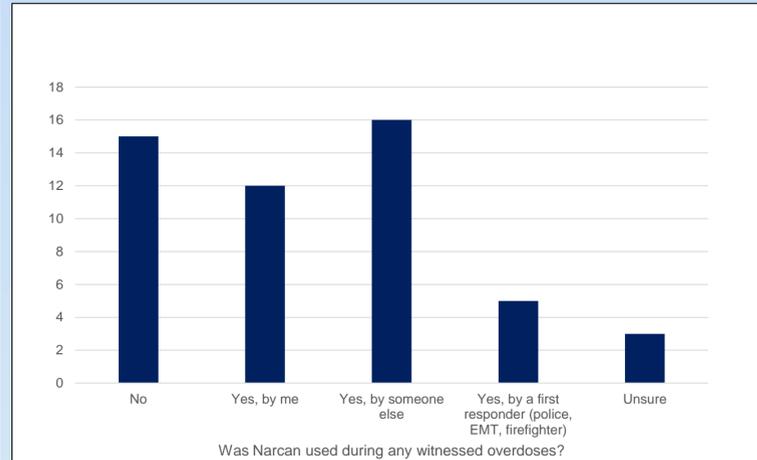
### Subjects & Data Collection

- Focus groups at the St. Johnsbury and Rutland sites - one subject (Rutland site) participated in a discussion regarding their experiences with overdose, naloxone, and first responders.
- Cross-sectional survey containing 18 categorical questions was distributed to three VT CARES sites: Barre, St. Johnsbury, and Rutland.

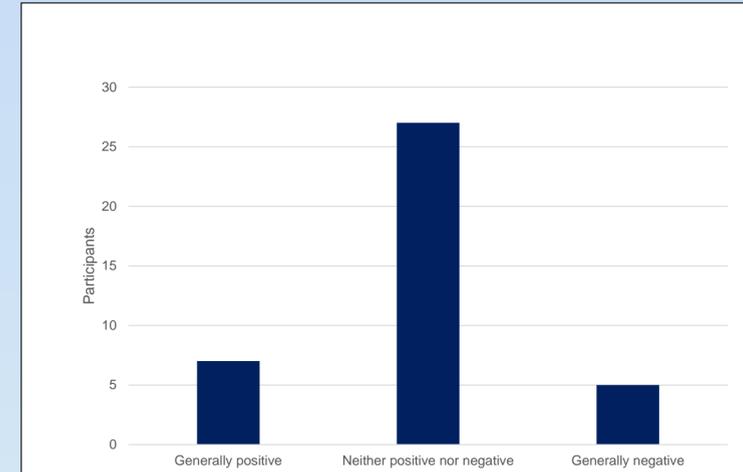
### Statistical Analysis

- Completed with the R programming language
- Spearman correlation of the responses
- Chi-square test of every response item against the response item: “If you are involved with an overdose in the future, how likely is it that you will call 911?”
- Due to low response numbers for some within-category responses ( $n < 5$ ), some of the final Chi-square p-values may be over- or under-inflated.

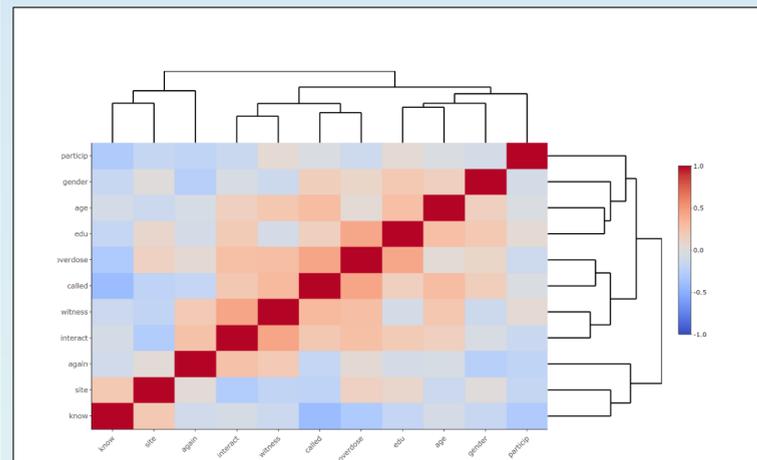
## RESULTS



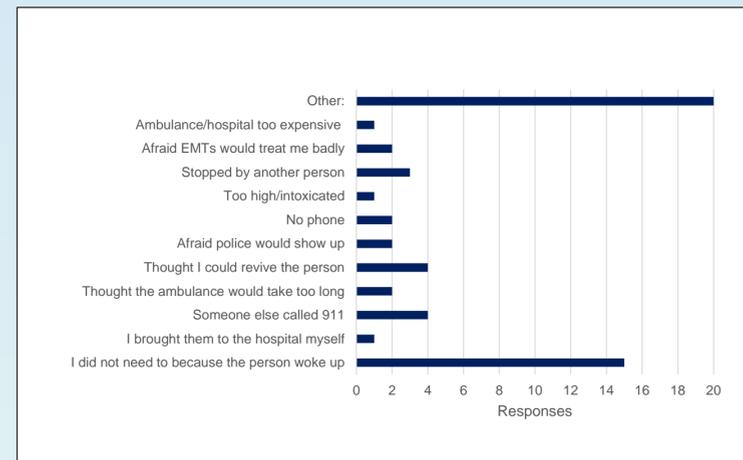
**Fig. 1.** Was Narcan used during any of these instances? Participant reported use of Narcan during a witnessed overdose. Multiple selections possible.  $\chi^2$  test=58.771,  $n=40$ ,  $p=0.002685$ .



**Fig. 2.** What was your interaction with first responders involved in an overdose like? Participant described interaction experience.  $\chi^2$  test=47.453,  $n=40$ ,  $p=3.89E-06$



**Fig. 3.** Spearman Correlation Plot including correlation to our aim - “If you are involved with an overdose in the future, how likely is it that you will call 911?”.



**Fig. 4.** If 911 was not called for an overdose, why not? Participant reported reason(s) for not calling 911. Multiple selections possible.

There was a statistically significant correlation ( $p < 0.05$ ) between the nature of the interaction and the likelihood of calling 911 again. 64% of the survey respondents who had a positive/neutral experience with First Responders stated that they would consider using 911 in the future, and the 23% who had a negative/neutral experience indicated they would NOT use 911 again. There was also a statistically

significant correlation ( $p < 0.05$ ) between history of Narcan use and likelihood of calling 911. 54% of respondents who had experienced the use of Narcan in an overdose indicated they would call 911 again, while only 12% with a history of Narcan use indicated they would NOT call 911 again. Overall, 74% of respondents indicated they might call 911 in the future.

## CONCLUSIONS

The goal of this survey was to gather evidence – beyond anecdotal – that the nature of the interaction between emergency responders and those who overdose or observe overdose would have an impact on future willingness to call 911. The results can be incorporated into Vermont CARES trainings for First Responders and possible opioid user education. The data demonstrates a strong association with statistical significance between the willingness to call 911 again and both the nature of the EMT interaction and prior Narcan use.

### Reasons for NOT calling 911:

We asked the question “Why did you choose NOT to call for help”, and while there were no statistical associations, the responses were instructive. Over half of the respondents indicated their reason as “other.” A few responses included: lack of a phone, fear of poor treatment by EMT, or fear of police involvement.

There was no evident association between age, gender, and race and the likelihood of calling 911 again.

## LIMITATIONS

The study consisted of a small sample size ( $n=61$ ) from three Syringe Service sites; the respondents comprised approximately 30% of Vermont CARES’ client base during the survey period.

Not all respondents completed surveys in their entirety, and so only 40 surveys were considered usable for analysis.

## REFERENCES

- Vermont Department of Health. (2018). Naloxone Distribution and Administration in Vermont – Data Brief, November 2018. Retrieved from [http://www.healthvermont.gov/sites/default/files/documents/pdf/ADAP\\_Naloxone\\_Data\\_Brief\\_0.pdf](http://www.healthvermont.gov/sites/default/files/documents/pdf/ADAP_Naloxone_Data_Brief_0.pdf)