

Pennsylvania Law Enforcement Use of Narcan

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Opioid-related drug overdose deaths continue to rise at an alarming rate and have reached the level of a national crisis [1,2]. Timely administration of naloxone (Narcan®) can reverse the respiratory depression characteristic of opioid overdoses. A series of state legislative changes have recently occurred enabling law enforcement to carry and administer naloxone [3,4]. Pennsylvania (PA), a state with one of the highest rates of death due to opioid overdose, enacted PA Act 139 in 2014, which allows first responders to administer naloxone to people with suspected overdoses and provides immunity to those responding to and reporting overdoses [1,2]. The Act also mandated an online training program – approved by the PA Department of Health - for police officers in PA [2].

The purpose of our study was to determine the extent and specifics of naloxone use by police officers 4 years after the implementation of PA Act 139. After obtaining IRB approval, data was collected using an online survey link, which was distributed via email to members of the statewide Fraternal Order of Police and the Chiefs of Police Association by an internal member of each organization. The online survey was intended for law enforcement officers that were currently working or had retired after September 30, 2014, the date when law enforcement agents became authorized to administer naloxone. The survey, administered via a commercial survey service, consisted of 16 questions and was available for approximately 5 months. A follow-up reminder email was sent by each participating organization approximately 1 month after the initial survey distribution.

A total of 980 survey responses were analyzed. The majority of responding officers were not retired (89.0%), work mostly in a suburban area (61.8%), in a local or county police department (94.5%), and have served >20 years (53.5%). In addition, the majority had access to naloxone (90.7%) and were usually first on-scene in response to a potential narcotic overdose dispatch (73.1%). Of those with and without access to naloxone, most were from a suburban location (58.5% and 38.3%, respectively) and considered their primary police department to be local/county (91.7% and 93.6%, respectively).

When looking at naloxone use across the type of primary law enforcement service, 47.3% of urban law enforcement officers, 52.8% of suburban law enforcement officers, and 35.5% of rural law enforcement officers reported having personally administered

naloxone. The majority of state police (92.3%) and local/county police (84.9%) reported administering naloxone 1–9 times (Fig. 1). When comparing the mean number of times naloxone was administered, results did not vary by type of primary police service, $p = .20$ (Table 1).

Law enforcement officers who had used naloxone reported positive outcomes after administering the medication. Three quarters (74.6%) of respondents reported utilizing naloxone in a patient in cardiac arrest and 80% of those patients had Return of Spontaneous Circulation (ROSC). Nearly three quarters of respondents (72.4%) reported never (54.1%) or only once (18.3%) needing to restrain a patient post-naloxone administration (Table 1, Fig. 2).

Our results are consistent with previous studies that have shown that training law enforcement to administer naloxone can lead to more favorable outcomes following an opioid overdose. Fisher et al. reported that trained officers administered naloxone 126 times from April 2014 to September 2015; 82.5% of patients were successfully resuscitated after police administration of naloxone [5]. Avetian et al. reported similarly positive results [6]. They sent a survey to first responders and community-based organizations and reported 261 intranasal administrations of 4 mg naloxone. Outcomes were reported in 245 of these cases, with 98.8% of them being successful [6]. Davis et al. reported on recent policy changes in Massachusetts where several communities have supplied EMTs, firefighters, and paramedics with naloxone [7]. Rando et al. reported a prospective study which demonstrated that supplying police first responders with naloxone decreased opioid overdose deaths; 78% of those receiving naloxone survived [8]. As of March 2018, 2300 law enforcement agencies in 42 states reported a naloxone rescue program involving law enforcement [9].

The passage of legislation enabling administration of naloxone by law enforcement in the Commonwealth of Pennsylvania has been associated with relatively common use and generally positive outcomes. The majority of police officers that responded had access to naloxone and almost half had personally administered the medication. The results of this study may inform new teaching initiatives and support increased law enforcement use of this agent.

Author contributions

All authors provided substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data. All authors gave final approval of the version of the article to be published.

Declaration of competing interest

None.

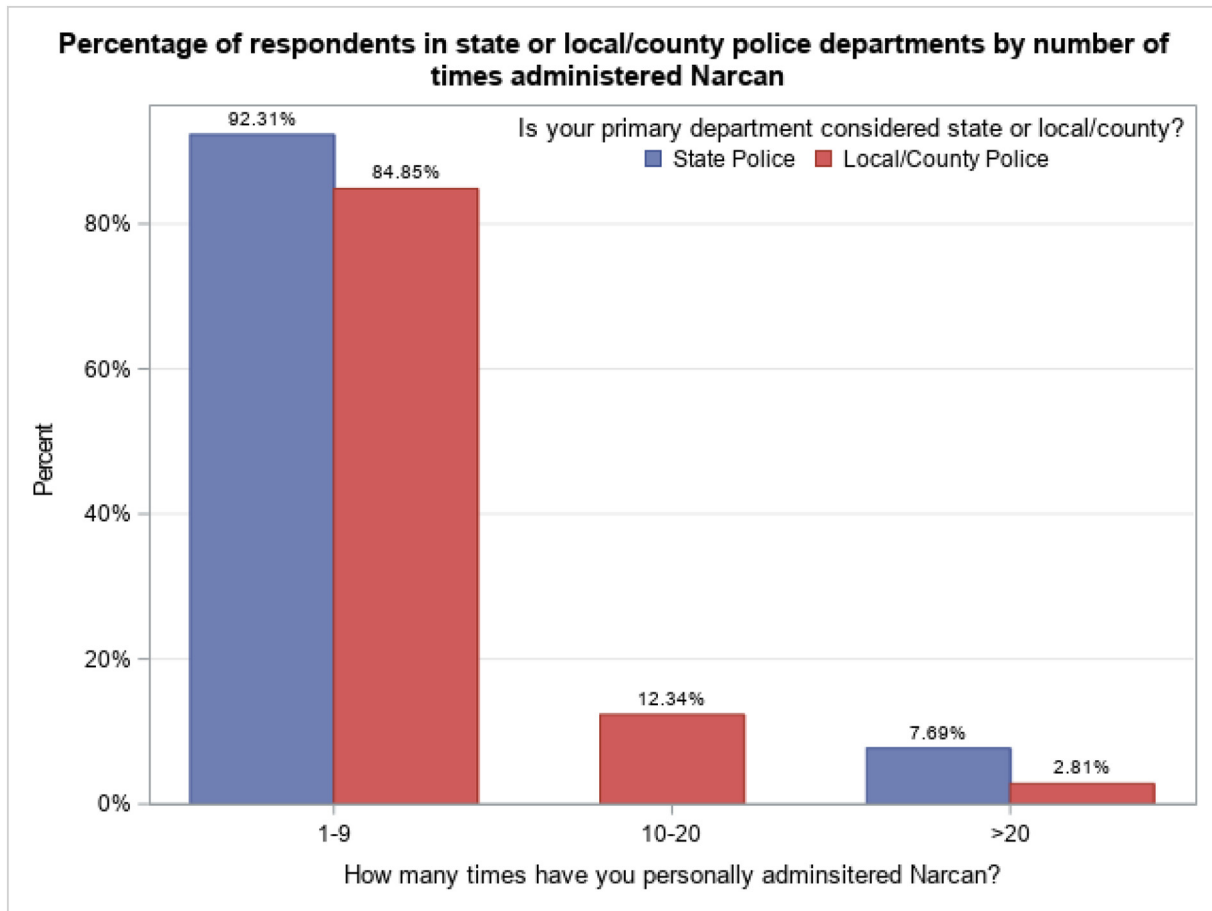


Fig. 1. Percentage of respondents in state or local/county police departments by number of times administered Narcan (collapsed categories).

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Table 1
 Associations between demographic variables and number of times administered Narcan (n = 475).

| | 1-9 (n = 404) | 10-20 (n = 57) | >20 (n = 14) | p-Value |
|---|------------------|-------------------|-----------------|---------------------|
| How many total years of service do you currently have? | | | | 0.0540 ^a |
| <1 | 2 (66.7) | 0 | 1 (33.3) | |
| 1-9 | 90 (79.0) | 21 (18.4) | 3 (2.6) | |
| 10-20 | 143 (85.6) | 20 (12.0) | 4 (2.4) | |
| >20 | 169 (88.5) | 16 (8.4) | 6 (3.2) | |
| Is your primary police department considered state or county/local? | | | | 0.1984 ^a |
| State police | 12 (92.3) | 0 | 1 (7.7) | |
| Local/County police | 392 (84.9) | 57 (12.3) | 13 (2.8) | |

Percentages might not add to 100% due to rounding.
^a Fisher's Exact test was used to calculate p-value.

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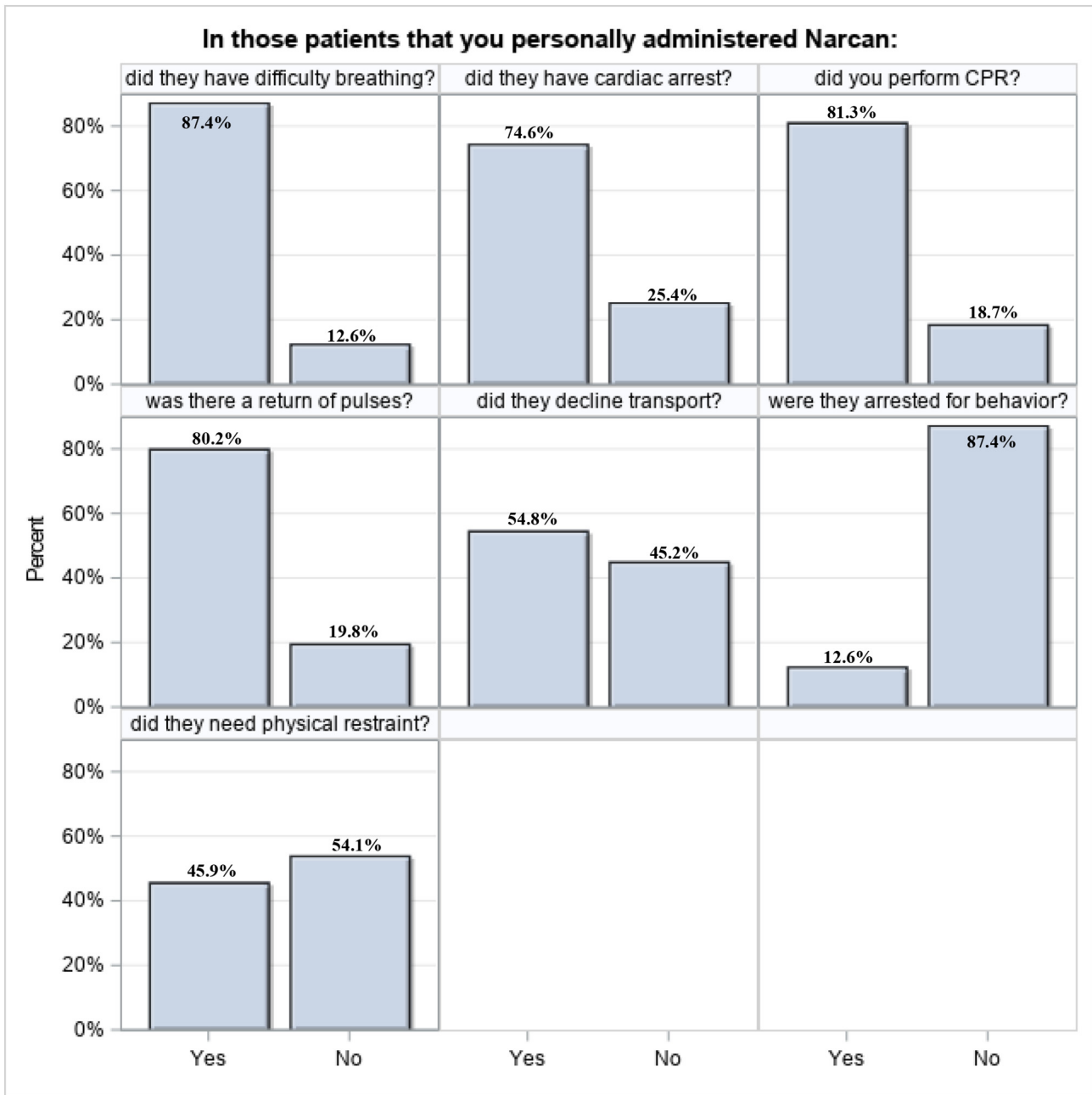


Fig. 2. Percentage of yes/no responses to each incident-specific question.

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