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Full length article

# Legal changes to increase access to naloxone for opioid overdose reversal in the United States

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### ABSTRACT

**Background:** Opioid overdose, which has reached epidemic levels in the United States, is reversible by administration of the medication naloxone. Naloxone requires a prescription but is not a controlled substance and has no abuse potential. In the last half-decade, the majority of states have modified their laws to increase layperson access to the medication.

**Methods:** We utilized a structured legal research protocol to systematically identify and review all statutes and regulations related to layperson naloxone access in the United States that had been adopted as of September, 2015. Each law discovered via this process was reviewed and coded by two trained legal researchers.

**Results:** As of September, 2015, 43 states and the District of Columbia have passed laws intended to increase layperson naloxone access. We categorized these laws into three domains: (1) laws intended to increase naloxone prescribing and distribution, (2) laws intended to increase pharmacy naloxone access, and (3) laws intended to encourage overdose witnesses to summon emergency responders. These laws vary greatly across states in such characteristics as the types of individuals who can receive a prescription for naloxone, whether laypeople can dispense the medication, and immunity provided to those who prescribe, dispense and administer naloxone or report an overdose emergency.

**Conclusions:** Most states have now passed laws intended to increase layperson access to naloxone. While these laws will likely reduce overdose morbidity and mortality, the cost of naloxone and its prescription status remain barriers to more widespread access.

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## 1. Introduction

### 1.1. The opioid overdose epidemic

Fatal poisonings, most of which are caused by drug overdose, have increased by nearly 600% in the past three decades and are now the leading cause of injury death in the United States (Warner et al., 2011). This rise was initially driven primarily by deaths attributable to opioid painkillers, which nearly quadrupled between 1999 and 2011 and reached over 16,000 in 2013 (Chen et al., 2014; Modarai et al., 2013; Okie, 2010). The country has also seen a dramatic surge in heroin-related deaths, which increased by nearly 400 percent between 2000 and 2013 to over 8,000 per year (Chen et al., 2015;

Hedegaard et al., 2015; Jones, 2013; Pollini et al., 2011; Rudd et al., 2014). The vast majority of opioid overdose deaths are preventable.

Opioid overdose occurs when opioids, either alone or in combination with other drugs, cause respiration to slow to the point that insufficient oxygen is available to the brain and other vital organs (Bouillon et al., 2003; Pattinson, 2008; White and Irvine, 1999). This condition, termed hypoxia, can cause irreversible cell death within minutes and can prove fatal if not treated (Michiels, 2004). Regardless of whether it is caused by heroin or prescription painkillers, opioid overdose can be reversed by administration of the medication naloxone (Chamberlain and Klein, 1994). Naloxone, which was first approved by the Food and Drug Administration (FDA) in 1971, is a prescription medication but not a controlled substance (Davis et al., 2013). It rapidly displaces opioids from the brain receptors to which they bind, reversing their effects and restoring normal respiration (Chamberlain and Klein, 1994; Lewanowitsch and Irvine, 2002). It is a pure opioid antagonist that produces no euphoric or analgesic effect and thus has no potential for abuse (Chamberlain and Klein, 1994).

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Naloxone is stocked by every medical facility that administers opioids, and is standard equipment on ambulances (Barton et al., 2002; Davis et al., 2014c). Currently, the FDA has approved it only for injection, but an off-label nasally administered version has seen extensive adoption by police officers, emergency medical responders, and laypeople with positive results (Ashton and Hassan, 2006; Davis et al., 2015a, 2014b; Doe-Simkins et al., 2009; Rando et al., 2015; Robertson et al., 2009; Wheeler et al., 2015). An auto-injector specifically labeled for use by laypeople (brand name Evzio) was approved in 2014, and two nasal administration devices are currently under review by the FDA (Enos, 2015; Food and Drug Administration, 2014).

### 1.2. Reducing opioid overdose morbidity and mortality by increasing access to naloxone

Equipping people who use opioids and the friends and family members of those at risk of opioid overdose with the tools to quickly reverse it can shorten the time to overdose rescue, reducing the probability of overdose death and limiting damage to the brain and other organs (Galea et al., 2006; Walley et al., 2013). Because people who use drugs (PWUD) and their friends and family members are often already “on the scene” of an overdose, experts have suggested equipping them with naloxone since at least the early 1990s, and programs that distribute naloxone to heroin users have operated in Germany, Italy, and the United Kingdom for nearly two decades (Coffin et al., 2003; Simini, 1998; Strang et al., 1996).

The first programs to dispense naloxone to PWUD in the United States were launched in Chicago in 1996 and San Francisco in 2001 (Bigg and Maxwell, 2002; Centers for Disease Control and Prevention, 2012; Seal et al., 2005). By the mid-2000s, community programs in a number of states had begun distributing naloxone and overdose rescue training to PWUD and the friends and family members of people at high risk of overdose (Clark et al., 2014; Doe-Simkins et al., 2009; Galea et al., 2006; Maxwell et al., 2006; Piper et al., 2008). As of 2014, over 150,000 laypeople had received training and naloxone rescue kits, with more than 26,000 overdose reversals reported (Wheeler et al., 2015). Many of these programs initially operated without clear legal authorization, significantly limiting their impact.

Recent evidence from Massachusetts found that communities with higher access to naloxone and overdose training had significantly lower opioid overdose death rates than those that did not (Walley et al., 2013). Access to naloxone does not appear to encourage risky behavior. Researchers examining the naloxone distribution program in Massachusetts found that “training active substance users in overdose management and distributing naloxone rescue kits does not lead opioid users to increase their overall opioid use” (Doe-Simkins et al., 2014). Studies also show that providing naloxone may save resources in addition to lives. In a 2013 analysis, researchers found that providing naloxone kits to heroin users was robustly cost-effective even under extremely conservative assumptions (Coffin and Sullivan, 2013). A separate examination noted that the cost of treating people who had overdosed in Rhode Island hospitals in 2008 could have paid for more than 61,000 naloxone kits at the then-current cost of \$15 each (Yokell et al., 2011).

Because naloxone is available only via prescription, it remains out of reach of many people, particularly those who are underserved by the health care system. This situation is made worse by a patchwork of laws and legal considerations. Although it is legal for clinicians to prescribe naloxone to their own patients at risk of overdose, some prescribers have refrained from doing so because of misconceptions about when it is appropriate to prescribe the medication and concerns that doing so might increase their risk of civil liability (Beletsky et al., 2007; Burris et al., 2009). Similarly, state

medical practice laws have traditionally prohibited the prescription of medication in the absence of a provider–patient relationship (Davis et al., 2013). Finally, people present at the scene of an overdose often report neglecting or waiting to call 911 because they fear being charged with a crime, particularly where they are using illegal drugs or using prescribed medication other than as prescribed (Enteen et al., 2010; Sherman et al., 2008; Tobin et al., 2005).

Taken together, these barriers often prevent naloxone from being available when and where it is needed. From 2010 to 2015, states have made great strides in changing law, regulation, and policy to increase access to naloxone for patients, first responders, community organizations, and laypeople. This article describes those changes, and offers suggestions for further modifications to improve access to this life-saving medication.

## 2. Material and methods

Using standard public health law research methods, we systematically collected, reviewed, and coded laws relevant to layperson naloxone access in the United States (Davis et al., 2014a; Harvey, 2013). First, we searched the Westlaw legal database for all statutes and regulations (hereafter referred to as “laws”) related to such access that had been signed or otherwise become law as of September 15, 2015. This database, which is commonly used by lawyers and legal researchers, contains the text of all state-level laws in the United States. Previous research has reported no differences between the laws available on Westlaw and LexisNexis, another popular legal database (Ibrahim et al., 2011). All laws in the 50 United States and the District of Columbia were searched for the terms “naloxone,” “opioid antagonist,” “opiate antagonist,” and “overdose.” Results were cross-referenced with a publicly available compendium of naloxone access laws that is maintained by the authors (Davis, 2015).

Relevant laws identified through this process were first downloaded for review. Each law was then examined for relevance to one or more of three domains: laws that increase access to naloxone among laypeople generally, laws that increase access to naloxone in the pharmacy setting, and laws that encourage laypeople to summon first responders in the event of an overdose. Within these domains, coding categories were created based on the authors’ previous research in this area of law as well as a review of the published literature regarding distinguishing characteristics of layperson naloxone access initiatives in the United States, with each category representing a characteristic of each state’s law (Bailey and Wermeling, 2014; Banta-Green et al., 2013; Clark et al., 2014; Davis et al., 2013; Green et al., 2015; Haegerich et al., 2014). The research team then collaboratively coded the presence or absence of each categorical characteristic for each state in each of the three domains.

## 3. Results

In 2001, New Mexico became the first state to modify its laws to increase layperson access to naloxone. While there was little movement in this area for nearly a decade, the years between 2010 and 2015 saw a dramatic increase in naloxone access legislative enactments. As of 2010, only four states had amended their laws to improve naloxone access. By September 15, 2015, all but seven states (AZ, IA, KS, MO, MT, SD, WY) had passed legislation designed to improve layperson naloxone access, with most both making it easier for people who might be in a position to assist in an overdose to access the medication and encouraging those individuals to summon emergency responders. The characteristics of these laws vary greatly between states (throughout this section, “states” refers to the 50 United States as well as the District of Columbia).

### 3.1. Naloxone access laws

Laws regulating the practice of medicine typically permit a prescriber to order medication only for a person with whom he or she has a legitimate professional–patient relationship (Davis, 2015). In general, such a relationship exists only where the prescriber or a person acting under the prescriber's authority has examined, diagnosed, or treated the person to whom the prescription is to be issued (Blake, 2012).

States and medical societies have long recognized that while this rule generally furthers patient health and safety, in some cases it can impede access to necessary medications. Perhaps the most well-known example of this recognition is expedited partner therapy (EPT), in which medications to treat sexually transmitted infections (STI) such as chlamydia and gonorrhea are prescribed to one individual with the explicit knowledge they will also be administered to that person's sex partner or partners (Hogben et al., 2005). In such cases, treating only the patient the prescriber sees is likely insufficient, as the chance of reinfection is high unless the infected partner is treated as well (American College of Obstetricians and Gynecologists, 2015). In recognition of this fact, at least 35 states have adopted laws that permit clinicians to prescribe appropriate medication to the partner or partners of a patient who has been diagnosed with certain STIs, even if the prescriber has no professional relationship with those individuals (Kissinger, 2014). EPT is formally supported by the Centers for Disease Control and Prevention (CDC) and the American College of Obstetricians and Gynecologists (American College of Obstetricians and Gynecologists, 2015; Kissinger, 2014), and research shows that physicians are much more likely to engage in EPT in states in which it is explicitly permitted (Cramer et al., 2013).

Many of the legal changes to increase access to naloxone utilize a similar model, albeit at a broader scale. These laws have several key components. The most widespread changes permit individuals otherwise authorized to prescribe naloxone to prescribe the medication not only to their own patients, but also to family members, caregivers, and others who are likely to be in a position to assist in the event of an overdose, a practice termed third party prescribing (Davis et al., 2013). Many states also permit naloxone to be prescribed via a standing order, in which a prescriber issues a prescription for naloxone to be provided to any person who meets certain criteria, as opposed to a named individual. Nearly all of these laws provide limited immunity to medical professionals who prescribe naloxone and lay people who administer it in a suspected overdose. Some explicitly permit naloxone dispensing by non-medical professionals, further increasing access. For a detailed list of the practices permitted in each state, please see Table 1.

**3.1.1. Third party prescribing.** Recognizing that the person who is at risk of overdose often does not present to a clinician or does not make the clinician aware of his or her overdose risk, the majority of state legislatures have taken action to permit third party prescribing. These laws waive the general requirement that the prescriber and the person for whom the medication is intended (the patient at risk of overdose) establish the traditional professional–patient relationship, permitting naloxone to be prescribed to a patient for use on other individuals such as the patient's friends, family members, and acquaintances. As of September, 2015, 38 states permit third party prescription of naloxone (Table 1).

**3.1.2. Standing orders for naloxone distribution.** Standing medication orders, in which a physician or other prescriber authorizes the provision of medication to a person who meets predetermined criteria, are common in medical practice. Perhaps the most widespread use of these orders is in the emergency medical system (EMS), whereby an agency medical director or similarly situated

individual creates medication protocols to be followed by EMS personnel (Davis et al., 2014c). Their use has also become widespread in the area of vaccination, where they are used to permit pharmacists or other providers to administer vaccinations for some common diseases without the recipient receiving an individual prescription for the vaccine (Lin et al., 2013). Vaccination standing order programs have been shown to increase uptake of vaccination against several diseases, and have proven highly cost-effective (Bardenheier et al., 2010; Lin et al., 2013; Middleton et al., 2008).

The majority of states have authorized the use of standing orders for naloxone administration and dispensing. In these states, a person otherwise authorized to prescribe naloxone can issue a prescription order for naloxone to be dispensed to any person who meets criteria specified by the prescriber. While these standing medication orders can be filled at pharmacies like any other prescription, a growing number of state laws explicitly permit laypersons to dispense the medication pursuant to the order as well. This important component may encourage naloxone distribution through community-based organizations, drug treatment centers, and similar outlets that may be more likely to reach out-of-care individuals at high risk of overdose. As of September 2015, 29 states permit standing orders for naloxone. In 12 states, the law explicitly permits the prescriber to authorize persons not otherwise permitted to dispense medications to distribute naloxone, either independently or in accordance with the standing order, and in an additional eight states this authority is implied by the text of the law (Table 1).

**3.1.3. Expanded access through pharmacies.** Although harm reduction organizations pioneered naloxone programs and continue to distribute the lion's share of naloxone, pharmacies are an increasingly important venue for naloxone access (Green et al., 2015). Pharmacists are highly trusted health professionals, and are often more accessible than physicians and other clinical providers (Simone, 2013). The National Association of Boards of Pharmacy actively promotes the role of pharmacists in naloxone provision, noting that it "recognizes the value of pharmacists in assuring optimal medication therapy and promotes the pharmacist's role in delivering opioid overdose reversal therapy" (National Association of Boards of Pharmacy, 2014). Many of the previously noted innovations expand access to naloxone through pharmacies as well as other venues. Indeed, 38 states now have at least one law that permits, at least under some circumstances, a person coming in "off the street" without a prescription to obtain naloxone at a pharmacy (Table 2).

These laws take a number of forms. First, the standing order laws referenced above generally permit a pharmacist to dispense naloxone to any person authorized to receive it via the standing order. Several additional innovations permit increased pharmacy access as well. Most notably, in four states (CT, ID, ND, and NM), the law permits some or all pharmacists to prescribe naloxone on their own authority, as opposed to dispensing naloxone pursuant to the authority of another medical professional. Some pharmacists practicing in federal agencies such as the Indian Health Service and Veterans Administration are also granted prescribing authority (Clause et al., 2001; Department of Health and Human Services, 1996). In jurisdictions where the pharmacist is the prescriber, he or she is generally bound by the same requirements that apply to physicians and other prescribers. Additionally, six states (CA, IL, NV, OH, OR, and VT) permit pharmacists to dispense naloxone under a statewide protocol issued by one or more professional boards. In eleven states, pharmacists may enter into a collaborative practice agreement with a physician or other prescriber to dispense naloxone to individuals who meet certain criteria, whether or not that individual has an existing relationship with the physician or pharmacist.

**Table 1**  
Provisions of naloxone access laws in the United States, September 2015.

State	Immunity provided to naloxone prescribers				Immunity provided to naloxone dispensers			Immunity for naloxone administration		Distribution and possession of naloxone by laypeople		Prescribing methods authorized	
	Has law	Civil	Criminal	Disciplinary	Civil	Criminal	Disciplinary	Civil	Criminal	Lay distribution	Poss. w/o Rx	3rd Party	Standing order
AL	Yes	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	–	Yes	Yes
AK	–	–	–	–	–	–	–	–	–	–	–	–	–
AZ	–	–	–	–	–	–	–	–	–	–	–	–	–
AR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	–	Yes	Yes
CA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes	Yes
CO	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes	Yes
CT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes	–
DC	Yes	–	–	–	–	–	–	Yes	Yes	–	Yes	–	–
DE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	Yes
FL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	Yes	–
GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	–	Yes	Yes*
HI	–	–	–	–	–	–	–	–	–	–	–	–	–
IA	–	–	–	–	–	–	–	–	–	–	–	–	–
ID	Yes	Yes	Yes	Yes	–	–	–	Yes	Yes	Yes*	Yes	Yes	–
IL	Yes	–	Yes	Yes	–	Yes	Yes	Yes	Yes	–	–	Yes	Yes
IN	Yes	Yes	–	–	Yes	–	–	Yes	–	Yes*	–	Yes	Yes
KS	–	–	–	–	–	–	–	–	–	–	–	–	–
KY	Yes	–	–	Yes	–	–	Yes	Yes	Yes	–	–	Yes	Yes
LA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes	Yes
MA	Yes	–	–	–	–	–	–	–	Yes	–	Yes	Yes	–
MD	Yes	Yes	–	Yes	Yes	–	Yes	Yes	Yes*	Yes	Yes*	Yes	Yes
ME	Yes	–	–	–	–	–	–	–	–	Yes	–	Yes	Yes
MI	Yes	Yes	–	–	Yes	–	–	Yes	–	Yes	Yes	Yes	–
MN	Yes	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	–	–	Yes
MO	–	–	–	–	–	–	–	–	–	–	–	–	–
MS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes	Yes
MT	–	–	–	–	–	–	–	–	–	–	–	–	–
NC	Yes	Yes	Yes	–	–	–	–	Yes	Yes	–	–	Yes	Yes
ND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes	Yes
NE	Yes	–	Yes	Yes	–	Yes	Yes	–	Yes	–	–	Yes	–
NH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes
NJ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes	Yes
NM	Yes	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	–	Yes*	–
NV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NY	Yes	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	Yes
OH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	–
OK	Yes	–	–	–	–	–	–	–	–	–	–	Yes	Yes*
OR	Yes	–	–	–	–	–	–	Yes	–	Yes	–	Yes	–
PA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes
RI	Yes	–	–	Yes	–	–	Yes	–	–	Yes*	Yes	Yes	Yes
SC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes	–
SD	–	–	–	–	–	–	–	–	–	–	–	–	–
TN	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	–	–	Yes	Yes
TX	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	Yes	–
VA	Yes	Yes	–	–	Yes	–	–	Yes	Yes*	–	Yes*	–	Yes
VT	Yes	Yes	Yes	–	Yes	Yes	–	Yes	Yes	Yes*	Yes*	Yes	Yes
WA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes*	Yes	Yes
WI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
WV	Yes	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–
WY	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	42	32	29	27	30	27	26	36	30, 2*	12, 8*	13, 4*	37, 1*	27, 2*

\* Implied by statutory text.

In seven states, pharmacists are required to receive training or education before dispensing naloxone to a patient who does not have a patient-specific prescription. In fifteen states, a patient who does not have a personal prescription for naloxone is required to receive training or education before the medication can be dispensed. Depending on the type and length of training required, it is possible that these requirements may act as a barrier to pharmacy naloxone access. For a complete list of pharmacy access provisions, see Table 2.

**3.1.4. Immunity provisions for prescribers, dispensers, and administrators.** In states that have not modified law to encourage naloxone access, a naloxone prescription issued in the normal course of

professional practice carries liability risk no different than any other medication (Burris et al., 2009). In fact, a recent review of nationwide cases did not discover any instances in which the outpatient prescription of naloxone has resulted in legal action against the prescriber or dispenser (Davis et al., 2015b). Nevertheless, fear of legal consequences can cause some clinicians to be wary of prescribing and dispensing the medication (Beletsky et al., 2007). To address this concern, a majority of states have modified state law to provide limited civil immunity to prescribers, dispensers, and administrators of naloxone. As of September 2015, 32 states provide civil immunity to prescribers, 30 to dispensers, and 36 to lay administrators. While these provisions vary, most require that the medical professional or lay administrator

**Table 2**  
Pharmacy naloxone access provisions in the United States, September 2015.

State	Dispensing methods authorized					Immunity provided to pharmacist			Training, certification, and/or education required	
	"Off the street" pharmacy access	Prescriptive authority	Statewide protocol	CPA or similar	Standing order	Civil	Criminal	Disciplinary	Pharmacist	Patient
AL	Yes	–	–	–	Yes	Yes	Yes	–	–	–
AK	Yes	–	–	Yes <sup>#</sup>	–	–	–	–	–	–
AZ	–	–	–	–	–	–	–	–	–	–
AR	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
CA	Yes	–	Yes	–	Yes	Yes	Yes	Yes	Yes	Yes
CO	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
CT	Yes	Yes	–	–	–	Yes	Yes	Yes	Yes	Yes
DC	–	–	–	–	–	–	–	–	–	–
DE	Yes	–	–	–	Yes	–	–	–	–	Yes
FL	–	–	–	–	–	Yes	–	–	–	–
GA	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
HI	–	–	–	–	–	–	–	–	–	–
IA	–	–	–	–	–	–	–	–	–	–
ID	Yes	Yes	–	Yes <sup>#</sup>	–	Yes	Yes	Yes	–	–
IL	Yes	–	Yes	–	Yes	Yes	Yes	Yes	Yes <sup>&amp;</sup>	–
IN	Yes	–	–	–	Yes	Yes	–	–	–	–
KS	–	–	–	–	–	–	–	–	–	–
KY	Yes	–	–	Yes	Yes	–	–	Yes	Yes	Yes
LA	Yes	–	–	–	Yes	Yes	Yes	Yes	–	Yes <sup>5</sup>
MA	Yes	–	–	–	Yes	–	–	–	Yes	–
MD	Yes	–	–	Yes	Yes	Yes	–	–	–	Yes <sup>5</sup>
ME	Yes	–	–	–	Yes	–	–	–	–	–
MI	–	–	–	–	–	Yes	–	–	–	–
MN	Yes	–	–	Yes	Yes	–	–	–	–	–
MO	–	–	–	–	–	–	–	–	–	–
MS	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
MT	Yes	–	–	Yes <sup>#</sup>	–	–	–	–	–	–
NC	Yes	–	–	–	Yes	Yes	Yes	–	–	–
ND	Yes	Yes	–	–	Yes	Yes	Yes	Yes	–	Yes
NE	–	–	–	–	–	–	Yes	Yes	–	–
NH	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
NJ	Yes	–	–	–	Yes	Yes	Yes	Yes	–	Yes
NM	Yes	Yes	–	–	–	Yes	Yes	–	Yes	Yes
NV	Yes	–	Yes	–	Yes	Yes	Yes	Yes	Yes	Yes
NY	Yes	–	–	–	Yes	–	–	–	–	–
OH	Yes	–	Yes	Yes	–	Yes	Yes	Yes	–	Yes
OK	Yes	–	–	–	Yes <sup>*</sup>	–	–	–	–	–
OR	Yes	–	Yes	–	–	–	–	–	–	Yes
PA	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
RI	Yes	–	–	–	Yes	–	–	Yes	–	Yes
SC	–	–	–	–	–	Yes	Yes	Yes	–	–
SD	Yes	–	–	Yes <sup>#</sup>	–	–	–	–	–	–
TN	Yes	–	–	Yes <sup>#</sup>	Yes	Yes	–	Yes	–	–
TX	Yes	–	–	–	Yes	Yes	Yes	Yes	–	–
UT	–	–	–	–	–	Yes	–	–	–	–
VA	Yes	–	–	–	Yes	Yes	–	–	–	Yes
VT	Yes	–	Yes	–	Yes	Yes	Yes	–	–	Yes
WA	Yes	–	–	Yes	Yes	Yes	Yes	Yes	–	Yes
WI	Yes	–	–	Yes <sup>#</sup>	Yes	Yes	Yes	Yes	–	–
WV	–	–	–	–	–	–	–	–	–	–
WY	–	–	–	–	–	–	–	–	–	–
Total	38	4	6	11	29, 1 <sup>*</sup>	30	24	23	7	16

\* Implied by statute and/or regulation.

# General CPA authorization allowing non-patient specific medication initiation.

^ Immunity is provided under standing orders, but not statewide protocol.

& Immunity is provided under standing orders and statewide protocol, but not traditional prescriptions, and only when the pharmacist acts "without fee or compensation in any way."

<sup>5</sup> Training is only required for third party prescribing or dispensing.

% Training is not required when a licensed health care provider prescribes naloxone to his or her own patient.

does not act with gross negligence or reckless indifference to harm.

There are no criminal liability risks associated with the prescription, dispensing, or administration of naloxone in accordance with state law, but to address the concerns of some practitioners most of these laws also provide immunity from criminal sanction. Such protection is provided to prescribers in 29 states, to dispensers in 27 states, and to lay administrators in 30 states. In an additional

two states, the law does not explicitly provide criminal immunity to administrators, but a reasonable interpretation of the law implies such protection. Further, 13 states have modified law to make clear that possessing naloxone without a prescription is not a criminal offense, and the law in another four states implies such protection. Many laws also preclude state licensing or regulatory board agencies from pursuing disciplinary actions against prescribers and dispensers for engaging in actions permitted by law ("noted under

the column “Disciplinary). Because of these immunity provisions, the prescribing, dispensing, and administration of naloxone in most states carries lower legal risk than the same actions taken with any other prescription medication (Tables 1 and 2).

### 3.2. Good Samaritan laws

Despite these efforts to increase layperson naloxone access, it is often still not immediately available at opioid overdoses. However, people who witness an overdose often hesitate to call 911 because they fear that they will be arrested and charged with a crime (Enteen et al., 2010; Sherman et al., 2008; Tobin et al., 2005). Although drug law and policy in the United States continues to be driven primarily by inertia and morality rather than public health and medical evidence, many states are beginning to consider the public health implications of the “War on Drugs” and take some steps to reduce them (Burris and Burrows, 2009; Burris and Koester, 2013; Davis et al., 2015c; de Saxe Zerden et al., 2015). In conformity with this slow shift, the majority of states have now modified law to equip first responders with naloxone and to encourage people who witness overdose to summon those responders.

New Mexico was also the leader in this area, acting in 2007 to provide limited criminal immunity to people who call for help in the event of overdose. As of September, 2015, 35 states have passed similar laws to encourage bystanders to summon emergency assistance, typically referred to as medical amnesty or Good Samaritan laws (Table 3). As with laws expanding naloxone access to laypeople, these measures vary significantly between states. While most provide a person who summons emergency responders in good faith protection from prosecution for minor drug possession, nearly half (16) also protect the caller from being arrested for those crimes. Twenty-two states also provide protection from prosecution for paraphernalia possession, with 13 providing protection from arrest for that crime. Nearly all of these laws extend the protection to the victim as well as the caller.

More recently passed laws tend to provide more comprehensive protections. As of September, 2015, 16 Good Samaritan laws provide some or all of the above-noted immunities as well as protection from probation or parole violations, while six provide protection from other drug-related crimes. Uniquely, Vermont provides protection from all controlled substance violations. The law in 17 states permits the Good Samaritan to use the fact that he or she summoned emergency aid as a mitigating factor at trial or sentencing for crimes for which immunity is not provided, and four provide protection from civil forfeiture.

## 4. Discussion

The past half-decade has seen rapid uptake of laws to increase access to naloxone and related lifesaving care and treatment. These laws have been passed in states large and small, and at all points on the political spectrum. While these changes are welcome and are likely reducing overdose-related morbidity and mortality compared to that which would exist in the absence of such laws, there is much more all levels of government can do to ensure that naloxone is readily available to those likely to be in a position to use it to respond to opioid overdose emergencies.

### 4.1. Gaps and recommendations

At the federal level, coordinated action across agencies is necessary to address two key barriers to widespread access to naloxone: the medication’s cost and its prescription status. As has been widely reported, the cost of naloxone has increased drastically in the past several years, to the point that it is now unaffordable to many community-based and governmental organizations, as well as to

individuals who do not have insurance that covers the medication (Gliha, 2015; Goodman, 2014).

There are many actions that can be taken at the federal level to address this barrier. First, the Centers for Medicare and Medicaid Services should ensure that both Medicare and Medicaid cover the medication, as well as any necessary training and delivery devices, without prior authorization or other roadblocks. Likewise, the Department of Health and Human Services should ramp-up existing grant programs that provide funding for naloxone purchase and training for underserved communities. The National Institute on Drug Abuse has provided millions of dollars of taxpayer funds to private companies for the development of a nasal naloxone delivery device (Businesswire, 2013; PR Newswire, 2015). While such public/private collaborations are promising, there is no indication that any device developed through this mechanism will be priced at a level that uninsured and underinsured individuals, community organizations, and governmental agencies can afford. Any future funding through this or similar programs should be conditioned on ensuring that the end product is financially accessible to those individuals and organizations.

Finally, Congress can and should require that private health insurance plans cover naloxone at little or no cost to the recipient—both when the prescription is for the insured patient and, in states that permit third party prescriptions, when it is issued to that patient for possible use on another individual. Precedent exists for Congress to take such action, as with the Affordable Care Act’s mandate that most insurers provide coverage for prescription contraceptives at no cost to the patient (Fogel et al., 2015). States could likewise require that private insurance plans cover naloxone, as Illinois has done for all accident and health insurance plans that provide prescription drug coverage (Illinois Code, 2015). Moreover, if an over-the-counter (OTC) version of naloxone becomes available, the federal government should ensure that it remains financially accessible by requiring that private insurance plans continue to cover it on the same basis as prescription medications. Congress could also permit individuals to use tax-preferred funds from Health Savings Accounts to purchase naloxone, as is currently permitted when a person obtains a prescription for an OTC medication or for insulin (Internal Revenue Service, 2010; United States Code, 2015a).

Naloxone’s status as a prescription medication is an overwhelming barrier to increased access. In fact, many of the naloxone access laws discussed in this paper are attempts by states to make the medication available to the recipient with the same or nearly the same ease as an OTC medication. While there are several avenues for the FDA to move some or all naloxone formulations to OTC status, all require a significant investment of time, capital, or both (Leonard-Segal, 2012). Congress can take action to reduce this barrier by dedicating funding for governmental or private actors to create the necessary data for FDA to approve a switch to OTC via the existing regulatory process, and to direct FDA to prioritize such a determination. In the meantime, the Substance Abuse and Mental Health Services Administration (SAMHSA), CDC, and other agencies should implement structured research programs to determine the effectiveness of state actions to increase access to naloxone, quickly disseminate the results, and use them to guide future funding decisions.

Finally, Congress can encourage widespread public access to naloxone by providing civil immunity for individuals who administer naloxone to supplement the immunity that is found in state laws, and to cover individuals in states that do not provide such immunity. This action can be taken by modifying an existing federal law that provides such immunity to individuals who utilize an automated external defibrillator (AED) during a medical emergency (United States Code, 2015b).

**Table 3**  
Provisions of overdose Good Samaritan laws in the United States, September 2015.

State	Immunity for controlled substance possession				Immunity for paraphernalia possession			Immunity for other violations			Other protections provided by law	
	Has law	Arrest	Charge	Prosecution	Arrest	Charge	Prosecution	Protective or restraining order	Pretrial, probation, or parole conditions	Other crimes	Reporting mitigating factor	Civil forfeiture
AL	Yes	–	–	Yes	–	–	Yes	–	–	–	–	–
AK	Yes	–	–	Yes	N/A	N/A	N/A	–	–	–	Yes	–
AZ	–	–	–	–	–	–	–	–	–	–	–	–
AR	Yes	Yes	Yes	Yes	–	–	–	Yes	Yes	–	–	–
CA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–
CO	Yes	–	–	Yes	–	–	Yes	–	–	–	–	–
CT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–
DC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	–	Yes	–
DE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes	–	–
FL	Yes	–	Yes	Yes	–	–	–	–	–	–	Yes	–
GA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–
HI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes
ID	–	–	–	–	–	–	–	–	–	–	–	–
IL	Yes	–	Yes	Yes	–	–	–	–	–	–	Yes	–
IN	Yes	–	–	–	–	–	–	–	–	–	Yes	–
IA	–	–	–	–	–	–	–	–	–	–	–	–
KS	–	–	–	–	–	–	–	–	–	–	–	–
KY	Yes	–	Yes	Yes	–	Yes	Yes	–	–	–	–	–
LA	Yes	–	Yes	Yes	–	–	–	–	–	–	–	–
MA	Yes	–	Yes	Yes	–	–	–	–	–	–	Yes	–
MD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	–	Yes	–
ME	–	–	–	–	–	–	–	–	–	–	–	–
MI	–	–	–	–	–	–	–	–	–	–	–	–
MN	Yes	–	Yes	Yes	–	Yes	Yes	–	Yes	Yes	Yes	–
MO	–	–	–	–	–	–	–	–	–	–	–	–
MS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	Yes
MT	–	–	–	–	–	–	–	–	–	–	–	–
NC	Yes	–	–	Yes	–	–	Yes	–	Yes	–	–	–
ND	Yes	–	–	Yes	–	–	Yes	–	–	–	–	–
NE	–	–	–	–	–	–	–	–	–	–	–	–
NH	Yes	Yes	–	Yes	–	–	–	–	–	–	–	–
NJ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes	–	–
NM	Yes	–	Yes	Yes	–	–	–	–	–	–	Yes	–
NV	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	Yes	Yes
NY	Yes	Yes	Yes	Yes	–	Yes	Yes	–	–	Yes**	Yes	–
OH	–	–	–	–	–	–	–	–	–	–	–	–
OK	–	–	–	–	–	–	–	–	–	–	–	–
OR	Yes	Yes	–	Yes	Yes	–	Yes	–	Yes	–	–	–
PA	Yes	–	Yes	Yes	–	Yes	Yes	–	Yes	Yes	–	–
RI	–	–	–	–	–	–	–	–	–	–	–	–
SC	–	–	–	–	–	–	–	–	–	–	–	–
SD	–	–	–	–	–	–	–	–	–	–	–	–
TN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–
TX	–	–	–	–	–	–	–	–	–	–	–	–
UT	Yes	–	–	Yes**	–	–	Yes**	–	–	–	Yes	–
VA	Yes	–	–	Yes**	–	–	Yes**	–	–	–	–	–
VT	Yes	Yes	–	Yes	Yes	–	Yes	Yes	Yes	Yes	Yes	Yes
WA	Yes	–	Yes	Yes	–	–	–	–	–	–	Yes	–
WI	Yes	–	–	Yes	–	–	Yes	–	–	–	–	–
WV	Yes	–	Yes*	Yes*	–	–	–	–	Yes	–	Yes	–
WY	–	–	–	–	–	–	–	–	–	–	–	–
Total	35	16	22, 1*	31, 1*, 2**	13	15	22, 2**	7	16	6, 1**	17	4

\* Implied by statutory text.

\*\* Affirmative defense only.

At the state level, those that have not passed laws increasing layperson access to naloxone should make doing so a priority. Those that have should ensure that the provisions of their laws are having the desired effect. In many cases, this may require not only permitting naloxone to be accessed in pharmacies without a patient-specific prescription, but also providing it at places such as drug treatment programs and health clinics and ensuring that groups working with high-risk people are authorized and empowered to provide the medication. State professional societies should ensure that their members are aware of the contours of these laws, and should encourage their members to make naloxone

provision where indicated a normal part of their clinical routine, including prescribing the medication to all patients at risk of overdose. Where state agencies have responsibility for creating regulations to carry out naloxone access statutes or enforcing existing regulations that affect naloxone access, they should ensure that those regulations are developed and implemented in a manner consistent with the legislative intent of reducing unnecessary barriers to naloxone access. Finally, it is imperative that states modify existing laws based on research results and feedback from affected groups, including medical professionals, PWUD, and governmental and non-profit organizations.

Likewise, states that have not passed overdose Good Samaritan laws should do so. Research should be conducted with PWUD to determine the legal barriers that might cause them not to seek help in an emergency, and states should ensure that laws effectively address those barriers. It is also imperative that states either allocate sufficient funds to ensure that PWUD, first responders, prosecutors, and the public are aware of these laws or partner with other entities to ensure that this training occurs. A review of Washington's Good Samaritan law found that only one third of opiate users accessing syringe exchanges, 16% of police officers and 7% of paramedics surveyed were aware that the law had been passed (Banta-Green et al., 2013). Since these laws will have no effect if the people whose behavior they are intended to modify do not know of their existence, these findings suggest that education regarding these laws should be a priority. Only one state law (IL) examined in this study mandates such an educational program.

Finally, states and localities should consider whether equipping firefighters, law enforcement officers, and other non-EMS governmental employees in their jurisdictions with the medication might decrease time to naloxone administration (Davis et al., 2015b, 2014b). Although such efforts should not come at the expense of layperson naloxone initiatives, they may be a helpful adjunct to those efforts. Training groups such as police officers and parole agents on the use of naloxone may also be an opportune time to provide education to those groups regarding the importance of following the intent of overdose Good Samaritan laws, the nature of addiction as a disease, and other interventions aimed at reducing harm to people who use drugs such as sterile syringe access programs (Davis and Beletsky, 2009; Silverman et al., 2012).

## 5. Conclusion

Opioid overdose is a medical emergency. Naloxone has been used for decades to reverse it and restore normal respiration. Over the past 15 to 20 years, community groups and, later, medical professionals and governmental organizations have worked to increase community access to the medication, helping ensure that naloxone is available when and where it is needed to reverse potentially fatal opioid overdoses. Nearly all states have now passed at least one law to increase access to naloxone. Education to ensure that the relevant parties know about these laws, research to determine best practices, and funding for implementation are all urgently needed.

Naloxone access is not a magic bullet. The initiatives outlined above must be undertaken in the context of a broad, nationwide effort to reduce inappropriate opioid prescribing, increase access to evidence-based treatment, and modify punitive, counterproductive criminal justice approaches to addiction. Naloxone is the low-hanging fruit of overdose prevention, capable of saving innumerable lives at a relatively low cost. It is imperative that states and the federal government work quickly to make it available to all who may need it.

## Conflict of interest

None.

## Contributors

C. Davis originated the concept of the article, supervised and conducted research, and led the writing. D. Carr conducted research, created tables, and contributed to the writing. All authors reviewed and approved the submitted manuscript.

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## References

- American College of Obstetricians and Gynecologists, 2015. [Committee opinion no 632: expedited partner therapy in the management of gonorrhea and chlamydia infection](#). *Obstet. Gynecol.* 125, 1526–1528.
- Ashton, H., Hassan, Z., 2006. [Best evidence topic report. Intranasal naloxone in suspected opioid overdose](#). *Emerg. Med. J.* 23, 221–223.
- Bailey, A.M., Wermeling, D.P., 2014. [Naloxone for opioid overdose prevention: pharmacists' role in community-based practice settings](#). *Ann. Pharmacother.* 48, 601–606.
- Banta-Green, C.J., Beletsky, L., Schoeppe, J.A., Coffin, P.O., Kuszler, P.C., 2013. [Police officers' and paramedics' experiences with overdose and their knowledge and opinions of Washington State's drug overdose-naloxone-Good Samaritan law](#). *J. Urban Health* 90, 1102–1111.
- Bardenheier, B.H., Shefer, A.M., Lu, P.J., Remsburg, R.E., Marsteller, J.A., 2010. [Are standing order programs associated with influenza vaccination?—NNHS, 2004](#). *J. Am. Med. Dir. Assoc.* 11, 654–661.
- Barton, E.D., Ramos, J., Colwell, C., Benson, J., Baily, J., Dunn, W., 2002. [Intranasal administration of naloxone by paramedics](#). *Prehosp. Emerg. Care.* 6, 54–58.
- Beletsky, L., Ruthazer, R., Macalino, G.E., Rich, J.D., Tan, L., Burris, S., 2007. [Physicians' knowledge of and willingness to prescribe naloxone to reverse accidental opiate overdose: challenges and opportunities](#). *J. Urban Health* 84, 126–136.
- Bigg, D., Maxwell, S., 2002. [Enabling people to stay alive: an effective opiate overdose prevention program](#). In: *Fourth National Harm Reduction Conference*, Seattle, WA.
- Blake, V., 2012. [When is a patient-physician relation established?](#) *AMA J. Ethics* 14 (4), 403–406.
- Bouillon, T., Bruhn, J., Roepcke, H., Hoeft, A., 2003. [Opioid-induced respiratory depression is associated with increased tidal volume variability](#). *Eur. J. Anaesthesiol.* 20, 127–133.
- Burris, S., Beletsky, L., Castagna, C., Coyle, C., Crowe, C., McLaughlin, J., 2009. [Stopping an invisible epidemic: legal issues in the provision of naloxone to prevent opioid overdose](#). *Drexel Law Rev.* 1, 273–339.
- Burris, S., Burrows, D., 2009. [Drug policing, harm reduction and health: directions for advocacy](#). *Int. J. Drug Policy* 20, 293–295.
- Burris, S., Koester, S., 2013. [Investigating the intersection of policing and public health](#). *PLoS Med.* 10, e1001571.
- Businesswire, 2013. [Naloxone Nasal Spray on Development Fast Track as Emergency Treatment for Opioid Overdose](#). Businesswire.
- Centers for Disease Control and Prevention, 2012. [Community-based opioid overdose prevention programs providing naloxone—United States, 2010](#). *MMWR* 61, 101–105.
- Chamberlain, J.M., Klein, B.L., 1994. [A comprehensive review of naloxone for the emergency physician](#). *Am. J. Emerg. Med.* 12, 650–660.
- Chen, L., Hedegaard, H., Warner, M., 2015. [QuickStats: rates of deaths from drug poisoning and drug poisoning involving opioid analgesics—United States, 1999–2013](#). *MMWR* 64, 32.
- Chen, L.H., Hedegaard, H., Warner, M., 2014. [Drug-poisoning deaths involving opioid analgesics: United States, 1999–2011](#). *NCHS Data Brief*, 1–8.
- Clark, A.K., Wilder, C.M., Winstanley, E.L., 2014. [A systematic review of community opioid overdose prevention and naloxone distribution programs](#). *J. Addict. Med.* 8, 153–163.
- Clause, S., Fudin, J., Mergner, A., Lutz, J.L., Kavanaugh, M.M., Fessler, K., Chirumamilla, S., 2001. [Prescribing privileges among pharmacists in Veterans affairs medical centers](#). *Am. J. Health Syst. Pharmacol.* 58, 1143–1145.
- Coffin, P.O., Fuller, C., Vadnai, L., Blaney, S., Galea, S., Vlahov, D., 2003. [Preliminary evidence of health care provider support for naloxone prescription as overdose fatality prevention strategy in New York City](#). *J. Urban Health* 80, 288–290.
- Coffin, P.O., Sullivan, S.D., 2013. [Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal](#). *Ann. Intern. Med.* 158, 1–9.
- Cramer, R., Lechlitter, J.S., Stenger, M.R., Loosier, P.S., Slive, L., S.S.W. Group, 2013. [The legal aspects of expedited partner therapy practice: do state laws and policies really matter?](#) *Sex. Transm. Dis.* 40, 657–662.
- Davis, C., Webb, D., Burris, S., 2013. [Changing law from barrier to facilitator of opioid overdose prevention](#). *J. Law Med. Ethics* 41 (Suppl 1), 33–36.
- Davis, C.S., 2015. [Legal Interventions to Reduce Overdose Mortality: Naloxone Access and Overdose Good Samaritan Laws](#). Network for Public Health Law.



- Davis, C.S., Banta-Green, C.J., Coffin, P., Dailey, M.W., Walley, A.Y., 2015a. Intranasal naloxone for opioid overdose reversal. *Prehosp. Emerg. Care* 19, 135–137.
- Davis, C.S., Beletsky, L., 2009. Bundling occupational safety with harm reduction information as a feasible method for improving police receptiveness to syringe access programs: evidence from three U.S. cities. *Harm Reduct. J.* 6, 16.
- Davis, C.S., Carr, D., Southwell, J.K., Beletsky, L., 2015b. Engaging law enforcement in overdose reversal initiatives: authorization and liability for naloxone administration. *Am. J. Public Health* 105, 1530–1537.
- Davis, C.S., Pierce, M., Dasgupta, N., 2014a. Evolution and convergence of state laws governing controlled substance prescription monitoring programs, 1998–2011. *Am. J. Public Health* 104, 1389–1395.
- Davis, C.S., Ruiz, S., Glynn, P., Picariello, G., Walley, A.Y., 2014b. Expanded access to naloxone among firefighters, police officers, and emergency medical technicians in Massachusetts. *Am. J. Public Health* 104, e7–e9.
- Davis, C.S., Southwell, J.K., Niehaus, V.R., Walley, A.Y., Dailey, M.W., 2014c. Emergency medical services naloxone access: a national systematic legal review. *Acad. Emerg. Med.* 21, 1173–1177.
- Davis, C.S., Walley, A.Y., Bridger, C.M., 2015c. Lessons learned from the expansion of naloxone access in Massachusetts and North Carolina. *J. Law Med. Ethics* 43 (Suppl 1), 19–22.
- de Saxe Zerden, L., O'Quinn, E., Davis, C., 2015. Evidence-based policy versus morality policy: the case of syringe access programs. *J. Evid. Inf. Soc. Work* 12, 425–437.
- Department of Health and Human Services, 1996. SGM 96-2: Designation of Pharmacists as Primary Care Providers with Prescriptive Authority. Department of Health and Human Services, Washington, DC.
- Doe-Simkins, M., Quinn, E., Xuan, Z., Sorensen-Alawad, A., Hackman, H., Ozonoff, A., Walley, A.Y., 2014. Overdose rescues by trained and untrained participants and change in opioid use among substance-using participants in overdose education and naloxone distribution programs: a retrospective cohort study. *BMC Public Health* 14, 297.
- Doe-Simkins, M., Walley, A.Y., Epstein, A., Moyer, P., 2009. Saved by the nose: bystander-administered intranasal naloxone hydrochloride for opioid overdose. *Am. J. Public Health* 99, 788–791.
- Enos, G.A., 2015. Companies move forward in developing naloxone nasal spray formulations. *Addict. Prof.*, <http://www.addictionpro.com/news-item/companies-move-forward-developing-naloxone-nasal-spray-formulations>, accessed on September 1, 2015.
- Enteen, L., Bauer, J., McLean, R., Wheeler, E., Hurliaux, E., Kral, A.H., Bamberger, J.D., 2010. Overdose prevention and naloxone prescription for opioid users in San Francisco. *J. Urban Health* 87, 931–941.
- Fogel, S., Singh, D., Mckee, C., 2015. Improving Coverage: Using State Law to Maximize Access to Family Planning and Abortion Services. National Health Law Program, Washington, DC.
- Food and Drug Administration, 2014. FDA Approves New Hand-Held Auto-Injector to Reverse Opioid Overdose. First Naloxone Treatment Specifically Designed to be given by Family Members or Caregivers. FDA, Washington, DC.
- Galea, S., Worthington, N., Piper, T.M., Nandi, V.V., Curtis, M., Rosenthal, D.M., 2006. Provision of naloxone to injection drug users as an overdose prevention strategy: early evidence from a pilot study in New York City. *Addict. Behav.* 31, 907–912.
- Gliha, J., 2015. The Rising Cost of Stopping Heroin Overdoses. *Al Jazeera America*.
- Goodman, J., 2014. Naloxone, a Drug to Stop Heroin Deaths, is More Costly, the Police Say. *New York Times*, New York, NY.
- Green, T.C., Dauria, E.F., Bratberg, J., Davis, C.S., Walley, A.Y., 2015. Orienting patients to greater opioid safety: models of community pharmacy-based naloxone. *Harm Reduct. J.* 12, 25.
- Haegerich, T.M., Paulozzi, L.J., Manns, B.J., Jones, C.M., 2014. What we know, and don't know, about the impact of state policy and systems-level interventions on prescription drug overdose. *Drug Alcohol Depend.* 145C, 34–47.
- Harvey, H.H., 2013. Reducing traumatic brain injuries in youth sports: youth sports traumatic brain injury state laws January 2009–December 2012. *Am. J. Public Health* 103, 1249–1254.
- Hedegaard, H., Chen, L.H., Warner, M., 2015. Drug-poisoning deaths involving heroin: United States, 2000–2013. *NCHS Data Brief*, 1–8.
- Hogben, M., McCree, D.H., Golden, M.R., 2005. Patient-delivered partner therapy for sexually transmitted diseases as practiced by U.S. physicians. *Sex. Transm. Dis.* 32, 101–105.
- Ibrahim, J.K., Anderson, E.D., Burriss, S.C., Wagenaar, A.C., 2011. State laws restricting driver use of mobile communications devices distracted-driving provisions, 1992–2010. *Am. J. Prev. Med.* 40, 659–665.
- Illinois Code, 2015. 215 ILL. COMP. STAT. ANN. 5/356z.23.
- Internal Revenue Service, 2010. IRS Notice 2010-59.
- Jones, C.M., 2013. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers—United States, 2002–2004 and 2008–2010. *Drug Alcohol Depend.* 132, 95–100.
- Kissinger, P.J., 2014. Expedited partner therapy for sexually transmitted diseases—are we there yet? *Sex. Transm. Dis.* 41, 695–697.
- Leonard-Segal, A., 2012. Naloxone Expanded Access: OTC Status.
- Lewanowitsch, T., Irvine, R.J., 2002. Naloxone methiodide reverses opioid-induced respiratory depression and analgesia without withdrawal. *Eur. J. Pharmacol.* 445, 61–67.
- Lin, C.J., Zimmerman, R.K., Smith, K.J., 2013. Cost-effectiveness of pneumococcal and influenza vaccination standing order programs. *Am. J. Manage. Care* 19, e30–e37.
- Maxwell, S., Bigg, D., Stanczykiewicz, K., Carlberg-Racich, S., 2006. Prescribing naloxone to actively injecting heroin users: a program to reduce heroin overdose deaths. *J. Addict. Dis.* 25, 89–96.
- Michiels, C., 2004. Physiological and pathological responses to hypoxia. *Am. J. Pathol.* 164, 1875–1882.
- Middleton, D.B., Lin, C.J., Smith, K.J., Zimmerman, R.K., Nowalk, M.P., Roberts, M.S., Fox, D.E., 2008. Economic evaluation of standing order programs for pneumococcal vaccination of hospitalized elderly patients. *Infect. Control Hosp. Epidemiol.* 29, 385–394.
- Modarai, F., Mack, K., Hicks, P., Benoit, S., Park, S., Jones, C., Proescholdbell, S., Ising, A., Paulozzi, L., 2013. Relationship of opioid prescription sales and overdoses, North Carolina. *Drug Alcohol Depend.* 132, 81–86.
- National Association of Boards of Pharmacy, 2014. NABP Issues Policy Statement Supporting the Pharmacist's Role in Increasing Access to Opioid Overdose Reversal Drug. (<https://www.nabp.net/news/nabp-issues-policy-statement-supporting-the-pharmacist-s-role-in-increasing-access-to-opioid-overdose-reversal-drug>) (accessed on September 12, 2015).
- Okie, S., 2010. A flood of opioids, a rising tide of deaths. *N. Engl. J. Med.* 363, 1981–1985.
- Pattinson, K.T., 2008. Opioids and the control of respiration. *Br. J. Anaesth.* 100, 747–758.
- Piper, T.M., Stancliff, S., Rudenstine, S., Sherman, S., Nandi, V., Clear, A., Galea, S., 2008. Evaluation of a naloxone distribution and administration program in New York City. *Subst. Use Misuse* 43, 858–870.
- Pollini, R.A., Banta-Green, C.J., Cuevas-Mota, J., Metzner, M., Teshale, E., Garfein, R.S., 2011. Problematic use of prescription-type opioids prior to heroin use among young heroin injectors. *Subst. Abuse Rehabil.* 2, 173–180.
- PR Newswire, 2015. Lightlake Therapeutics Inc. Announces Adapt Pharma Limited Successfully Completed Intranasal Naloxone Study. PR Newswire.
- Rando, J., Broering, D., Olson, J.E., Marco, C., Evans, S.B., 2015. Intranasal naloxone administration by police first responders is associated with decreased opioid overdose deaths. *Am. J. Emerg. Med.* 33, 1201–1204.
- Robertson, T.M., Hendey, G.W., Stroh, G., Shalit, M., 2009. Intranasal naloxone is a viable alternative to intravenous naloxone for prehospital narcotic overdose. *Prehosp. Emerg. Care* 13, 512–515.
- Rudd, R.A., Paulozzi, L.J., Bauer, M.J., Burleson, R.W., Carlson, R.E., Dao, D., Davis, J.W., Dudek, J., Eichler, B.A., Fernandes, J.C., Fondario, A., Gabella, B., Hume, B., Huntamer, T., Kariisa, M., Largo, T.W., Miles, J., Newmyer, A., Nitcheva, D., Perez, B.E., Proescholdbell, S.K., Sabel, J.C., Skiba, J., Slavova, S., Stone, K., Tharp, J.M., Wendling, T., Wright, D., Zehner, A.M., Centers for Disease Control and Prevention, 2014. Increases in heroin overdose deaths—28 states, 2010 to 2012. *MMWR* 63, 849–854.
- Seal, K.H., Thawley, R., Gee, L., Bamberger, J., Kral, A.H., Ciccarone, D., Downing, M., Edlin, B.R., 2005. Naloxone distribution and cardiopulmonary resuscitation training for injection drug users to prevent heroin overdose death: a pilot intervention study. *J. Urban Health* 82, 303–311.
- Sherman, S.G., Gann, D.S., Scott, G., Carlberg, S., Bigg, D., Heimer, R., 2008. A qualitative study of overdose responses among Chicago IDUs. *Harm Reduct. J.* 5, 2.
- Silverman, B., Davis, C.S., Graff, J., Bhatti, U., Santos, M., Beletsky, L., 2012. Harmonizing disease prevention and police practice in the implementation of HIV prevention programs: up-stream strategies from Wilmington Delaware. *Harm Reduct. J.* 9, 17.
- Simini, B., 1998. Balogna–Naloxone supplied to Italian heroin addicts. *Lancet* 352, 967.
- Simone, A., 2013. Pharmacists among Most Widely Trusted Professionals, Gallup Poll Finds. *Pharmacy Times*.
- Strang, J., Darke, S., Hall, W., Farrell, M., Ali, R., 1996. Heroin overdose: the case for take-home naloxone. *BMJ* 312, 1435–1436.
- Tobin, K.E., Davey, M.A., Latkin, C.A., 2005. Calling emergency medical services during drug overdose: an examination of individual, social and setting correlates. *Addiction* 100, 397–404.
- United States Code, 2015a. 26 USC § 106(f).
- United States Code, 2015b. 42 U.S.C. 238q.
- Walley, A.Y., Xuan, Z., Hackman, H.H., Quinn, E., Doe-Simkins, M., Sorensen-Alawad, A., Ruiz, S., Ozonoff, A., 2013. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. *BMJ* 346, f174.
- Warner, M., Chen, L.H., Makuc, D.M., Anderson, R.N., Minino, A.M., 2011. Drug poisoning deaths in the United States, 1980–2008. *NCHS Data Brief*, 1–8.
- Wheeler, E., Jones, T.S., Gilbert, M., Davidson, P., 2015. Opioid overdose prevention programs providing naloxone to laypersons. *MMWR* 64, 631–635.
- White, J.M., Irvine, R.J., 1999. Mechanisms of fatal opioid overdose. *Addiction* 94, 961–972.
- Yokell, M.A., Green, T.C., Bowman, S., McKenzie, M., Rich, J.D., 2011. Opioid overdose prevention and naloxone distribution in Rhode Island. *Med. Health R.I.* 94, 240–242.