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EXPERIENCE

A nationwide pharmacy chain responds to the opioid epidemic

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ABSTRACT

Objectives: To describe the 3-pronged approach taken by a large national retail pharmacy chain to address the opioid epidemic and associated overdoses.

Setting: Large national retail pharmacy chain with more than 8200 stores in 50 states.

Practice description: Eight million customer interactions daily through in-store and digital settings. This is a company with a long history of responding to public health crises.

Practice innovation: Initiated 3 programs to respond to the opioid crisis: 1) provide safe medication disposal kiosks; 2) expand national access to naloxone; and 3) provide education on the risk and avoidance of opioid overdose. Used the RE-AIM framework to evaluate and enhance the quality, speed, and public health impact of the interventions.

Evaluation: Not applicable.

Results: Early results are safe medication disposal kiosks in more than 43 states, naloxone-dispensing program in 33 states, and patient and support system education using the Opioid Overdose Toolkit from the Substance Abuse and Mental Health Services Administration.

Conclusion: The availability of safe drug-disposal kiosks, naloxone dispensing at pharmacies, and patient education are key prevention initiatives to address the opioid epidemic and reduce the increasing national burden of opioid overdose. Early results are quantitatively and qualitatively promising.

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The epidemic

Prescription opioid abuse, misuse, and diversion are all part of a serious health crisis with staggering health, economic, and societal costs. Each day in the United States, 78 people die from an opioid overdose (prescription opioids and heroin), and it is estimated that 1.9 million Americans are addicted to opioid painkillers.^{1,2} The number of people dying from prescription opioid overdose continues to increase despite greater public recognition and the emergence of programs to combat the problem. Since 2000, the age-adjusted rate of deaths from opioid overdose has increased by 200%, and in 2014 there were more drug overdose deaths than any other year on record, 61% of which were attributed to opioid misuse.³ Opioid prescription rates have nearly tripled over the past 2 decades, rising from roughly 76 million

in 1991 to 207 million in 2014.^{4,5} And approximately \$55.7 billion in annual health and societal costs are related to prescription opioid abuse and misuse, with \$20 billion in spending due to related emergency department visits and hospitalizations.⁴

Multiple factors are likely contributors to the opioid epidemic, most notably the high volume of opioid prescriptions dispensed. Every day in the United States, 650,000 opioid prescriptions are dispensed.⁴ A significant portion of this utilization is due to inappropriate prescribing. Evidence supporting policies and interventions such as patient review and restriction programs (requiring patients with patterns of opioid misuse to receive prescriptions from one provider and one pharmacy to improve coordination of care and reduce misuse), pill mill and doctor shopping laws, and insurer or pharmacy benefit programs are promising but limited.⁶ There is a greater social and cultural acceptance of the use of prescription medications for a variety of health conditions, coupled with increased marketing of prescription drugs by pharmaceutical companies.^{5,6} Furthermore, the rate of nonmedical use of opioids is a major issue.⁷ For some portion of the 100 million individuals in the United States with chronic pain, opioid use may be a necessary route of therapy, but the majority can be treated with alternate modalities,

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Key Points**Background:**

- The significant rise in prescription opioid prescribing and availability over the past 2 decades has contributed to the nationwide epidemic of opioid-related abuse, misuse, morbidity, and mortality.
- Regulatory and legislative policy changes have positively affected the ability of pharmacists to take a larger role in partnership with public health stakeholders in addressing the opioid crisis.

Findings:

- Pharmacies have a role to play in combating the opioid epidemic through expanded community access to safe medication-disposal kiosks, naloxone, and patient education with destigmatization.
- A large retail pharmacy has demonstrated early success in addressing this epidemic with the use of 3 innovative programs based on the RE-AIM framework.

such as nonsteroidal anti-inflammatory drugs, physical therapy, etc.⁵ In addition, 71% of those who misuse opioids obtain these medications from family and friends, and of those family and friends, 79% receive their opioid medications from a provider.⁷

Addressing the epidemic from the pharmacy

Pharmacies play an important role in improving public health through their extensive footprint, accessibility, and role as a community–health system interface.⁸ Legislative and regulatory changes are supporting pharmacies in playing a larger role in this crisis. To help prevent illicit drug users or laypersons from refusing to seek emergency help in an overdose situation for fear of criminal liability, Good Samaritan laws (or medical amnesty laws) have been enacted to provide criminal immunity to the overdose victim and the person that reports an overdose.⁷ Recent policy changes include granting pharmacists prescriptive authority for naloxone and allowing pharmacies to create collaborative practice agreements, standing orders, or protocols for pharmacy-based naloxone.⁹ Naloxone, an opioid antagonist medication without abuse potential, is safe and cost-effective and can reduce the risk of respiratory failure due to opioid overdose.¹⁰ According to the American Pharmacist Association, as of 2015, 24 states had active or proposed legislation to give pharmacists authority to dispense naloxone at their discretion.¹¹ In California, Illinois, Nevada, Ohio, Oregon, and Vermont, medical and pharmacy boards have issued non-patient-specific statewide protocol orders authorizing pharmacists to prescribe for naloxone.¹² Connecticut, Idaho, New Mexico, and North Dakota fully allow pharmacists to prescribe and dispense naloxone prescriptions.¹² As of this publication, Walgreens currently offers naloxone without requiring a prescription in 33 states, with an additional 7 states to begin in early 2017.¹³

The purpose of the present paper is to describe the 3-pronged approach taken by a large national retail pharmacy chain to provide safe medication disposal, expand access to naloxone, and provide education and destigmatization around opioid overdose. The secondary purpose of this paper is to demonstrate how naloxone-prescribing policies in select states have positively affected naloxone dispensing through Walgreens.

Practice site

Walgreens is one of the largest drugstore chains in the United States, with nearly 8200 stores in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands and more than 27,000 pharmacists.¹³ Walgreens has stores located within 5 miles of 76% of all Americans and serves 10 million customers daily through its in-store and digital footprint (i.e., website, mobile app, collaborations with online partners).¹³

Walgreens has a long history of response to public health issues, as demonstrated by participation in health prevention and education initiatives for measles, human immunodeficiency virus, meningitis B, and H1N1 influenza outbreaks. Recently, the company collaborated with the Centers for Disease Control and Prevention (CDC) and the CDC Foundation to provide education to communities in Puerto Rico on the prevention of Zika infections.¹⁴ Walgreens has also addressed the growing need for mental health resources.¹⁵ In partnership with Mental Health America, Walgreens developed an online mental health program to address the growing need for mental health resources.¹⁵ The program aims to improve mental health outcomes by screening individuals for common mental health conditions (e.g., depression), addressing stigma, and connecting individuals to clinical screening and intervention resources in their communities.¹⁵ Walgreens' successful involvement with these public health challenges provided valuable experience that the company used to develop an innovative nationwide program to target the growing epidemic of opioid overdose and related fatalities.

Practice innovation

Walgreens recently initiated 3 programs to respond to the opioid crisis: 1) provide safe medication disposal kiosks; 2) expand national access to naloxone; and 3) provide education on the risk and avoidance of opioid overdose.^{16,17} Through broad-implementation health promotion initiatives such as these, pharmacies can achieve major components of the RE-AIM framework, which is used to evaluate and enhance the quality, speed, and public health impact of interventions. The RE-AIM framework consists of 5 dimensions: reach into the target population; effectiveness of the intervention; adoption of the intervention by sites and organizational partners; implementation of the intervention; and maintenance of the intervention within the setting over time.¹⁸ These constructs can be applied to assess the potential impact of pharmacies on the opioid epidemic, which involves: 1) reaching those at high risk through screening and prescription drug monitoring and adopting and implementing effective medication-assisted opioid therapies (e.g., buprenorphine, methadone); 2) health education on opioid overdose and naloxone administration; and 3) expanded use of naloxone interventions.⁸ Largely

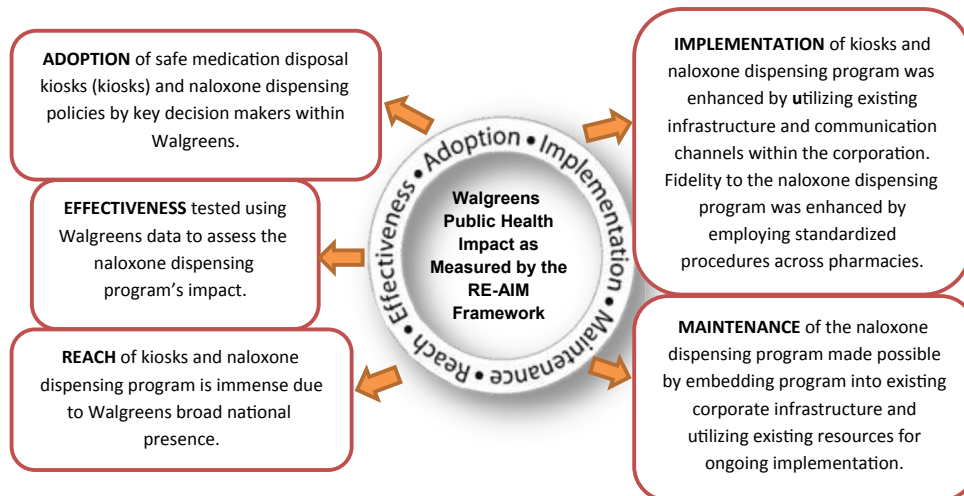


Figure 1. Using the RE-AIM framework to enhance Walgreens public health impact on the opioid epidemic.

owing to its broad national presence, strong organizational infrastructure, and commitment to population health, Walgreens has the capacity to address each of the 5 dimensions of the RE-AIM framework to improve public health regarding the opioid crisis (Figure 1).

Thus using the RE-AIM framework, Walgreens initiated the 3 programs to respond to the opioid crisis: 1) provide safe medication disposal kiosks; 2) expand national access to naloxone; and 3) provide education on opioid overdose.^{16,17}

1) Safe medication disposal kiosks

Because almost three-fourths of opioid misusers obtain the medications from family or friends, reducing the misuse of opioids through disposal of expired, unwanted, and unused prescription medications is an important method of combating opioid misuse.¹⁹ The Secure and Responsible Drug Disposal Act allows individuals to deliver unused prescription medications to appropriate locations,²⁰ and in 2016 Walgreens aligned with this national effort through the implementation of its safe medication disposal kiosk program. In line with the RE-AIM framework, Walgreens currently has kiosks in more than 500 stores across 43 states and Washington, DC, primarily at 24-hour locations.^{17,21} Table 1 shows the products that are allowed and those that are prohibited from collection.

2) Naloxone dispensing program

Multiple studies have shown that the strategy of expanding access to naloxone is effective in reducing opioid overdose mortality.^{10,22} Although Walgreens has the potential for a broad reach owing to its extensive nationwide footprint, state-specific regulations dictating program implementation regarding pharmacists' authority to dispense naloxone, training requirements, and ongoing education make the dissemination of these interventions complex.⁹

To meet program objectives and state-specific requirements, the Walgreens Clinical Office developed a training program required for all pharmacists that includes state-specific policies; mechanisms of, risk factors for, and recognition of overdose; explanation of how to use naloxone products to reverse an overdose (including administration, adverse

effects, and storage); proper procedures for handling an overdose; and the impact of overdose in the United States.

With this training, Walgreens pharmacists are able to dispense intranasal, injectable, and autoinjector naloxone depending on their state laws. Each product is available with a prescription under traditional dispensing practices, but some states also allow select or all dosage forms without a physician prescription (under a standing order, physician protocol, or pharmacist prescriptive authority). The Walgreens program is currently available in 33 states and Washington, DC, with additional states under review for inclusion.¹³

3) Patient and support system education

The pharmacist, or student pharmacist under direct pharmacist supervision, counsels every patient who is receiving naloxone and provides them with written educational materials. The goal of the patient education materials is to supplement the pharmacist consultation and help patients understand important aspects about opioid overdose, how to prevent it, and what to do and expect if one occurs. Through this education, our pharmacists help to destigmatize opioid overdose. They help families, friends, and caregivers understand that the need for naloxone is not for use solely as a

Table 1

Products allowed and prohibited in the Walgreens safe medication disposal kiosks

Allowed products ^a	<ul style="list-style-type: none"> Unwanted prescription drugs (noncontrolled and Schedules II through V) in common dosage forms, such as tablets, capsules, ointments, and patches Over-the-counter medications in common dosage forms, such as tablets, capsules, ointments and patches
Prohibited products	<ul style="list-style-type: none"> Illegal drugs Needles Lotions Inhalers Aerosol cans Thermometers Hydrogen peroxide

^a Allowed products do not have to be removed from the prescription vial or bottle, as long as the container fits within the opening.

treatment for opioid addiction but also as a treatment for accidental overdose situations.

The pharmacist counseling and educational materials cover the following topics:

- Risk factors for opioid overdose
- Strategies to prevent opioid overdose
- Signs of opioid overdose
- Steps in responding to an overdose
- Information on naloxone
- Procedures for administering naloxone
- Proper storage and expiration of naloxone

Walgreens pharmacists also have access to a number of provider and patient resources, including *Prescribe to Prevent* training from The Massachusetts Department of Public Health in partnership with the Substance Abuse and Mental Health Services Administration (SAMHSA) and the Boston University School of Medicine, *The Evolving Epidemic of Prescription Opioid Use* through Medscape Continuing Education, and the *Opioid Overdose Toolkit* from SAMHSA in association with the U.S. Department of Health and Human Services.

Results

Walgreens prescription claims data were analyzed to evaluate opioid prescribing and dispensing trends. These data demonstrated a substantial increase in the geographic distribution and the number of naloxone prescriptions dispensed by Walgreens from 2012 to 2016. In 2012, a total of 18 naloxone prescriptions were dispensed by Walgreens pharmacies in 11 states and Puerto Rico. The number and geographic distribution of naloxone prescriptions dispensed by states increased exponentially during the subsequent 4 years. In 2013, 174 prescriptions were dispensed in 20 states (including DC and Puerto Rico); in 2014, 1256 prescriptions were dispensed in 36 states; in 2015, 4675 prescriptions were dispensed in 42 states; and as of August 15, 2016, 10,478 prescriptions were dispensed in 49 states (Figure 2). The year-to-year rise in naloxone prescriptions dispensed is considerable. Over the past 3 years alone, there were 7.2 times more naloxone prescriptions dispensed in 2014 than in 2013 and 3.7 times more naloxone prescriptions dispensed in 2015 than in 2014. In just the first 7.5 months of 2016, there were 2.2 times more naloxone prescriptions dispensed than in all of 2015.

We examined naloxone-prescribing trends within 3 states—Massachusetts (MA), California (CA), and New Mexico (NM)—and Puerto Rico (PR), each of which used different naloxone-prescribing policies. Walgreens currently has naloxone dispensing programs in MA and NM, where pharmacists dispense this drug under a physician standing order. As of January 2016, CA law allows pharmacists to dispense naloxone without a prescription. Walgreens is currently developing appropriate training to satisfy CA state requirements, so that mechanism is not yet active. Finally, PR allows naloxone to be dispensed via physician prescription only.

The number of naloxone prescriptions dispensed in MA, CA, and NM increased rapidly from 2012 to 2016, but the slope of increase within each of these 3 states peaked at different times (Figure 3). There were no naloxone prescriptions dispensed at

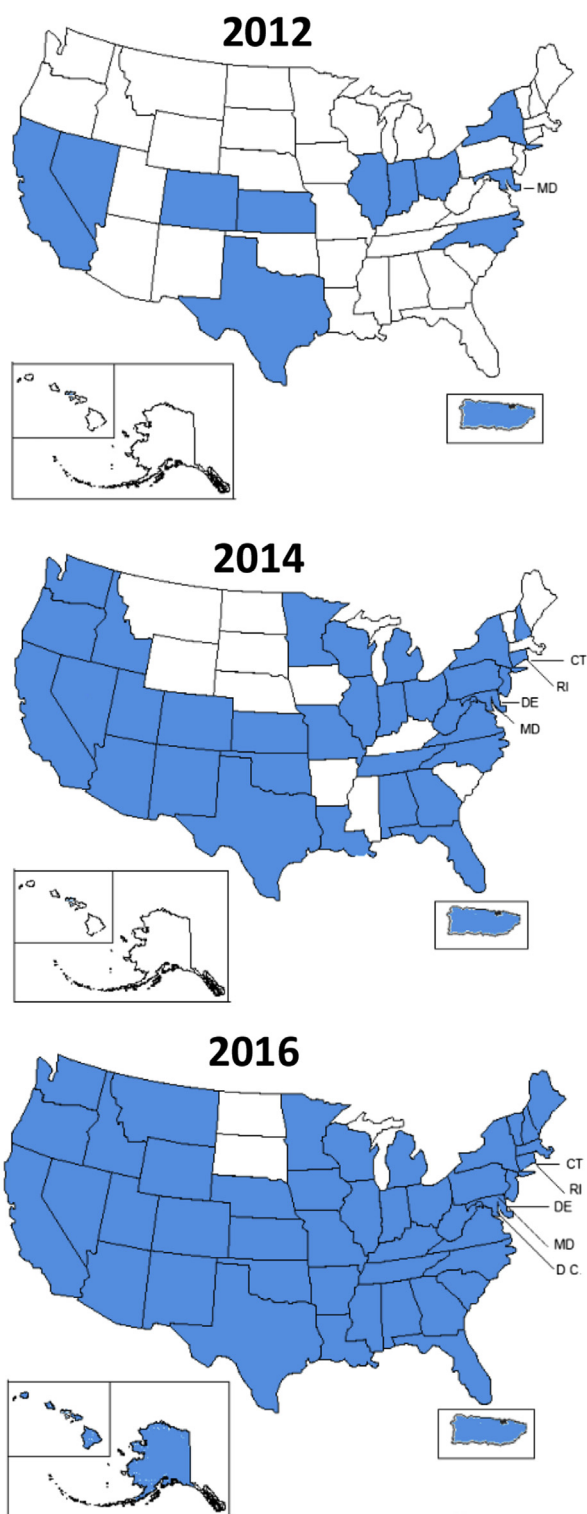


Figure 2. Naloxone dispensing at Walgreens during 2012, 2014, and 2016.

Walgreens locations in MA during 2012. In 2013, there were a total of 6 naloxone prescriptions dispensed at Walgreens pharmacies in MA, but the number of prescriptions dispensed rose to 163 in 2014, 1456 in 2015, and 2075 from January 1 through August 15, 2016. The increase in naloxone

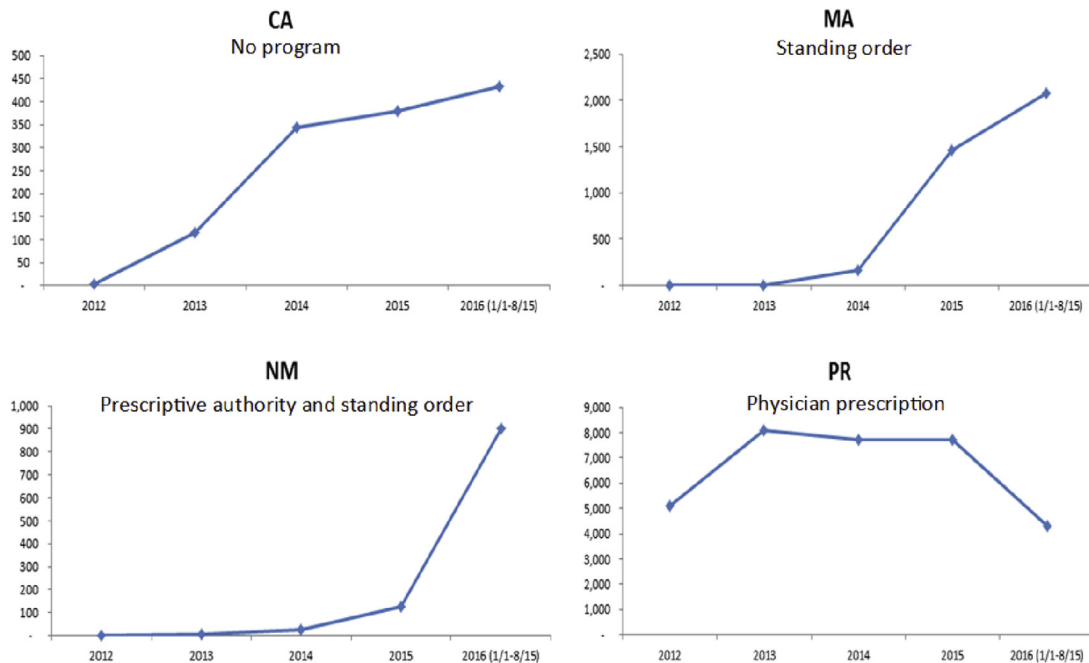


Figure 3. Number of naloxone prescriptions dispensed at Walgreens in California, Massachusetts, New Mexico, and Puerto Rico from 2012 through August 15, 2016.

prescriptions dispensed at Walgreens pharmacies in CA was much more gradual, with 4 in 2012, 116 in 2013, 344 in 2014, 379 in 2015, and 434 from January 1 through August 15, 2016. Finally, at Walgreens pharmacies in NM, there were no naloxone prescriptions dispensed in 2012, 5 in 2013, 26 in 2014, 124 in 2015, and 723 during the first 2 quarters of 2016 alone. Compared with MA, CA, and NM, the trend of naloxone dispense rates in PR was consistently high from 2012 to 2016. Naloxone dispense rates in PR were comparatively much higher throughout all 5 years (5115, 8099, 7737, and 7713 in 2012, 2013, 2014, and 2015, respectively, and 4292 from January 1 through August 15, 2016; [Figure 3](#)).

As of October 2016, Walgreens reached its goal of installing more than 500 safe medication disposal kiosks. More than 10 tons of medication have been collected and safely disposed since installation of the kiosks began.²³ Walgreens pharmacists throughout the company have received positive feedback about the safe medication-disposal program. Patients commonly express appreciation at having a place to dispose of their unused or unwanted medications. Several pharmacists reported that the kiosks are so successful in the stores that they must be emptied as often as every few weeks.

Walgreens programs are still expanding to full implementation, but already there are anecdotal examples of successful impact on patient health and safety. Representative examples include a pharmacist educating a nervous mother interested in information about naloxone and how it may help her daughter in New Mexico and, in both Pennsylvania and Massachusetts, personally helping to save the life of a person experiencing an overdose. Walgreens pharmacists use their training and expertise to advocate for safe medication use and to help destigmatize overdose prevention. One pharmacist may have said it best when she commented on how the improved access to naloxone positively affects not only people who experience the opioid overdose, but also the friend,

family member, or Good Samaritan administering the life-saving medication because they have a new realization of the value of life.

Discussion

The increases in naloxone dispense rates at Walgreens pharmacies from 2012 to 2016 in the 3 states examined (MA, CA, and NM) were likely influenced by the interaction of 2 key factors: 1) opioid misuse prevalence within the state; and 2) the naloxone state policies implemented within each state, including the date that the policy took effect. State-specific naloxone dispense rates at Walgreens pharmacies largely mirror the rates of death attributable to opioid overdose during the same time period. For example, in MA both naloxone dispense rates and deaths from opioid overdose rose dramatically in 2015 and then again in 2016. The number of fatalities from opioid overdose continues to increase despite greater public recognition of the opioid epidemic and the emergence of programs to combat the problem, such as those described here.^{3,24,25} The rise in naloxone dispense rates presented here supports these trends.

Although state-specific policies to address opioid-attributable mortality have expanded, implementation of a national naloxone-prescribing policy would likely expedite the public health impact of this critical resource. Currently, policies vary by state, making rapid implementation across a large national corporation with presence in all 50 states, DC, and Puerto Rico quite challenging. The time required to tailor the program for each state slows overall program implementation and thereby reduces the potential public health impact. National policies, on the other hand, would allow large health care organizations to streamline implementation through the use of consistent training and procedures, which in turn would enhance program effectiveness.

Participation in this program uncovered challenges for the community pharmacy and community pharmacist. At the corporate level, one major challenge is developing effective training that not only meets the needs of the pharmacists, but also complies with varying state requirements. At the store level, pharmacists have competing demands on their time among workflow, inventory management, and implementing their training. As individuals, pharmacists often have challenges with the additional time required to counsel for opioids and naloxone that is above and beyond standard medication counseling as well as overcoming the stigma associated with opioid misuse. In addition, there is currently no reimbursement for the pharmacist's time for appropriate counseling and documentation.

Tackling a crisis of this size requires a variety of partner organizations and corporations that can contribute a different set of resources. Other national pharmacy chains also have instituted programs in response to the opioid overdose epidemic.²⁶ We encourage other health care organizations to implement similar or complementary programs to combat opioid misuse. In addition, broad efforts are needed to accelerate adoption of the new CDC guidelines on opioid prescribing that can reduce unnecessary use of these powerful medications.²⁷ However, for many patients with chronic pain, prescription pain relief is the only way to achieve a better quality of life. Pharmaceutical companies can also make a major impact by investing in the development of pain management medications with properties that are less addictive.

Conclusion

The availability of naloxone dispensing at pharmacies, patient education, and safe drug disposal kiosks are key prevention initiatives to address the opioid epidemic and reduce the increasing national burden of opioid overdose. These programs improve access to needed opioid misuse and overdose prevention resources and help to reduce fear of legal consequences related to overdose prevention through education on the administration of naloxone and Good Samaritan laws.⁷ As a leading pharmacy retailer, Walgreens will continue to expand the reach of these innovative programs and will work collaboratively with policymakers, public health agencies, and other health organizations to increase awareness of opioid misuse, promote opioid harm reduction strategies, and reduce opioid overdose mortality.

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