Arizona Opioid Epidemic Act

Our package will attack this issue from all angles, while protecting individuals who suffer from chronic pain, and maintaining compassion for those struggling with addiction.

— Governor Doug Ducey
2018 State of the State Address
An Epidemic

In Arizona, opioid use, overdose and deaths have increased at an alarming level over recent years. Last year, the state experienced the highest number of deaths in more than a decade. It’s a national epidemic and an Arizona crisis — and it’s one we must address with care and urgency.

Real lives. Real people. Between June 2017 - January 2018:

812
Arizonans died of a suspected opioid overdose

5,202
Arizonans suffered a suspected overdose on opioids

455
Arizona babies were born addicted to opioids

A potent drug mis-prescribed, overprescribed, and misused.

6,000,000+
The amount of opioids that four doctors wrote over a 12-month period in a county with a population of 200,000 people.

75%
The percentage of heroin users in treatment that started with painkillers, according to a 2014 study by the Journal of the American Medical Association.

An epidemic that impacts every zip code, every county


- 3,114
- 993
- 104 - 235
- 1 - 103
Over the last few years, Arizona has taken a number of steps aimed at preventing and treating opioid addiction. Through legislative action, executive order, and directly working with the citizens of our state, we’ve made meaningful progress in implementing policies to combat the opioid epidemic.

“It’s time to call this what it is — an emergency.”

Following the release of data that showed a 74 percent increase in opioid overdoses since 2013, Governor Ducey declared a statewide emergency to address opioid overdoses and deaths in June 2017. The declaration was followed by an executive order mandating real-time reporting of opioid overdoses to better understand where the problem areas are and inform a path-forward to save lives.

As part of this public health emergency, the Arizona Department of Health Services was instructed to identify ways to:

- prevent prescription opioid drug abuse through appropriate prescribing practices,
- develop guidelines to educate healthcare providers on responsible prescribing practices,
- expand access to treatment, especially Medication Assisted Treatment (MAT), and
- reverse overdoses through the distribution of naloxone.

An “All-Hands-on-Deck” Approach

In developing a response to the governor’s direction, the Arizona Department of Health Services (ADHS) engaged with medical officials, law enforcement, community leaders, chronic pain sufferers, pharmacists, victims, individuals addicted to opioids, substance abuse treatment experts and others.

Engaging Arizona

Through the emergency declaration and comprehensive stakeholder process, Arizonans began engaging in a months-long discussion on how best to address the epidemic. To facilitate the statewide discussion, ADHS developed several mechanisms to allow for partner interaction and information distribution including a dedicated webpage, azhealth.gov/opioid. The webpage organizes resources and allows stakeholders to quickly access up-to-date opioid-related information including FAQs, administrative rule proposals and a recently released 50 State Review on Opioid-Related Policy. To date ADHS has engaged with over 1,350 Arizonans about this issue and held approximately 50 meetings with stakeholders and partners.

Taking Action

Based on this collaborative work, in September 2017 ADHS issued its Opioid Action Plan, a comprehensive strategy that responds to the governor’s direction and included detailed recommendations to reduce opioid misuse, promote safe prescribing and dispensing, and improve access to treatment. The recommendations serve as a basis for the legislative package proposed during the special session declared by the governor.
Actions-To-Date

Cracking Down on Doc Shopping
In 2016, nearly 1,000 Arizonans were in possession of as many as four prescriptions at a time from four different doctors. In May 2016 Governor Ducey signed a bill to target “doctor shopping” by requiring physicians in Arizona to access and update the prescription drug database before prescribing a controlled substance to a patient. Combined with efforts from the Board of Pharmacy, the number has dropped to below 100 people each month.

Reversing Overdoses, Saving Lives
Since the governor’s emergency declaration in June, Arizona Department of Health Services has trained more than 1,200 first responders to carry and administer Naloxone and provided more than 5,100 Naloxone kits to law enforcement agencies to help reverse overdoses.

Safe Medication Disposal
In partnership with Walgreens, the state established 18 Safe Medication-Disposal Bins located throughout Arizona. These bins allow for the disposal of opioids and other prescription drugs to minimize the likelihood of misuse or diversion.

Drug Overdose Review Team
Governor Ducey signed legislation establishing a review team to investigate every drug overdose death in Arizona. The team is comprised of the state’s top health, prevention, and public safety officials and collects data on drug overdoses and coordinates with local stakeholders to prevent future overdose deaths.

Limits on First Fills
The governor issued an executive order that limits the first fill of addictive prescription opioids to seven days in all cases where the state is the payer.

Treatment and Prevention
Arizona’s Healthcare Cost Containment System (AHCCCS) is the leading payer for substance abuse treatment in the state. Among the services provided are early intervention, behavioral health counseling, and detoxification. The investment has increased significantly over the past few years.


The Department of Child Safety (DCS) offers substance abuse treatment to parents who are working toward reunification when addiction is a factor.

The Department of Corrections (ADC) provides additional substance abuse treatment to inmates,

Collectively the state invests $265 million annually in substance abuse treatment and prevention.
We’ve all heard the first-person stories of individuals who have been impacted by this crisis. Many here today have been personally impacted. But there are so many others stories we haven’t heard -- because the individuals impacted didn’t survive. More than 800 just last year. This bill is for them.

— Governor Doug Ducey at the signing of the Arizona Opioid Epidemic Act

<table>
<thead>
<tr>
<th>Access to Treatment</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Naloxone</td>
<td>7</td>
</tr>
<tr>
<td>Preventing Addiction for Arizona Youth</td>
<td>8</td>
</tr>
<tr>
<td>Targeting Bad Actors</td>
<td>9</td>
</tr>
<tr>
<td>Good Samaritan Law</td>
<td>10</td>
</tr>
<tr>
<td>Angel Initiative</td>
<td>11</td>
</tr>
<tr>
<td>Prescriber Education</td>
<td>12</td>
</tr>
<tr>
<td>E-Prescribing</td>
<td>13</td>
</tr>
<tr>
<td>Responsible Dosage Limits</td>
<td>14</td>
</tr>
<tr>
<td>5-Day Limit on First Fills</td>
<td>15</td>
</tr>
<tr>
<td>Expediting Pre-authorization</td>
<td>16</td>
</tr>
<tr>
<td>Opioid Packaging</td>
<td>17</td>
</tr>
<tr>
<td>Stopping Doctor Shopping</td>
<td>18</td>
</tr>
<tr>
<td>Preventing Illegal Use</td>
<td>19</td>
</tr>
</tbody>
</table>
Access to Treatment

The Problem

Inconsistent Continuity of Care
Continuity of care for individuals receiving medication assisted treatment (MAT) can be difficult. Individuals who have sought treatment for addiction and are receiving MAT are not always eligible to reside in licensed behavioral health residential facilities or recovery homes.

Overdose Treatment
When a patient receives treatment in an Emergency Room for an opioid overdose, hospitals focus on addressing the immediate issue. Treating the overdose however, does not address the underlying addiction. Currently, only 47 percent of overdose patients are referred to behavioral health providers upon release.

Uncertain Treatment Facility Access
The opioid epidemic impacts all zip codes and all counties. Currently, there is not a single report detailing the state’s treatment assets.

An Underserved Population
While AHCCCS is the largest payer for individuals with substance use disorder, there are still people not eligible for AHCCCS that are uninsured or underinsured and are unable to receive treatment due to the cost.

The Solution

Caring For Those Who Have Sought Treatment
Require licensed behavioral health residential facilities and recovery homes to develop policies and procedures that allow individuals on MAT to continue to receive care in their facilities.

Treating an Overdose AND Treating Addiction
Require healthcare institutions to refer a patient to behavioral health services after treatment of an overdose.

Develop an Inventory of Treatment Facilities
Require ADHS to collect information on inpatient and outpatient treatment facilities, identify gaps in access to treatment, and publish a public report with recommendations for improving access to treatment. Requires each treatment facility to submit a quarterly report that includes information regarding the number of days in the quarter that the facility was at capacity and unable to accept referrals for treatment.

Closing the Access to Treatment Gap
This legislation includes an appropriation of $10M that will go to providing treatment for uninsured or underinsured Arizonans in need of treatment. This appropriation is available immediately.

Background
Arizona is expanding access to opioid treatment programs throughout the state using grant funds from the Substance Abuse and Mental Health Services Administration. In October 2017 the first of five, 24-hour centers for opioid treatment, opened to address the growing need for access to opioid use disorder treatment.
Access to Naloxone

The Problem
County health departments, probation officers, detention officers, police aides, crime scene specialists, crime scene laboratory employees and other law enforcement/department of corrections employees are not currently permitted to administer Naloxone.

The Solution
Authorize these ancillary law enforcement and county health departments to administer Naloxone.

Background
Increasing access to Naloxone has been a top-priority as Arizona works to combat the opioid epidemic. From law enforcement to an individual at risk of experiencing an opioid-related overdose — increasing access to this opioid antagonist is a proven way to prevent drug overdose deaths.

3,429
Naloxone doses administered outside of the hospital by emergency medical services, law enforcement, and others from June 2017 through January 2018.

86%
The percentage of patients who survived an overdose received Naloxone pre-hospital.
Preventing Addiction for Arizona Youth

The Problem
According to the National Center on Addiction and Substance Abuse, 9 out of 10 people with substance problems started using by age 18.

The Solution
Directs ADHS to engage with local education agencies in the development of abuse prevention initiatives.

This legislation:
- Requires ADHS to create an opioid abuse prevention education initiative.
- Appropriates dollars to the Attorney General for the purpose of awarding grants for community opioid education and prevention efforts

Background
According to the National Institute of Drug Abuse, most adolescents who misuse prescription pain relievers are given them for free by a friend or relative.

The American Society of Addiction Medicine released the following statistics:

7x People who began using addictive substances before age 15 are nearly seven times more likely to develop a substance problem than those who delay first use until age 21 or older.

2x The prescribing rates for prescription opioids among adolescents and young adults nearly doubled from 1994 to 2007.
Targeting Bad Actors

The Problem
There are bad actors who are making a living off of writing dangerous prescriptions. The time is past due to hold these individuals accountable and stop these practices.

Pill Mills
One Arizona county saw four doctors collectively prescribe more than six million pills in one year. Currently physicians, registered nurse practitioners, and certified nurse midwives can both prescribe and dispense opioids with little oversight. Frequently, opioid medication dispensed by a patient’s physician does not get reported to the prescription monitoring database.

Inadequate Oversight and Accountability
Medical Regulatory Boards, including the Dental Board, do not have access to the prescription monitoring database, limiting their ability to effectively provide oversight of their licensees and delaying action on complaints.

Fraudulent Marketing Practices by Manufacturers
Currently, drug manufacturers who engage in fraud can be tried civilly but are not subject to criminal convictions or jail time.

The Solution

Ending Pill Mills
Eliminate the practice of dispensing opioids on site, except for those opioids prescribed as part of medication assisted treatment. Provide ADHS, the Medical Boards and the Nursing Board with the ability to adopt rules to limit these practices.

Increasing Oversight and Accountability
Provide medical licensing boards access to prescribing data, to check for bad actors in the system.

Holding Manufacturers Accountable
Enact criminal penalties for manufacturers who defraud the public about their products. Ensure that a person convicted of fraud involving the manufacture, sale, or marketing of opioids is not eligible for suspension of sentence. Under this plan: if a manufacturer engages in fraudulent activity, they will face prison time.

“This much I commit: All bad actors will be held accountable – whether they are doctors, manufacturers or just plain drug dealers.”

— Governor Doug Ducey
Good Samaritan Law

The Problem
People who witness a drug overdose are often reluctant to seek emergency assistance for fear of prosecution of their own drug use. As a result, an individual who overdoses does not receive necessary emergency care.

The Solution
Enact a “Good Samaritan” law to encourage people to call 911 for a potential opioid overdose. In other states, similar laws decreased opioid overdose deaths by nine to 11 percent.

This legislative proposal is crafted to ensure law enforcement can collect contraband and charge for any non-drug related crimes occurring on the scene. The law also sunsets in five years, recognizing the immediate emergency Arizona faces.

Background
Arizona is one of just 10 states without a Good Samaritan law. Through the implementation of a Good Samaritan law, bystanders are more likely to seek emergency assistance increasing the ability for law enforcement or first responders to administer naloxone to address an overdose.

Good Samaritan Overdose Immunity Laws

States with overdose immunity laws
The Problem
Individuals struggling with addiction are hesitant to seek treatment for fear of arrest or prosecution for their drug use.

The Solution
Access to the Arizona Angel Initiative is limited.

The Initiative allows citizens to walk into a police precinct, turn in their drugs and request treatment without fear of prosecution. Assistance is also provided to parents to secure safe placement for their child while they are in treatment, in lieu of placing their child in the foster care system. The Arizona Angel Initiative offers a simple, straightforward option for getting into treatment, but is currently offered in just one Arizona county.

Background
Expand access to the Angel Initiative by requiring all counties to designate one location to offer Angel Initiative services.

123 people have entered into treatment through the Arizona Angel Initiative since it was first established in October 2016.
Prescriber Education

The Problem
Many clinicians were trained at a time when the medical community was taught that prescription opioids were not addictive. Since then, research has clearly proven that to be false. Training and updated education is essential for prescribers to practice safe prescribing practices and identify substance abuse or drug dependence, but is not currently required by state law.

The Solution
Codify the governor’s call for the medical licensing board to require at least three hours of opioid-related Continuing Medical Education (CME) for doctors who are licensed to prescribe opioids.

Require medical students to receive three hours of opioid related courses to ensure they are equipped with the most current information about prescribing opioids.

Background
A national study of physicians and patients conducted by the National Center on Addiction and Substance Abuse at Columbia University found the following:

20% The percentage of primary care physicians that consider themselves “very prepared to identify alcohol or drug dependence.”

40% The number of patients who claim the diagnosis of a substance abuse disorder was not identified by their primary care physician.
E-Prescribing

The Problem
Paper prescriptions can be easily altered, stolen, or forged, which can lead to fraudulent prescriptions. An estimated three to nine percent of opioid abusers use forged prescriptions.

The Solution
Require e-prescribing by 2019 for drugs that have a high potential for abuse, such as OxyContin and morphine, commonly referred to as Schedule II drugs to mitigate fraudulent prescriptions. E-prescribing allows medical officials to write and transmit prescriptions to a pharmacy electronically. The Board of Pharmacy may provide a waiver for doctors that face hardships that prevent implementing e-prescribing.

Background
The Arizona State Board of Pharmacy currently regulates prescription fraud, however enhanced allowance for paper prescriptions provides more opportunity for bad-actors to create fraudulent prescription.

Pharmacy officials try to stop prescription fraud, but addicts remain persistent
According to one alert, a woman received 130 narcotic prescriptions from 93 prescribers, dispensed by 41 pharmacies.

Another patient “has had 50 visits over the past 12 months where a controlled substance prescription was filled. She has seen 22 different physicians/providers, and filled at 16 different pharmacies.”
Responsible Dosage Limits

The Problem
Arizonans are being prescribed dangerously high doses of opioids. Patients prescribed higher opioid dosages are at increased risk of overdose. Medical professionals measure the strength of a dosage by a measurement called morphine medical equivalents (MME) which equates the potency of different opioids into one standard value. Federal opioid prescribing guidelines recommend doctors use caution in prescribing above 50 MME/day and extreme caution in prescribing above 90 MME/day.

The average prescription dosage amount in Arizona is 62 MME. At 90 MME or more, the risk of death increases tenfold compared to 20 MME or less.

The Solution
Limit opioid dose levels to less than 90 MME/day for most patients, with exemptions that protect the following:

- This does not apply to a continuation of a prior prescription order that was issued within the previous 60 days. The limit also would not apply to cancer patients, trauma patients, burn patients, hospice, end-of-life care, or medication-assisted treatment for substance use disorder.
- If a doctor believes it is medically necessary for a patient who does not meet one of the above exemptions to receive a daily dose above 90 MME, the doctor may do so if he or she consults with a board-certified, fellowship trained pain specialist who approves the recommendation. Consultation may be completed by telephone or through telemedicine. If a consulting physician is unavailable for consultation within 48 hours, the requesting health professional may prescribe in excess of 90 MME and subsequently have the consultation.
- If a doctor is board-certified in pain management, the doctor does not require consultation for prescribing in excess of 90 MME.

For opioids that are not measured in MMEs, standards in the legislation will mirror FDA prescribing guidelines.

Background
In a national sample of Veterans Health Administration (VHA) patients with chronic pain, patients who died of opioid overdose were prescribed an average of 98 MME, while all other patients were prescribed an average of 48 MME.

98 MME  The average dosage of VHA patients who died of opioid overdose
62 MME  The average prescription dosage amount in Arizona
## 5-Day Limit on First Fills

### The Problem
Arizonans are being prescribed too many opioids, often in excess of the amount necessary to provide temporary pain management. 431 million pills were prescribed in 2016, enough for every man, woman and child in the state to have a two and a half week supply. Studies show the probability of opioid dependence sharply increases after five days.

### The Solution
Place a 5-day limit on initial opioid prescriptions. The limit would not apply to individuals suffering from chronic pain who are already working with their physician on a pain management program.

This limit would also exempt cancer patients, patients who experience a traumatic injury, surgery patients, continuation of a prior prescription order, hospice care, end-of-life care, palliative care, nursing care facilities, and infants being weaned off opioids at the time of hospital discharge.

### Background
This approach is grounded in medical data and research. According to the Centers for Disease Control and Prevention (CDC), for a prescription for acute pain, three days supply or less of opioid pills is often sufficient, and more than seven days is rarely needed. The probability of long-term opioid use increases most sharply in the first days of therapy, particularly after five days.

Probabilities of continued opioid use among patients have not received opioids 30 days prior to the prescription, by number of days’ supply of the first opioid prescription

![Graph showing probabilities of continued opioid use](image)
Expediting Pre-authorization

The Problem
Often times, individuals are required to obtain prior-authorization from an insurance company before receiving needed medical treatment services such as physical therapy and surgery. During the time it takes to receive the preauthorization, patients are often prescribed opioids to manage the pain in the interim. The longer it takes for preauthorization by the insurance company, the longer a patient is reliant on opioids, increasing the likelihood of opioid dependence.

Preauthorization is also required for some medication assisted treatment for substance abuse, delaying treatment for a patient suffering from addiction.

The Solution
Require insurance companies to provide responses to preauthorization requests within five days for urgent cases and 14 days for non-urgent cases, reducing the time in which a patient is reliant on an opioid prescription.

Require insurance providers to identify medication assisted treatment options that are available without pre-authorization.

Background
Medication assisted treatment options are a proven way to support recovery for those with substance use disorders. The treatment includes a combination of medications, counseling and behavioral therapy. The medications administered through the treatment are approved by the Food and Drug Administration and block the effects of opioids and assist with withdrawal symptoms.
The Problem
While most individuals are aware of the dangerous nature of OxyContin, there are many lesser known opioids that are also addictive. Arizonans would benefit from a tool to help them easily identify which prescriptions are opioids so they can proceed with caution.

The Solution
Require different labeling and packaging for opioids (“red caps”). By changing the color of the caps and adding an addiction warning label, patients will have a clear warning and be able to make more informed decisions about the medication they choose to take.

Background
Patient education is vital to mitigating misuse and abuse. A red cap can motivate patients to seek more information from their pharmacists on the risks associated with the opioids.
Stopping Doctor Shopping

The Problem
Arizona has made significant progress in cracking down on doctor shopping to protect the safety of patients, but more opportunity for reform exists.

- Currently, pharmacists do not have to check the prescription drug database prior to dispensing opioid medication to patients, increasing the possibility of doctor-shopping or prescribing potentially fatal drug combinations.

- Veterinarians often prescribe and dispense medication to animals including opioids and benzodiazepines, similar or identical to medication taken by humans. This provides another outlet for doctor shopping by people seeking to procure prescription medication illicitly.

The Solution
Pharmacists
Require pharmacists to be the last line of defense to check for multiple prescribers and other prescriptions that increase the chance of an overdose.

Veterinarians
Place limits on initial fills of an opioid or benzodiazepine if dispensed from the veterinarian’s office, and require veterinarians to report suspected cases of doctor shopping to law enforcement authorities.

Background
Enhanced use of the prescription drug database will help identify doctor shopping, and potentially lethal drug combinations. Despite an FDA black box warning, one dangerous drug combination — opioids and benzodiazepines — continues to be prescribed in Arizona.

During 2017, the most common drug combination that was prescribed to individuals who had a possible opioid overdose was opioids and benzodiazepines.

- 41% Opioid Only
- 34% Opioid + Benzodiazepine
- 13% Opioid + Muscle Relaxer
- 12% Opioid + Zolpidem
Preventing Illegal Use

The Problem
Upon the death of a hospice patient, hospice providers currently do not have the authority to dispose of the patient’s unused opioids, providing an opportunity for illegal use.

The Solution
Establish authority for hospice providers to properly dispose of opioids to prevent diversion.

Background
Misuse and abuse of prescription drugs is often the result of the diversion of a properly prescribed opioid. According to the National Survey on Drug Use and Health:

11,500,000
people were misusers of pain relievers.

2,100,000
of those people misused opioids for the first time during 2016.

53%
of non-medical users of controlled prescription drugs aged 12 or older, received the drugs “from a friend or relative for free.”
Frequently Asked Questions

Holding prescribers and manufacturers accountable

1.) How does this law crack down on doctors who overprescribe?

This law provides limitations on certain prescribing behaviors that have been shown to increase addiction. Specifically, it limits initial prescriptions to five days with limited exceptions and prohibits dangerously high doses unless additional precautions are taken.

This law also gives the medical boards access to prescribing data from the Controlled Substance Prescription Monitoring Program (CSPMP) so they can properly, effectively, and efficiently regulate their licensees, respond to complaints, discipline doctors who violate, and if necessary revoke the licenses of bad actors.

2.) What about pill mills?

Currently, unlike other healthcare facilities, pain management clinics are not regulated. This law will allow the Department of Health Services to provide oversight and regulations of pain management clinics to prevent pill mill behavior. Additionally, it prohibits doctors, registered nurse practitioners, and certified nurse midwives from dispensing controlled substances that are opioids (except medication assisted treatment) which eliminates a financial incentive to prescribe and dispense.

3.) How does this law crack down on manufacturers?

Currently, drug manufacturers who engage in fraud can only be held civilly liable. This law makes them criminally liable as well and subjects them to prison time.

4.) What about drug dealers?

Drug dealing is already illegal. The Governor is committed to providing the resources necessary to combat it. Specifically, since its creation in 2015, the Arizona Border Strike Force has intercepted over 11 million hits of heroin before they could hit the streets. This year the Governor’s Executive Budget recommends $2.9 million to expand the border strike force and prevent even more of these drugs from making it to our streets.

For Patients

5.) Why are initial prescriptions being limited to five days?

Studies show that the risk of addiction doubles at six days and then doubles again at 12. While there are patients who will need to be on opioids for longer periods of time, most of the time, a short duration is sufficient, and if a refill is needed, the law allows for that.

6.) What if I need longer than the MME dosage limit?

The law includes exemptions to the 90 MME limit for cancer patients, burn patients, traumatic injury, hospice patients, nursing home patients, and patients receiving end-of-life care. Additionally, if you don’t meet one of these exceptions, but your doctor believes you need a higher dose, they can do so if they consult with a board-certified pain specialist via telephone or telemedicine.
Frequently Asked Questions

For Patients (continued)

7.) I am a chronic pain patient. Will I have to go to the doctor every five days to refill my prescription?

No. The five day limit is just for initial prescriptions. If you are already on medication, it will not affect you.

8.) Why is there a dose limit of 90 MME?

Opioid medication doses are measured in morphine milligram equivalents (MME). The Centers for Disease Control and Prevention (CDC) recommends that doctors proceed with caution when prescribing above 50 MME and use extreme caution when prescribing above 90 MME.

Studies show at 90 MME or more, the risk of death increases tenfold compared to 20 MME or less.

9.) What if I am on a dose higher than 90 MME now? Will I have to taper down?

The law does not require you to reduce your dose, but health officials recommend you proceed with caution and consider keeping Naloxone on hand in case of an overdose.

10.) What if something traumatic happens and my doctor thinks I need a dose higher than 90 MME?

The law includes exemptions to the 90 MME limit for cancer patients, burn patients, traumatic injury, hospice patients, nursing home patients, and patients receiving end-of-life care. Additionally, if you don’t meet one of these exceptions, but your doctor believes you need a higher dose, they can do so if they consult with a board-certified pain specialist.

For Those Dealing with Opioid Use Disorder

11.) What is a Good Samaritan law?

We want anyone experiencing an overdose to get the medical attention they need. A Good Samaritan law will allow individuals who see an overdose occurring to call 911 for help without fear of being prosecuted if they too are using drugs. Studies show that in other states where this has been implemented, there has been a nine to 11 percent reduction in the number of overdose deaths.