Opioid Hazard Awareness for Miners
INSTRUCTOR'S GUIDE

This training module is designed to increase awareness of opioids as a hazard for mine workers, to give them strategies and resources for preventing opioid problems, and to strengthen positive attitudes towards helping those who are struggling. This training was developed as part of a research project at the University of Massachusetts Lowell funded by the Alpha Foundation for Mining Safety and Health to find effective ways of empowering employees to prevent opioid addiction and overdose.

Substance use and mental wellness are not your typical MSHA training health topics, and they can be uncomfortable to discuss. However, you probably already know how relevant these subjects are, especially right now. We trained over 800 miners in Massachusetts in 2020 and found overwhelming appreciation for this training. The trainers were able to use this guide and the slides to gain competence and confidence in presenting the materials. We thank you for taking on the challenge as well! The training should fit comfortably within a 45-minute training block, but the time could be extended through discussion.

As you go through this instructor guide, you will see that **Instructions are in [BRACKETS]** and **Comments for you to share when discussing the slides are in larger font.**
Questions to ask the trainees are highlighted.

Before you conduct this training, we strongly recommend that you **research local resources** for your trainees to contact about substance use, such as your trainees' employers' benefit programs, a state helpline, community substance use coalition, or a local AA meeting. Most communities and states have these resources and people are often more comfortable contacting a local resource. At the end of the presentation there is a slide with national resources. That is where you can also include information about local resources, including employers' Employee Assistance Programs.

This training can be delivered either in person or remotely via a video-conferencing platform such as Zoom or WebEx. It does not contain media such as videos and is generally low-tech. For remote training, most likely you will need to have someone who can help you monitor attention to the program by your attendees (videos on, mics off) and let you know if there are questions. You can use the chat, breakout rooms, or reactions features of these platforms to get answers to the questions embedded in the slides, or you can use these questions in any polling add-on you may be using as part of the overall training.

SLIDE 1: Greetings and Introduction (2 minutes)

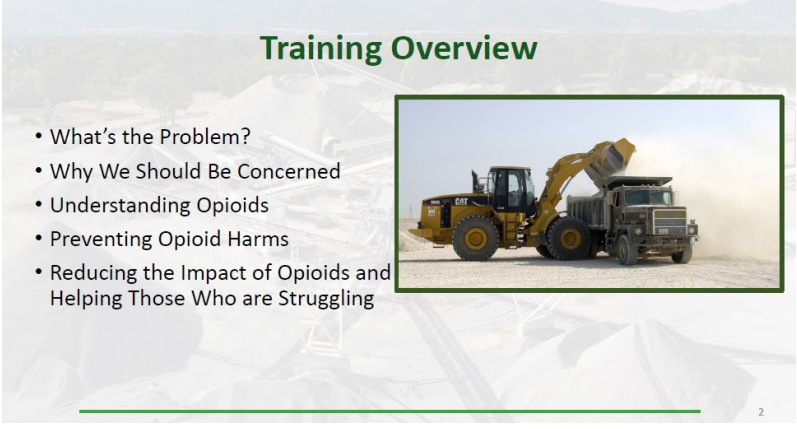
[You can begin showing Slide 1 now. In your introduction to the module, you may wish to explain why you think this is an important issue. Then note the following:]

For some of you, this presentation may contain some potentially upsetting content. Many of us know people who have had serious struggles with opioids, and some of us may know people who have died. If you are finding this topic overwhelming, and need to step out, please give me a thumbs up.

[You may have some other way trainees can indicate that they need a break, but are ok.]

This training module was developed by researchers at the University of Massachusetts Lowell as part of a research project funded by the Alpha Foundation, a mining health and safety foundation.

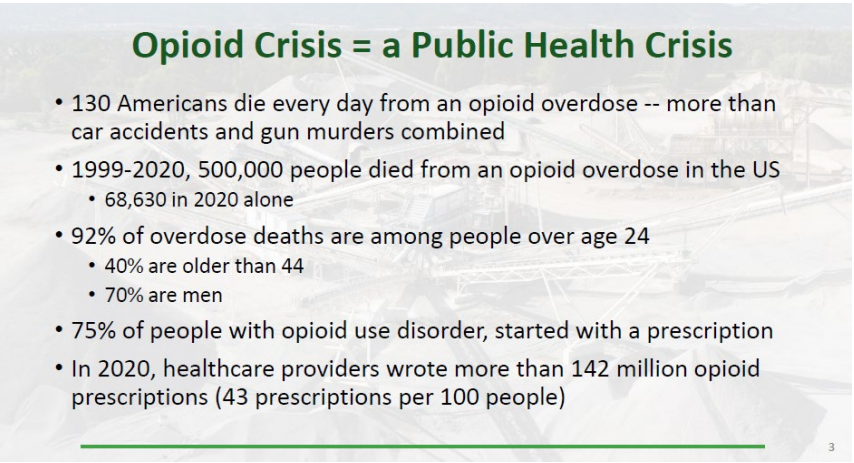
SLIDE 2: Overview



[Let them know that the training has these short sections to help them understand opioid hazards and how to prevent them. Read the section titles.]

Harm reduction means preventing things from getting worse.

SLIDE 3: Opioid Crisis = a Public Health Crisis



Most of you are aware of the opioid crisis in America. Whether this is personally relevant to you or not, the scale of the public health crisis means that everyone can benefit from opioid hazard awareness and, with that knowledge, take action to help where we can.

Opioids such as morphine and heroin have been used medicinally and otherwise for 100's of years. But the opioid crisis became a major epidemic of death and destruction in the US starting around 1999 when pharmaceutical companies began aggressively promoting them. They convinced everyone that opioids were necessary to treat ordinary pain and that they were not addictive. That's when doctors began to dramatically increase their prescribing.

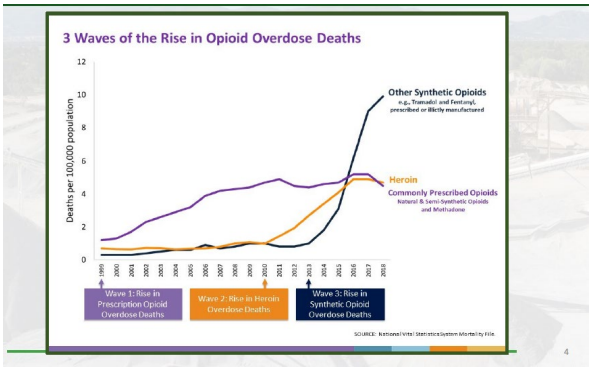
[Begin to click through the statistics – each one shows on a mouse click. The sources for these statistics are included in the notes section of the slide.]

While most people think that the crisis primarily affects young people, in fact working age people are the most affected. Most people start their troubles with a prescription from their doctor. While there have been a lot of policy changes and awareness, opioid prescriptions are still being written and there are still millions and millions of pills out there.

It's obviously not just statistics – many of us have been personally impacted by the crisis.

[You can ask if there are trainees who want to share a story of personal impact.]

SLIDE 4: The 3 Waves of the Crisis



This graph shows that the crisis began with prescription drugs such as OxyContin as the killers. As prescriptions went up, deaths went up. Then, in 2010, there was a shift to heroin as the main cause of opioid overdoses. Now we are in the deadly fentanyl phase. Fentanyl is a cheaper high and is added to heroin. Fentanyl is both a legal and illicit drug and extremely deadly in small amounts. All three continue to kill.

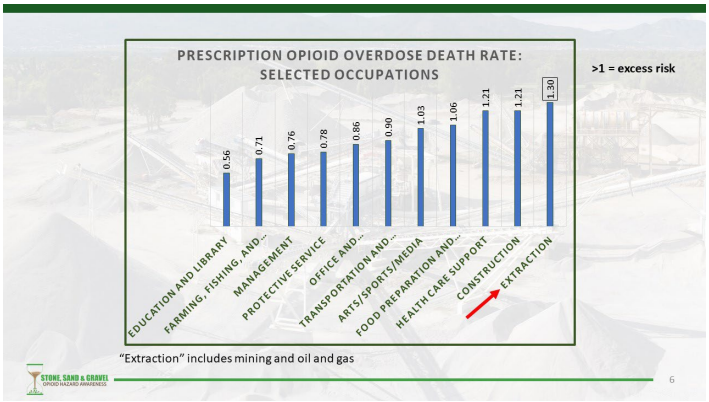
[You can ask them: What they think happened in 2010?].

Starting in 2010, restrictions on prescription opioids – the shutting down of the pill mills and policies restricting prescribing -- led to less availability and increased cost. New sources of heroin came in that were cheaper than prescription pills. Some people with opioid addictions and no source of pills turned to heroin.

SLIDE 5: We can do something

It's easy to get overwhelmed by these statistics and trends, but we can help reverse them. Opioid addiction is preventable and there are things each of us can do. This training is aimed at you, because miners are at risk. We can all become aware of the risk factors and prevent the hazard, just as we do for fall hazards.

SLIDE 6: Miners at Risk



This chart shows that when you compare the occupations of people who died of prescription opioid overdoses, "extraction" workers, which includes miners, have the highest rate.

SLIDE 7: Lots of Opioids for Miners

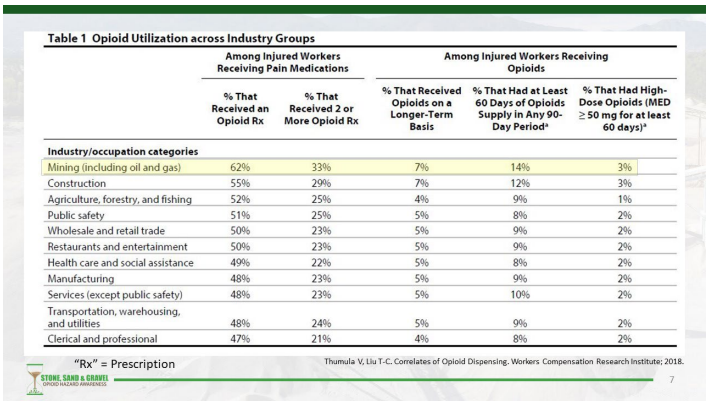


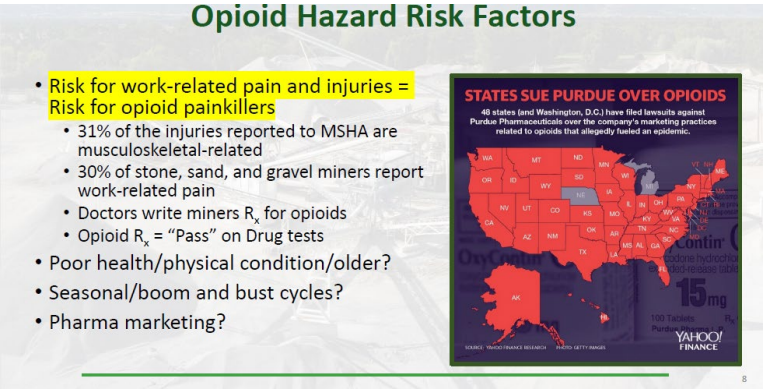
Table 1 Opioid Utilization across Industry Groups

	Among Injured Workers Receiving Pain Medications		Among Injured Workers Receiving Opioids		
	% That Received an Opioid Rx	% That Received 2 or More Opioid Rx	% That Received Opioids on a Longer-Term Basis	% That Had at Least 60 Days of Opioids Supply in Any 90-Day Period[a]	% That Had High-Dose Opioids (MED ≥ 50 mg for at least 60 days)[a]
Industry/occupation categories					
Mining (including oil and gas)	62%	33%	7%	14%	3%
Construction	55%	29%	7%	12%	3%
Agriculture, forestry, and fishing	52%	25%	4%	9%	1%
Public safety	51%	25%	5%	8%	2%
Wholesale and retail trade	50%	23%	5%	9%	2%
Restaurants and entertainment	50%	23%	5%	9%	2%
Health care and social assistance	49%	22%	5%	8%	2%
Manufacturing	48%	23%	5%	9%	2%
Services (except public safety)	48%	23%	5%	10%	2%
Transportation, warehousing, and utilities	48%	24%	5%	9%	2%
Clerical and professional	47%	21%	4%	8%	2%

And this chart shows that when injured miners filed workers compensation claims, they were the occupation group most likely to get opioids: more prescriptions, stronger prescriptions, and longer prescriptions than other workers. These data show that miners may be at higher risk of exposure to opioids and the consequences of that exposure, which includes overdose death.

[You can ask them: Why do you think workers like miners and construction workers are at higher risk? The next slide address this question.]

SLIDE 8: Opioid Hazard Risk Factors

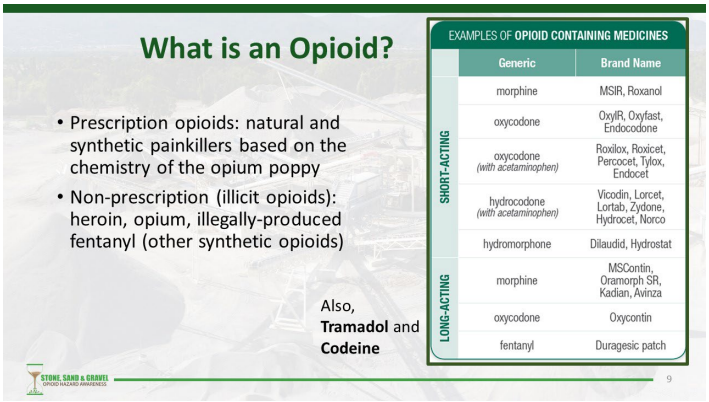


Something being a "risk factor" does not mean that it will definitely cause the problem. Just because there's ice doesn't mean that you will slip, but ice is a risk factor for slipping. These factors may be risks for mine employees to wind up with opioids and, perhaps, a problem. The first one may be the most important one. The statistics show that those occupations that have the highest risk for injuries are also the ones that come up for highest risk for opioid overdose. Doctors admit that they don't see working people as "addicts." They willingly write scripts for their patients who want and need to get back to work and see opioids as the way to do that. Most people feel that if the doctor writes the script, it must be ok, so they don't question it. Also, when prescription opioids come up on a drug test, if the type and amount corresponds to that person's prescription, the person doesn't "fail" the test. They are determined to be "fit for duty."

There may be other job demands that cause stress that might lead people to opioids.

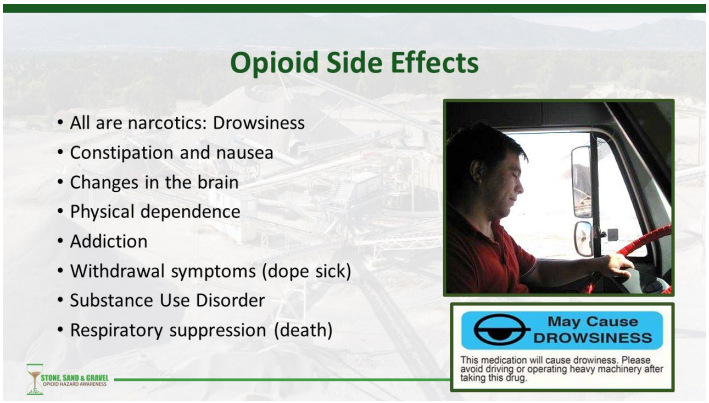
People who are older and/or not in great shape are more likely to get injuries, especially back injuries which could send them to the doctor. Construction and fishing and, to some extent mining, are seasonal and that may be a risk factor. Booms and busts mean that employees want to work when there is work and are less likely to take time off if they are injured. Finally, the pharmaceutical companies marketed opioid painkillers hard to working people. This map shows all the states that are suing Purdue Pharma, the company that made Oxycotin. Purdue convinced doctors that Oxy wasn't that addictive and would help their patients with their pain.

SLIDE 9: What's an opioid?



Many people don't know what is and what isn't an opioid. A surprising number of commonly prescribed painkillers are opioids. All opioids, whether they are legal or illegal, have the same basic chemistry and effects. If you don't know if a prescription medication contains opioids, you can ask your doctor or look it up on-line.

SLIDE 10: Side Effects



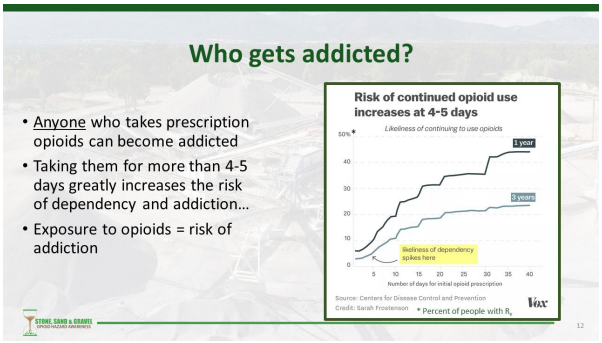
All opioids, whether they are prescription or illicit, are narcotics which means they cause drowsiness. All prescription opioids have a warning not to operate equipment or drive while taking them. They all cause these effects [read list]. They all can cause dependence by changing the brain. That dependence can lead to addiction when the sickness caused by not having the drug overwhelms the person's desire to stop using. All can cause an overdose by stopping the lungs from breathing.

SLIDE 11: Safety Risks

This was a case of a fatality in stone, sand and gravel mining. This incident occurred in Georgia. [Read slide]. The work that you do can be dangerous even under the best conditions. Opioids can increase this danger. The death of this haul truck driver was blamed on two major factors – 1) his system was overloaded with legal drugs that cause drowsiness and yet he was driving 2) co-workers and a supervisor observed him sleeping in the breakroom, but didn't do anything to stop him operating the truck.

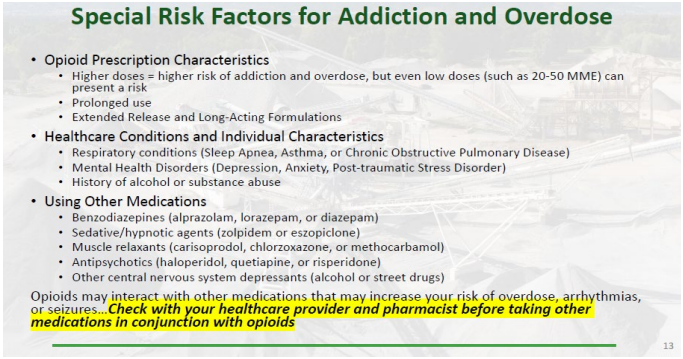
Impairment on the job can put that person at risk and they may be putting others at risk too. Some people will ignore it, but it's not safe to do that. Instead, stay with the impaired co-worker and keep them safe. Make sure they don't need medical attention. If they do, call 911. Otherwise, contact the foreman, who should have training on how to handle the situation. Do not allow them to drive or go home alone until they are no longer impaired. If they wind up home alone, it could be dangerous for them.

SLIDE 12: Who gets addicted?



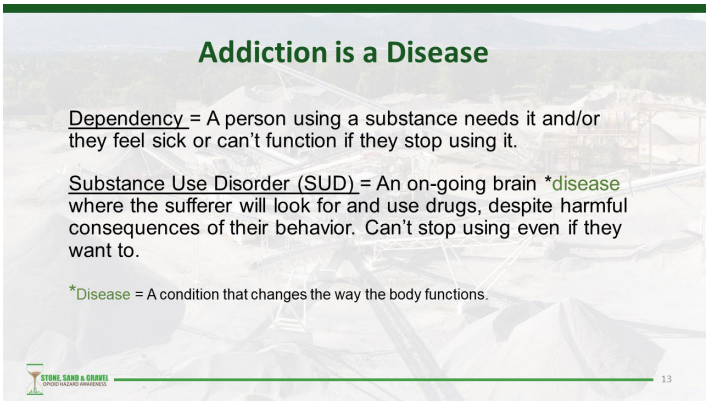
Anyone who takes prescription opioids can become addicted. People think that family history or genetics or what you experimented with as a teen can predict who gets in trouble with opioids. What actually greatly increases your risk is taking opioids for more than a few days. Just as being exposed to dust may cause silicosis over time, and more dust and more time means more silicosis, the same is true for opioids. Taking opioids for more than 5 days is a risk factor for addiction. This chart shows that 1 in 5 people who got started with a 30-day prescription are still on them 3 years later….

SLIDE 13: Special Risk Factors for Addiction and Overdose



While anyone CAN get addicted, there are some factors that might make it more likely – or might make the consequences more deadly. Someone taking high doses of opioid medications or taking them over a long period of time is more likely to struggle if they wanted to stop. If someone has other health conditions, opioids can make them worse or can make that person more likely to experience an overdose. It has been documented that people taking other medications, especially tranquilizers, while taking opioids are more likely to overdose. Bottom line – anyone taking opioids needs to know if it's safe or not and should ask their doctor or pharmacist for information about the full range of potential impacts of taking them.

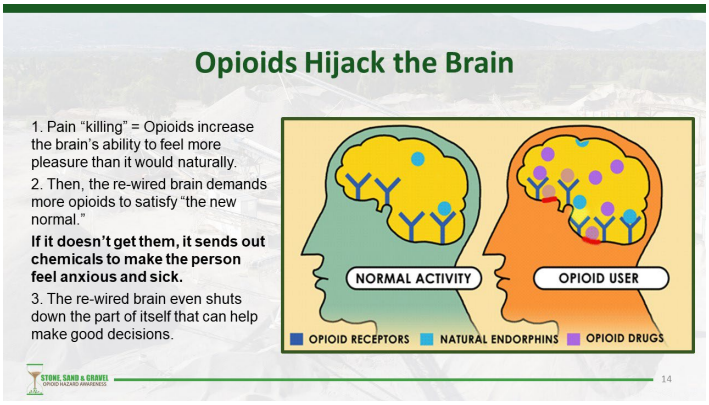
SLIDE 14: Addiction is a Disease



Addiction is considered a disease like other chronic diseases. The reason why it's viewed as a disease is because of the brain changes that are caused by opioids. Dependence means that the person needs the drug – if they don't get it, they get sick. Some people blame people who seek opioids for bad choices, but it doesn't feel like a choice to someone who has had their brain taken over by opioids.

What makes an opioid dependency turn into Substance Use Disorder is when the person reports to a doctor or substance use professional that they can't stop, that drugs are the most important thing, that their family and work are suffering, etc. It's the behavior that comes from drug-seeking and how the drugs take over someone's life that defines their problem as a "disorder" in medical terms. If someone has a regular prescription and doesn't have to do risky things to get the drug, then they probably wouldn't be considered to have a SUD even if they would get sick without it. If they get cut off of their prescription, however, they might do things they never thought they would do, including turning to heroin.

SLIDE 15: Opioids Hijack the Brain

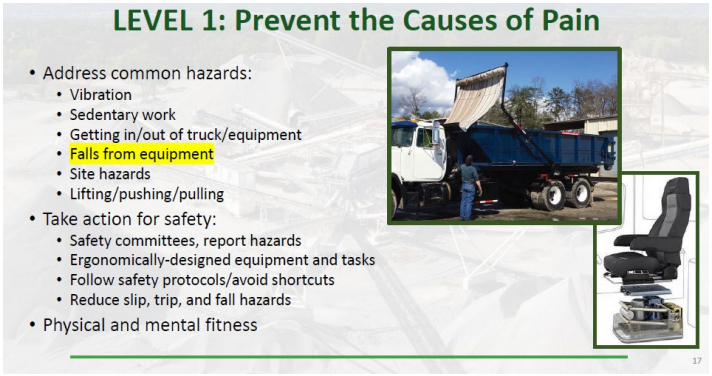


This slide explains how opioids work. Opioid painkillers don't actually kill pain or fix anything in the body that is causing pain. Instead they change the brain's chemistry and structure so that we feel more pleasure despite having something causing pain in the body. When we are taking opioids, we pay more attention to the pleasure than the pain. But once they have made that change by increasing the number of opioid receptors in the brain, the receptors want them all the time. If they don't get them, they send strong signals to go get them. Remarkably, opioids are so smart they can even increase pain and shut down the part of the brain that understands that more of the drug is a bad idea.

SLIDE 16: Prevention and Harm Reduction

This slide presents the three levels of prevention starting "upstream" at Level 1 before there is any reason to take opioids. The first approach is to prevent situations from happening where someone could find themselves with a prescription. The second level is after something has happened – because things happen. At that point, we want to prevent exposure to opioids. The third level of prevention is actually called "harm reduction" because it is at this stage where someone has developed an addiction or dependency, and we want to reduce the harm that the addiction is causing or could cause. The following slides describe actions that can be taken at each of these three levels.

SLIDE 17: Level 1: Prevent the Causes of Pain

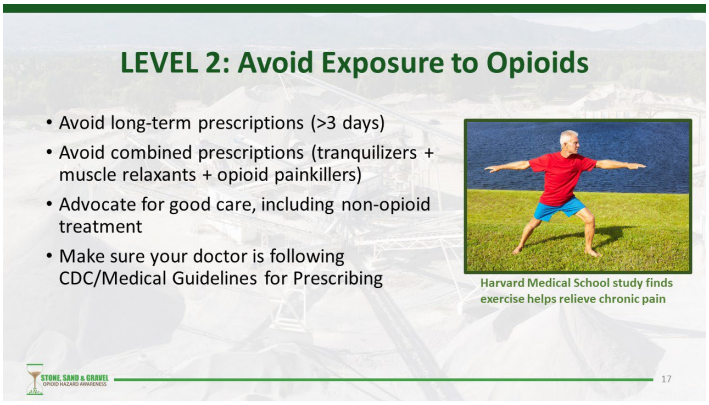


This is doing what we can to prevent injuries in order to prevent prescriptions and prevent falling down the rabbit hole of addiction. As you know, common hazards in mining operations include falls from equipment, sitting in the truck/equipment, getting in/out of truck/equipment, site hazards, lifting/pushing/pulling, and weather conditions. Some hazards can be minimized by keeping equipment in good shape and taking your time – avoiding short-cuts. Some hazards need more attention including from safety committees. Site safety depends on employees reporting hazards and following safety procedures.

Ergonomics means fitting the task to the worker to avoid over-stressing the body. As we get older, this becomes even more important. Equipment such as automatic tarp covers can prevent falls. These BoseRIDE truck seats are designed to reduce back pain by preventing shocks to the body.

Site maintenance is critical to prevent slips, trips and falls. Hazards and risks for injuries can be reduced, and are more likely to be, if there is a positive safety culture and comprehensive safety program that welcomes your participation. Finally, maintaining or improving your physical and mental fitness – getting enough sleep, etc. can help prevent injuries where the hazards have been well controlled.

SLIDE 18: LEVEL 2: Avoid Exposure to Opioids

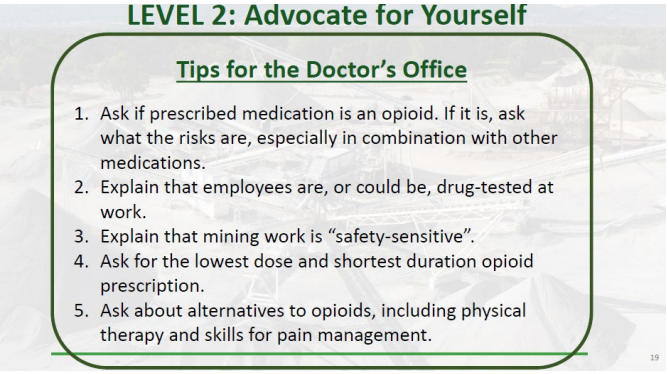


Say something has happened – maybe an accident, maybe long-term back pain, maybe dental work, or non-work-related surgery. Pain is likely – how can you avoid exposure to opioids? First, you have to know what you are being prescribed and avoid any long-term prescriptions, generally more than 3 days. You definitely want to avoid combined prescriptions such as tranquilizers like benzodiazepines and opioid painkillers. If you are dealing with more than one doctor, you will need to make sure you don't wind up with prescriptions from each that shouldn't go together.

Since you are facing pain, you need to speak up to get good care that doesn't include opioids. Studies show that gentle exercise is effective for long-term painful conditions.

Finally, the CDC (the federal public health agency) is trying to get doctors to follow strict guidelines for prescribing opioids. Those guidelines tell doctors to avoid prescribing them. If they do prescribe them – the agency says they should only prescribe low and short doses and should monitor their patients for signs of dependence.

SLIDE 19: LEVEL 2: Advocate for Yourself



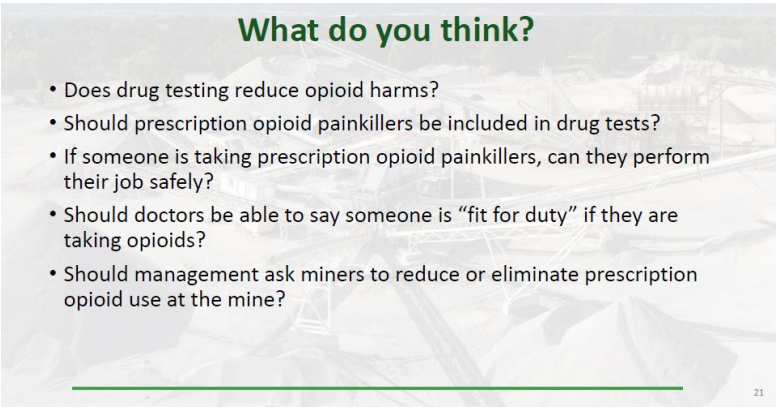
It can be uncomfortable to question your doctor, but it can be necessary. Doctors have been slow to understand how dangerous opioids can be for working people.

These are the essential tips for advocating for good care and avoiding harmful care. [Read tips. If you use the Participant Handout, these are included.] As you know, just about all jobs and activities in mining are "safety-sensitive" which means that they rely on the people doing them to be knowledgeable and careful in order to avoid accidents.

SLIDE 20: What about my pain?

Many people are living with chronic pain. Lots of people have routine surgery and dental work that can cause short-term pain. Opioids have been the go-to for both chronic and acute pain, but the medical science does not support their use for anything other than emergency care and cancer-related pain in terminally ill patients. Study after study shows that opioids aren't effective painkillers and can make pain worse. They certainly don't address the underlying cause of the pain, and they cause a heap of trouble. Fortunately, there are effective methods for dealing with pain that don't use opioids – the most effective strategies don't use drugs at all. You can ask your doctor to refer you for physical therapy and other non-opioid pain management.

Slide 21: Questions on Opioids and Safety-Sensitive Work



[Here you may wish to divide participants into breakout groups to discuss these questions. Ask someone from each group to summarize what the group feels about the questions and ask each group to address one of the questions in a report-back. You may also pick one or more of these questions for discussion in the training group as a whole. Or, you can just read the following:]

The answers to these questions go beyond what the law says – they are about deciding what's right or wrong. MSHA rules do not require drug testing for miners (although it is required in some states and CDL holders are drug-tested). If there is drug-testing, the supervising doctor can decide if a miner is fit for duty while taking opioids. However, miners and mine operators may want to think about the potential safety issues that can come into play if opioid use isn't restricted.

[The questions and some discussion of them is included in the Participants' Handbook. These questions are meant to provoke discussion.]

SLIDE 22: LEVEL 3: Substance Use Disorder Treatment

The third level of prevention is Harm Reduction. When someone is struggling with opioid dependence, we want to reduce the harm of that dependence by helping them get into treatment or preventing an overdose from killing them. For those

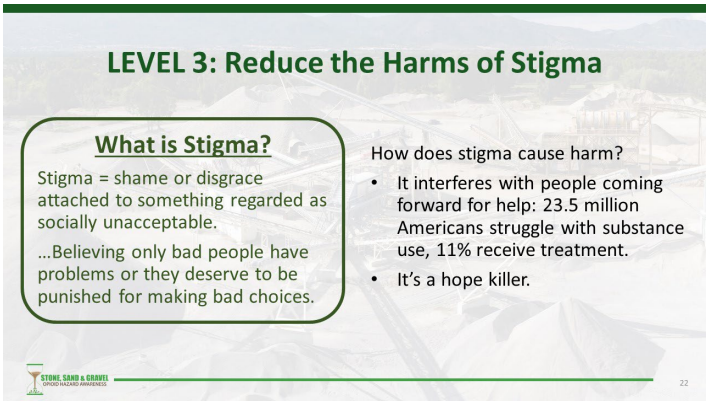
using opioids long term, they will probably need a doctor or substance use professional to help them reduce or stop using them. For workers who got started on opioids for pain, it will also be essential that they get treatment for the underlying condition that is causing them pain.

The first step is to safely reduce the amount of opioid in the system and the body's response. For those with opioid prescriptions, they can get helping tapering down their opioid dose while getting pain management assistance. For those without prescription, they will be directed to Detox/Withdrawal Management. Detox treatment often includes using medications that are also opioids, but don't allow the person to feel the pleasure response. This at least stops the cravings.

MAT = Medication-Assisted Treatment which combines talk (behavioral) therapy and medications to reduce dependence. These medications have been found to be effective in helping people avoid more harmful opioids. The quote from the federal agency SAMHSA reminds us that there are different paths through treatment to recovery, but MAT has evidence of effectiveness.

Finally, most people will need support in their recovery journey, and AA and NA are great for that.

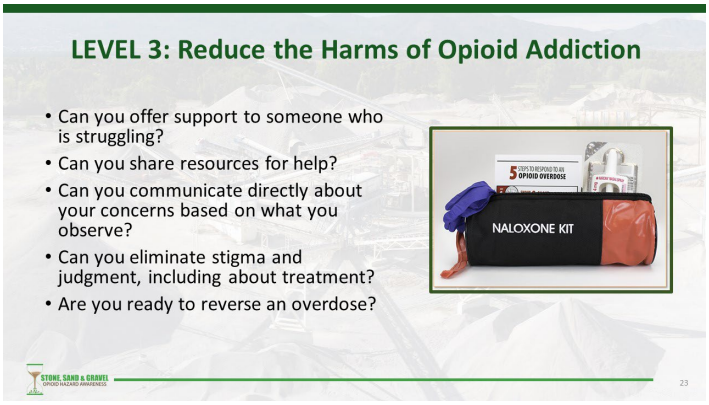
SLIDE 23. LEVEL 3: Reduce the Harms of Stigma



Negative attitudes have gotten in the way of progress towards reducing the damage done by opioids. Stigma is the shame or disgrace attached to something regarded as socially unacceptable. It also includes believing only bad people have problems or they deserve to be punished for making bad choices. The person suffering as result of their substance use can have these attitudes as well. Stigma causes a lot of harm because it makes people feel hopeless, that they deserve to suffer, that they can't get well, and that it would be too shameful to get

treatment. So, if we change our attitude from shame and judgment to empathy and compassion, we can help get more people into treatment and recovery. You can still be angry with someone, while at the same time encouraging them, helping them access resources, and supporting them in their recovery journey.

SLIDE 24: LEVEL 3: Reduce the Harms of Opioid Addiction



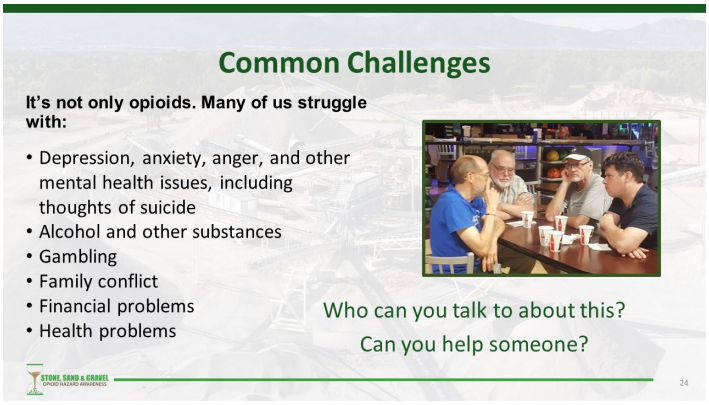
These questions challenge you to see if you are ready and willing to play a part in reversing the opioid crisis.

[This is another opportunity to engage the participants in an activity. You can introduce these questions and ask them to think about them for a minute individually while you pause for them to do so. You can ask for their reactions to these “challenges.” They could also discuss these in breakout groups.]

Opioid overdose reversal is done with a drug called naloxone or Narcan. Narcan is safe and effective. Many emergency responders carry Narcan and first aid training often includes overdose reversal with Narcan. The American Red Cross offers an on-line course in First Aid for Opioid Overdoses. In many states you can get Narcan without a prescription and carry it in case you encounter a person who is experiencing an opioid overdose.

[You can ask if anyone in the class has been trained to use Narcan and ask them to share their experience. You can also find out if Narcan is available at any of their worksites.]

SLIDE 25: Common Challenges



This presentation has focused on opioids, but we recognize that many of us struggle with other problems – often several of these all at once. Normal life includes trouble. Suicide is on the rise, particularly for men over 40. It can be difficult for men to confront problems and ask for help. It's uncomfortable. If you can, let someone know that you can be an ear or aid them in finding help.

SLIDE 26: Resources

[This is the place where you would share the contact information for local resources including Employee Assistance Programs that are specific to your training audience.] These agencies and organizations can connect you to local resources for help. You can also call them on behalf of someone else. Some employers contract with Employee Assistance Programs or have insurance programs that can provide confidential help for yourself or a family member. If you aren't sure who to call, try the numbers here. They can refer you to local services for family, friends, co-workers, or yourself.

[These resources are also available in the Participants Handout.]

SLIDE 27: Conclusion

Thank you for your attention.

Facilitator's Guide v.3 5/2/23