

CDC *Vital Signs* Town Hall Teleconference

Addressing the Current Heroin Abuse and Overdose Epidemic:

The Role of States and Localities

July 14, 2015

1:00 pm CT

Coordinator: Thank you for standing by. At this time all participants are in a listen-only mode. During the question and answer session, please press star and 1 on your touchtone phone.

Today's conference is being recorded. If you have any objections, you may disconnect at this time.

I will turn the meeting over to Mr. Matthew Penn. You may go ahead, sir.

Matthew Penn: Thank you so much. Good afternoon everyone. My name is Matthew Penn. I am the director of the Public Health Law Program in CDC's Office for State, Tribal, Local, and Territorial Support. I'm so glad you could join us today. We're going to be discussing the latest *Vital Signs* report on the current heroin epidemic.

Before we get started, let's go over some housekeeping details. You can go online and download today's PowerPoint presentation so you can follow along with the presenters. This is a teleconference. There's no webinar aspect to this, so you follow along as the speakers go. The web address for the slides is www.cdc.gov/stltpublicheatlh. That's S-T-L-T public health -- all one word. Look over to the far right side of the page for the *Vital Signs* teleconferences link, or you can google "CDC *Vital Signs* Town Hall" and click on the top link of that Google search and that should get you there.

On the same web page, you can also access the bios for today's presenters and audio recording and transcript, which we hope to have available sometime next week. There will be time for questions after today's presentations, but you can get in the queue at any time to ask a question. Just press star one and say your name when prompted.

So back to the topic for today, Addressing the Current Heroin Abuse and Overdose Epidemic: The Role of States and Localities. We're going to hear from four colleagues today. First we will hear from Dr. Christopher Jones, a Commander in the Commissioned Corp of the US Public Health Service who serves as a senior advisor in the Office of Public Health, Strategy, and Analysis, Office of the Commissioner at the US Food and Drug Administration. And today he's going to be talking about the *Vital Signs* report that came out just recently.

After Chris goes, then we'll have Dr. Gary Franklin - will present. Dr. Franklin is the medical director at the Washington State Department of Labor and Industries. He will discuss state-based policies on opioids for chronic pain.

And then he'll hand the call over to Barbara Cimaglio, the deputy commissioner for Alcohol and Drug Abuse Programs at the Vermont Department of Health. She's going to be talking about Vermont's approach in addressing the opiate epidemic.

And then she'll hand the call over to Dr. Alexander Walley, an assistant professor of medicine at the Boston University School of Medicine and medical director of the Opioid Overdose Prevention Pilot Program at the Massachusetts Department of Public Health. Dr. Walley will be presenting on overdose prevention and naloxone rescue kits in Massachusetts.

And now, I'll turn the call over to Commander Jones.

Dr. Chris Jones: Thank you, Matt, and thank you ahead of time to my fellow speakers. I think that they'll really provide the meat of the presentation today and provide some actionable information that they have, as leaders in their states, have implemented to address this growing public health problem.

As Matt said, last week CDC in collaboration with FDA released an MMWR as part of its *Vital Signs* series and the title of it was "Demographic and Substance Use Trends among Heroin Users in the United States from 2002 to 2013." I'm currently on slide four.

Moving to slide five, the key findings from the MMWR - and I'll describe these more in the coming slides, but overall we found that over the past decade heroin use had increased among nearly all demographic groups. People who are using heroin also report abuse or dependence on other substances, and as we've seen increases in use, abuse, and dependence, there's been a corresponding increase in heroin-related overdose deaths.

Moving to slide six, when we look at the changing demographics of heroin use, you can see the percent change from 2002, 2004 to 2011, 2013. And these are contained in the MMWR report. But you can see that there were no declines among any demographic group that we looked at, and you see significant increases among almost all populations. Particularly noteworthy were the doubling in the rate among women, more than doubling among the rate of eighteen to twenty-five year olds, and more than doubling of the rate among non-Hispanic whites.

We also find that among some of those groups -- females, non-Hispanic whites, people who are privately insured, and among those with higher

incomes -- that you see significant increases. And those are groups who historically have lower rates of heroin use. So we don't see any declines, but we see a broader population of people reporting heroin use.

The second key finding, as I mentioned earlier, was that people who are using heroin are not doing it in isolation and often times are reporting abuse or dependence on other substances. And on slide seven, you'll see essentially among the four time periods that we looked at in the *Vital Signs* report the percent of past year heroin users who met DSM-IV criteria for abuse or dependence on particular substances.

And you can see that roughly from alcohol, marijuana, and cocaine - pretty flat trends over time. But essentially, in the latter years, about a third of past year heroin users met criteria for alcohol abuse or dependence and about a fourth met criteria for both cocaine or marijuana abuse or dependence.

When you look at opioid pain relievers -- so the last group on the right on slide seven -- you can see that clear trend here, that in 2002, 2004 about 21% of past year heroin users met criteria for abuse or dependence on prescription opioid pain relievers. But by 2011, 2013, that had jumped to 45.2% -- so a doubling in that population. And by the latter years of the analysis through 2013, opioid pain relievers were the most common substance abuse or dependence condition among the four drugs that were looked at for this particular study.

And as I mentioned, as we've seen this increase in use, abuse, and dependence, we've seen a corresponding rise in overdose deaths. And that is depicted in slide eight where you can see here that we have mapped past-year heroin abuse or dependence rates with heroin-related overdose death rates. And the death rates are per hundred thousand population in the US;

and the abuse or dependence are per thousand persons aged twelve years and older.

And you can see here that for several years -- really through 2006, 2007 -- both deaths and abuse or dependence were relatively stable and you start to see an increase. And really you see the greatest increases in the last several years, and that corresponds to the rise that we see in overdose deaths.

And in the MMWR when you look at the correlation coefficient, it rounds up to about 0.9 for the relationship between heroin abuse or dependence and overdose deaths - so a tight relationship that we've seen over the study period.

We also looked in the MMWR using a multi-variable logistic regression model to identify the groups who are at an increased risk for heroin abuse or dependence, accounting for other factors. And when you account for other factors -- both other demographics, geographic, socioeconomic factors, as well as substance abuse or dependence factors -- we see that the highest odds ratios are among males, people who are eighteen to twenty-five year olds, non-Hispanic whites, people living in large urban areas, people with a household income less than \$20,000 annually, the uninsured, and people who are enrolled in Medicaid. So those are the highest risk populations.

And when you look at - and that's slide nine. Moving to slide ten, when you look at people who meet criteria for abuse or dependence on other substances, we see that people with abuse or dependence on alcohol are two times more likely to have heroin abuse or dependence; or marijuana abuse or dependence it's three times. For cocaine it's fifteen times.

And the strongest predictor in the model was abuse or dependence on prescription opioid painkillers. And those folks were forty times more likely to have heroin abuse or dependence compared to people who did not meet criteria for abuse or dependence on prescription opioid painkillers, even account for other demographic and substance use variables.

So the *Vital Signs*, in short, really provided some new information around the populations who are most at risk, and hopefully will inform prevention efforts. And really it boils down to three areas that we think are worthy of focusing on that can make the greatest impact. And these are really the areas that our next three speakers will be talking about, but essentially it comes down to three things -- reducing prescription opioid painkiller abuse. So we see from the MMWR and from prior research the strong connection between abuse of prescription opioids and future or concurrent heroin use.

So one action that can be taken is to improving opioid painkiller prescribing practices and identifying high risk individuals early -- so using PDME's, screening patients for abuse risk, etc.

The second area is ensuring access to medication-assisted treatment. So we know that medication-assisted treatment is the most effective evidence-based substance abuse alternative for people with opioid use disorders. And whether its' primarily prescription opioids or heroin, making sure people have access to it, are appropriately treated with MAT is a critical component of this strategy.

And finally, expanding the use of naloxone to reverse opioid overdoses, whether they be prescription opioids or heroin. And again, as I said, essentially the epidemiology of the data in the MMWR prior research really points to these three areas. And so to turn it over, next I'll go to Gary Franklin

who will talk about the first area and look at what Washington State has done around opioid painkiller prescribing. So I'll turn it over to Gary.

Dr. Gary Franklin: Thanks very much, Chris. I appreciate it. If you go to slide fourteen, this is the worst man-made epidemic in modern medical history. The epidemic has been made by non-evidence based teachings twenty years ago and it has led to tremendous overprescribing and prescribing of extremely high doses, and that all has led to over 140,000 deaths, many more hundreds of thousands of overdose admissions, millions addicted or dependent.

And in a most recent study published in Lancet Psychiatry by Degenhardt - the prevalence or the incidence, I'm sorry, of opioid use disorder among people using opioids chronically is as much as 30%. And then that all, of course, has led to this spillover effect to heroin and to social security disability insurance.

On slide fifteen, it's very important to understand how this epidemic began, that the teachings that occurred in the late 1990s is what led to this problem. And some of those teachings included such basically falsehoods as no ceiling on dose, you can use as much as you want.

As a matter of fact, the axiom was to keep pumping the dose up if tolerance to opioids occurs. In many states -- at least twenty states -- intractable pain acts were passed with language like "no disciplinary action will be taken against a practitioner based solely on the quantity or frequency of opioids prescribed." In other words, you could be handing out bags of opioids and the medical boards in those states would not be able to do anything about it. It's going to be very important to reverse these antiquated laws.

On slide sixteen, on the other hand, even in spite of this epidemic of severe harm and death there is no evidence that opioids actually help people in chronic pain. In the most recent study published by the Agency for Healthcare Research and Quality by Roger Chou and the Annals of Internal Medicine, the conclusion is that there's insufficient data on long term effectiveness to reach any conclusion at all, and -- quote -- "evidence supports a dose dependent risk for serious harms" -- unquote. In other words, the evidence of harm is tremendous but the evidence that these drugs actually help people improve their lives and improve their function is pretty much very low or nonexistent.

Slide seventeen, on the other hand, shows that the relationship between the doses that people have achieved with all this liberalization and laws- that the relationship between the doses of opioids that they take and overdose events is extremely strong. Doses at 100mg per day Morphine equivalents and over - the risk of an overdose event is up to nine-fold. But the risk is not low between fifty and 100 milligrams of Morphine equivalents and opioids. The risk is up to four times.

In Washington State in 2006 alone, just in the public programs, we had 10,000 people on over 100 milligrams Morphine equivalents per day and therefore tremendous increase in risk.

You can see at the bottom of this slide that a number of states including Washington - was the first state -- began to take action to create guidelines at the medical board level or at the state level to reverse this epidemic by setting - establishing thresholds beyond which the dosage should not be elevated. Washington established a threshold of 120 milligrams. The CDC recommended 120 in 2009 and then other states have followed suit. Most

recently, California at 80 milligrams, the American College of Occupational and Environmental Medicine at 50 milligrams, Ohio at 80 milligrams.

So the threshold ranges that are being implemented in the states are - vary between 50 and 120 milligrams, but the key is that you should have a threshold. You should not rely on no threshold at all.

Slide eighteen just again summarizes the state policies and shows you some links where to find some of these things. These policies are not always easy to find.

Slide nineteen is very important. These are what we believe to be the concrete policy steps to take in your state to reverse this epidemic. The most important thing is collaboration among state agencies at the highest levels. In our state, our governor and our legislature expected all of the agencies -- the Department of Health, the Worker's Compensation Bureau, Medicaid program, the State Employees' Healthcare System, and the Department of Corrections -- to collaborate at the highest level. And this is what has occurred in some other states -- this is Ohio -- to be successful in changing their policies.

You have to reverse the permissive laws that I mentioned earlier that passed in the late 1990s. You should set specific opioid dosing and best practice guidelines, and that should include guidance about what to do during acute and subacute pain because this is where the inappropriate chronic prescribing begins with inappropriate prescribing for the acute and subacute situation. Most people with nonspecific musculoskeletal disorders, headaches, fibromyalgia, etc. -- they don't require opioids at all. In fact, opioids are probably contraindicated because there's no evidence that they work in those types of conditions.

You should establish metrics for tracking progress both at the state level and in doctors' offices. You should be tracking the deaths and the overdose events and hospitalizations. And you should be tracking the high MEG prescribers in your state.

You should implement an effective prescription monitoring program. This is extremely important. Only about 30% in most states - only about 30% of prescribers are currently signed up in general, but this prescription monitor computerized ability to check the sources of all controlled substances in your patients. You should check the prescription monitoring program with any first prescription by no later than six weeks after you start opioids and then periodically if you're using opioids chronically.

Insurers should not pay for office-dispensed opioids. This is a terrible practice. We should be encouraging or incentivizing the use of best practices, including the use of web-based Morphine equivalent dose calculators and the use of state PDMPs.

And finally, I just want to mention that we should be incentivizing community-based treatment alternatives such as greater exercise, cognitive behavioral therapy, and paying for much more treatment for dependence and addiction, as you will be hearing more about.

Slide twenty shows that Washington State has actually had a sustained 27% - or now it's 30% decline in deaths. There were very few other states that have been able to do this, and this is related to the implementation of our dosing guidelines in Washington State.

The last slide, slide twenty-one, shows you that in the Worker's Compensation System in Washington State that if you control the amount of opioids being used in acute and subacute pain, if you do not use opioids inappropriately in those cases you can dramatically reduce the proportion of people going on to chronic opioid use. And you will therefore be reducing and preventing the next cohort of your citizens getting into trouble with this epidemic.

Thanks very much and I'd like to turn it over to Barbara Cimaglio, the deputy commissioner for Alcohol and Drug Abuse programs in Vermont.

Barbara Cimaglio: Thank you very much and thank you for the opportunity to share with you a little bit about what Vermont is doing to address the opioid epidemic in our state.

As has been said, I am the deputy commissioner over the Alcohol and Drug Abuse programs for the state of Vermont. We are an integrated health department, which means we operate both the State Department of Health as well as local district offices around the state.

It gives us a wonderful opportunity to be able to work in a coordinated fashion throughout our state and because we also oversee the addiction treatment and prevention system, we're able to incorporate that in a seamless manner.

So as you will see, what we're trying to do is implement a comprehensive public health approach to this problem. And hopefully I will be illustrating a lot of the points that our previous speaker made about the proper way to approach this very intransigent and difficult issue to make changes in our community.

So, on the next slide, which would be slide twenty-four, just a summary that when we identified this as a public health problem, we looked at what approach we should take and started at the beginning, which is reviewing our data. I did not put a lot of data slides in the presentation, but I'm happy to share more with people if you would like to see more details.

What we saw was fairly consistent with what you heard from the opening speaker. We saw increasing number of heroin deaths. We saw more people seeking treatment for heroin use. We saw more young people and our Youth Risk Behaviors Survey reporting misuse of prescription medications. We saw more law enforcement incidences related to opiates.

And so in looking at that data - and we do have a state epidemiological work group that focuses on drug and alcohol issues. So they routinely review the data. When they reviewed that data, they identified the key areas and that led us to look at who the partners should be to help us address this issue.

We put all those partners together and collaborated with our law enforcement entity -- our Vermont State Police -- to develop a prescription drug abuse work group. And we invited everyone from our Medicaid partners, medical leaders throughout the state, prevention leaders, and we said we have a problem. We need to develop strategies for addressing this problem and it's going to take everybody working together.

So the prescription drug work group continues to meet. We identified policy areas that we needed to address including those you heard about -- prescribing practices, community policies such as drug disposal, etc. And so we looked at those policies and made a plan for what we needed to do to systematically make changes.

One of the things that we identified and I'll talk a little more about is improving access to treatment being one of the most important issues that we had to confront. And that specifically means medication-assisted treatment. We had a history in our state of not having a lot of medication-assisted treatment and we recognize that with the escalating number of people with addictive disorders we're going to have to have a more robust response.

We then obviously identified performance measures so that we would be able to know how we were doing and be able to regularly evaluate.

One of the points on the next slide, twenty-five, that I think helps explain why we have such a serious problem and it developed so rapidly is that those of us in the drug and alcohol world are used to working primarily with people with alcohol problems and periodic use of other substances. But when it comes to the difference between someone with chronic alcohol use and someone with chronic opioid use, you see in this graph that the time elapsed between age of first use and the development of a serious problem is much shorter with an opioid problem.

And so you see a very compressed escalation of the problem and for a small rural state like ours it overwhelmed us with more people coming into treatment and seeking help, and overdosing and presenting for medical care than we had the capacity to address.

And so I think we recognize that we needed to act quickly. This is not just an urban problem. It is present throughout the rural communities in New England and I know in many other places around the country.

So in the next slide, twenty-six, this is a very summarized version of our plan and our actions to address opioid drug abuse. We use this slide largely in community presentations to show what it takes to address this problem starting with education -- prescriber education, community education, etc., naloxone distribution. I'm not going to read through all of these, but summarizing the areas - education, tracking and monitoring, proper medication disposal, treatment options, and enforcement.

And every community and the whole state needs to have something happening in all of these areas to comprehensively address the problem.

So just to highlight a few of the things that Vermont is doing in these areas that have made a real difference for us - starting with the Vermont Prescription Monitoring System. This is our prescription monitoring program and everyone is required by state law to register. Every prescriber is required to register and every dispenser -- pharmacies -- are required to register. And over the years since this program was first enacted in 2007, we have continued to strengthen the program.

So we started with a very basic model and then over the years we've required more facets to be explored like we did not use to require everybody to register and now we do. So we've learned and we've improved the system as we go. And there's a link here to the web site which has much more information about how we use the prescription monitoring system.

A little difference in Vermont - we do not have access to law enforcement in our system. It is a health model. It is operated at the health department and it was developed primarily to promote appropriate use of controlled substances. And so that's a little different than some states where the systems are operated under a criminal justice or law enforcement umbrella.

The other thing that we have done and we just recently passed legislation governing prescribing of opiates for chronic pain, and there's a link here on the bottom of slide twenty-eight that will take you to that regulation that has recently been enacted. This corresponds to actions our medical practice board took in adopting pain management guidelines. And I put a link in there too.

We did borrow from our neighbors in Washington across the country and we looked at what a lot of different states were doing in this regard, and developed our regulation. We have found that the medical community has been extremely grateful to us for bringing this together in one place and for providing support to them, technical assistance, and good information that is helping them improve their prescribing.

So again, we've approached this as a partnership with our medical practice board, our medical society, leading practitioners in our state in order to make sure that we were truly speaking with one voice about what the evidence shows and what's been shown to be effective.

Some of the key things we have in our regulation require that physicians who are going to prescribe opiates for chronic conditions - that they screen the patients for risks and benefits of using opioids, and that that's documented in the medical record before prescribing, that they document that non-opioid alternatives have been considered. They must query the prescription monitoring system. They have to have informed consent and a controlled substance treatment agreement.

So there are other things, but those are some of the highlights of what is in that regulation that has recently been enacted.

On the next slide, we do have a naloxone program and that, again, I think we're going to hear more about that so I'm not going to say a lot, other than I think we're doing pretty much what we borrowed from Massachusetts, again, on creating the legislation. And we've been working, again, closely through Vermont State Police and we've been offering training and working with our syringe exchange programs, our addiction treatment programs, our local emergency medical programs all to increase the opportunity for people to get naloxone kits.

And then our treatment response has been the creation of a statewide model which we call our "Hub and Spoke." It sets up this system of specialty addiction treatment programs that are opioid treatment programs, meaning they can dispense both methadone and buprenorphine and other addiction medications.

They are surrounded. This is on slide thirty. They are surrounded by various physicians who also work with opioid dependent people who need lesser structure in their treatment. So someone might start out and get treatment in a hub, a specialty program; and then as they're stabilized, they could be referred on to their primary care provider for continuing management of their treatment.

And then I am - I skipped ahead a couple of slides, sorry. I think that summarizes most of the things that I wanted to share with you. I've put on the last page links to our website so that if anyone desires more information you can find it there. And with that, I will turn it over to our next speaker, Alexander Walley. Thank you.

Dr. Alex Walley: Thank you Barbara and thanks to the CDC for hosting us. My name's Alex Walley. I'm a doctor at Boston University School of Medicine and Boston Medical Center where I see patients in a methadone clinic and primary care provider. I do research and I work with the Massachusetts Department of Public Health as the medical director for the Opioid Overdose Prevention Pilot Program, which is the program that distributes naloxone rescue kits in the community to people who use opioids and their social networks.

So I'm going to focus on that. I'm glad to hear from the other speakers all the important things going on in other states. If you go to slide thirty-three, you can see the same information displayed in two different ways. So the top graph is the rate of unintentional opioid overdose deaths among Massachusetts residents and then below that is a histogram that shows the counts.

And so actually if you look at this, Massachusetts had quite an increase between 2000 and 2006 - almost a doubling of the rate that then flattened out between 2006 and 2012. But then again has spiked up in the last two years where we have over 1,000 opioid overdose deaths.

And so I'm going to focus on the naloxone rescue kits, but we do have a relatively robust treatment system in Massachusetts. We have universal healthcare that went into place into 2006. And so I think we saw some benefits in the middle of the last ten years but then in the last two years have seen this new spike in overdose deaths.

So one piece of that - if you go to the next slide, which is slide thirty-four, you can see a map of Massachusetts. The towns in blue are the towns that have naloxone rescue kit and overdose prevention community programs based in those towns in 2015. And then the orange dots are also naloxone rescue kit

and overdose education distribution sites which are through a community-based program called *Learn to Cope*, which is a support group for parents and other loved ones of people who are using opioids.

So this is what our program looks like currently and - but it didn't start out this way. In 2007 when the program first started we were just located in Boston and Cambridge, and then expanded in subsequent years to four more towns and then to two more towns in 2009.

So if you go to the next slide, which is slide thirty-five, you can see the locations where we do the trainings to train community bystanders how to respond to overdose and then distribute naloxone rescue kits. And the primary or the place where we distribute the most kits are in detox programs, which is important because the detox is what a lot of people think of when they think of treatment for opioid use disorders.

But it really isn't treatment in the sense that when somebody leaves detox, they actually have a higher risk of overdose than when they go in. The reason for that is part of what happens in detox is that the tolerance to opioids is reduced as somebody goes through the detox process. However, without further treatment the relapse rate is very high in the next - in the subsequent months. And so that's an important place for us to educate people and then also to distribute naloxone rescue kits.

We also have drop-in centers which are primarily targeted towards people who use injection drugs. We have community meetings and you can see there that's really the *Learn to Cope* meetings that were the orange dots on the previous slide. Our syringe access programs and then other types of treatment facilities both medical and addiction type facilities, and then some more creative things like home visits, shelter, and street outreach.

So as of May 2015, we've had over 33,000 people in Massachusetts who've been trained and equipped with naloxone rescue kits. The current rate we're at in this year is about twenty-eight people per day who are trained. And the places and the venues where we train people we also receive reports that we collect data on of rescues, and we've had over 4,700 rescues documented. And currently we're collecting those at about five reports per day.

So if you go to the next slide, slide thirty-six, you'll see an analysis that we did with support, actually, from the CDC Injury Prevention Center that displays rate ratios of fatal opioid overdose by levels of nasal naloxone distribution implementation in the nineteen communities that had the highest number of overdoses between 2002 and 2009.

So what this is is a natural experiment, an ecological study where we compared those communities that had implemented naloxone rescue kits at two levels -- a low implementation level and a high implementation level. And we compared them to the towns in the years where there was no implementation.

And what we saw was a statistically significant substantial reduction in the rate ratio for opioid overdose. So for the reference being those places that didn't have any implementation, those towns with low implementation - their rates were reduced by 27% or down to a rate ratio of 0.73. And in those with high implementation, the reduction was 46% or down to 0.54 rate ratio.

You can see that these were in the adjusted analyses and it was important because Massachusetts is a diverse state as far as its communities. It's important to adjust for the things I have listed here on the slide, which include age, gender, ethnicity and race, poverty level.

We also included access to treatment sites like the detox facilities I mentioned -- methadone treatment or buprenorphine treatment -- as well as prescription monitoring program data, which we have in Massachusetts which can tell us the number of prescriptions that go to people profiled as doctor shoppers.

So, on the next slide - so this is good observational evidence that there's a community level impact from the widespread implementation of opioid overdose education and naloxone distribution kits. However, if you see on slide thirty-seven, I sort of tried to summarize it. Naloxone rescue kits work but they're clearly not enough. We've had this spike in overdoses in Massachusetts despite these kits.

And so this is one, I think, important strategy that needs to work together with other strategies. So I already mentioned the issue with detox programming where it's a step into treatment but it isn't treatment in and of itself. So it's an important place to do overdose prevention. It's also an important place to tie to what's truly evidence-based treatment.

So a methadone maintenance, I have, is one example there. Another example would be, of course, buprenorphine treatment or naltrexone treatment -- so the other medications that have been shown to be effective for opioid use disorders.

The thing that we're seeing in Massachusetts that I think we need to focus on despite having a good insurance coverage and decent access to treatment, although not enough, is filling the gaps between the treatment sites. So - and providing both harm reduction -- meaning overdose prevention -- as well as

access to addiction treatment across points of contact for people who use opioids.

And so here's the examples of populations and venues that I think about and I think are important for other places to think about. So number one is active users. This is really the population that we're trying to seek out and to help, and they actually can be an important part of the solution.

And so places you can find them are syringe access programs, detox programs, methadone maintenance, emergency department, criminal justice settings, and then the pharmacy and primary care settings. I have asterisks there because these are venues and populations at least Massachusetts warrants as more targeted research, program development and implementation.

The lesson from *Learn to Cope* is to not forget about caregivers and social networks. So there's community meetings and support groups. There's primary care providers. And then I haven't gotten to get into it, but I'd be happy to talk about a pharmacy-based strategy where you can make naloxone rescue kits at least behind the counter; potentially down the road over the counter.

And then let's not forget about first responders. I think Barbara mentioned the efforts in Vermont to equip state police. We've also done similar things in Massachusetts, most notably with the Quincy Police Department, which was really the first police department to be equipped with naloxone rescue kits.

Okay. So my final slide I just have some images here that I think about when I think about how to approach this program, which include thinking about active users differently, not forgetting that when somebody overdoses and

dies, there's not much more you can do for them. Thinking about this is a real public health problem. So in Boston, one in five overdose deaths happen in public bathrooms. And so I think as public health people we need to think about how to bring public health approaches to new venues.

We - I think a lot about prescriber and pharmacist education, and here's an example in the web site www.PrescribetoPrevent.org, which provides online education for prescribers and pharmacists; and then *Learn to Cope*, which I already mentioned.

I really appreciate the time and I have my email address there if people have questions.

Matthew Penn: So thank you so much for these excellent presentations. This is Matthew Penn again here, your facilitator. Remember you can get in the queue to ask a question of our presenters or make a comment by pressing star one. And please say your name when prompted. And the Operator will announce when it's your turn.