

CDC *Vital Signs* Town Hall Teleconference

**Prescription Drug Overdoses
Transcript**

**July 17, 2012
2:00pm – 3:00pm EDT**

Coordinator: Welcome and thank you for standing by. At this time all participants have been placed in a listen only mode until the question and answer session. To ask a question, please press star followed by one on your touch tone phone. This conference is being recorded. If you have any objections please disconnect at this time.

I would like to turn the conference over to Mr. Dan Baden. You may begin.

Dan Baden: Thank you, Wendy. Good afternoon everyone. As the Operator said, my name is Dan Baden and I'm a family physician here at CDC and a Senior Liaison within our Office for State, Tribal, Local and Territorial Support.

I'm glad you could join us today to discuss the latest *Vital Signs* report on the use and abuse of methadone as a pain killer. This is such an important public health topic because many people don't realize the toll prescription drugs are taking on our communities and families. In 2008, prescription pain killers were involved in fourteen thousand eight hundred overdose deaths. It's more than cocaine and heroin combined.

Of all prescription pain killers, we know that methadone has played a center role in the increase of overdose deaths over the last decade. On today's call, we'll hear from colleagues in Utah and North Carolina on how they studied the dynamics of methadone abuse and overdose in the states and integrated strategies to curb this epidemic.

Before we get started, I want to remind everyone that you can download today's Power Point presentation and view bios for each of the presenters on the town hall teleconferencing website. That website is www.cdc.gov/stltpublichealth. There is a link directly to the town hall website under the highlighted products and resources on the bottom right side of the page. This site is also where you'll - we'll add the audio recording and transcript for today's meeting. They should be available next week.

If you have any problems viewing the Power Point presentation, just right click on it and select save as to download the presentation to your computer. There will be time for questions after our presentations today, but you can get in queue now if you'd like to ask a question at any time during the teleconference. Press star one and record your name when prompted.

So, let me introduce the speakers now. We've got a really great group of people today. Each of them will hand off to the next presenter as they finish up with their presentation. Joining us today to provide a summary of this month's *Vital Signs* report is Dr. Leonard Paulozzi, a Medical Epidemiologist with CDC's National Center for Injury Prevention and Control. He has been concentrating on the problem of drug overdose especially those due to prescription drugs since 2005.

Our next speaker is Dr. Christie Porucznik, an Assistant Professor in the Division of Public Health at the University of Utah's Department of Family and Preventive Medicine. Dr. Porucznik will discuss how Utah addresses the states growing methadone problem through a combination of public and physician educational components.

Dr. Timothy Whitmire will be our final presenter. As a Social and Clinical Research at the State Center for Health statistics in the North Carolina

Department of Health and Human Services. Dr. Whitmire will share information about a study to understand the role that methadone has played in unintentional overdoses among the State's Medicaid population. So now let me turn over the call to Dr. Paulozzi.

Dr. Leonard Paulozzi: Thank you Dan. Welcome everyone. I'm going to be talking about the risks for overdose for methadone used for pain relief. Next slide - that would be number five. This is basically the results of an MMWR article that came out - actually it's the July sixth issue of the MMWR if you're looking for it.

The key findings in brief from this article were that more than thirty percent of the prescriptions pain killer deaths in the United States in recent years have involved methadone even though methadone is only about two percent of pain - of opioid pain killer prescriptions in the United States. About five thousand people die every year of overdoses related to methadone and six times as many people died of methadone overdoses in 2009 as died in 1999.

Slide six shows you a figure of the three different things. We've got the trends over time in the methadone mortality rate which is the dotted line shown in red. This rate rose after 1999 - peaked at one point eight deaths per hundred thousand persons in 2007 and then declined.

This decline paralleled the amount of methadone being distributed nationally in 2008 and 2009. That line is shown in blue and it's expressed as kilograms per hundred thousand people. So the distribution and the mortality curves are parallel.

The third line in green is the annual rate of methadone prescriptions for pain shown in the green dotted line. And it rose to a peak in 2008 and did not increase further in 2009. Basically what's happened is that the size of the

average methadone prescription came down but the number of prescriptions did not in 2008 or 2009.

Next slide. Another part of the MMWR article was to present some mortality data that was provided us by the Drug Abuse Warning Network at the Substance Abuse and Mental Health Services Administration. DAWN has a medical examiner system which included thirteen states in 2009 and it provided data on drug related deaths by individual type of opioid.

You see two bar charts in this figure. The one on the left gives you figures for all drug related deaths for individual kinds of opioid analgesics. The one on the right is limited to overdose deaths that involve only a single drug. In both charts, the tallest bar is methadone, which was at a rate of three point four deaths per ten kilograms among all drugs, and nine point seven per hundred kilograms among single drug deaths. Putting it above the rate for any of the other major opioid analgesics that are tracked by the DEA.

The list of states included in the system are given below the chart. Methadone stands out in the same way even if we had used a different denominator instead of using the amount as a denominator in calculation of rates if we had used an estimate of the number of prescriptions by different opioid - it's still significantly greater than any of the other opioid analgesics for either all drugs or single drug deaths.

Slide eight. So what is happening with methadone? Why are people prescribing it? It has some advantages. Methadone is a long acting opioid pain killer. It can be taken only two to three times a day rather than four to six times a day. It has a lower cost than other prescription pain killers and as a result, it is often listed as the preferred drug on formularies of insurers. It's available in liquid formulation for people who can't swallow pills.

Slide nine. Kind of balancing those benefits are the special risks that methadone has as a pain killer. If you take methadone more than three times a day, it can accumulate in your body leading to potential respiratory depression and the overdose death reflected in the statistics. It can be particularly risky when used in combinations with tranquilizers or other prescription pain killers

And such combinations of opioids with benzodiazepines and other tranquilizers are commonly found in people who die and commonly used by people who are misusing or abusing drugs. And finally methadone at high doses has been associated with major disturbances in heart rhythm.

Slide ten. This is a map from the MMWR that shows the percentage of the opioid distribution that is accounted for by methadone used for pain by each - in each state. The top quartile is eleven and a half to eighteen and a half percent of opioids and it corresponds to the dots colored on the map. Roughly methadone overall accounted for nine percent of all the morphine milligram equivalents of all the major opioid tracked by DEA not including buprenorphine.

The range here is from four point five percent. The low in New Jersey to eighteen point five percent - the high in Washington State. And the variations might result from differences in prescriber practice patterns - differences in marketing campaigns - and whether methadone is a preferred drug on formularies in the states.

Slide eleven. How can we address this problem? Well our roles are for different actors in this. The role of health care providers - there are a number of them. Health care providers can avoid using methadone for pain unless they have experience or training in its use and then don't use it as a drug that is the first drug of choice or even the second drug of choice for chronic pain.

Providers need to follow the guidelines for prescribing methadone and other prescription pain killers correctly including things like screening and monitoring for substance abuse and mental health problems. Using patient provider agreements combined with urine drug tests for people taking methadone long term. Using prescription drug monitoring programs to identify patients who are misusing or abusing methadone or other pain killers. And monitoring patients on high doses for heart rhythm problems.

Finally, providers need to educate patients on how to safely use, store and dispose of methadone and how to prevent and recognize overdoses. We know from a number of states studies that many if not most of the people who die of methadone overdoses don't have prescriptions for the drug. They are obtaining them from friends or family or buying them from dealers on the street.

Next slide, number twelve. Health insurers have a crucial role to play. They should evaluate methadone's place on preferred drug lists. Methadone really should not be a preferred drug for chronic pain. They should consider strategies to insure that the starting dose for pain treatment is appropriate.

The FDA has recommended a starting dose no more than thirty milligrams of methadone a day. The American Pain Society has actually recommended an even smaller dose on an daily basis. This is particularly important with the risk of accumulation of methadone in the body over time.

The next slide, number thirteen, states have an important role to play. States need to develop and promote the use of safe prescribing guidelines for methadone and other prescription pain killers. They need to support and make use of prescription drug monitoring programs to identify patients who are using methadone and other pain killers for non-medical purposes. And

continue to support the use of methadone as a treatment for opioid dependence and opioid treatment programs.

I would just like to note that what I've been talking about and what we're talking about today is really methadone's use as a pain killer or analgesic rather than the use of methadone in opioid treatment programs where it has been found to be safe and effective.

Next slide. I'd like to finish by pointing you toward a new CDC prescription drug law resource. The website is shown on the bottom of the slide. The website contains a national survey of seven different of state laws and regulations related to prescriptions drugs. We selected seven different categories to look at for this survey to try to give us a comprehensive picture of what regulations exist.

The categories that are shown there include, doctor shopping laws; prescription limits; physical exam requirements before prescribing; tamper resistant prescription form requirements; identification requirements before picking up a prescription; pain clinic or so-called pill mill laws and immunity or mitigation at sentencing for seeking assistance during an overdose, also known as the Good Samaritan Laws.

This website is not an evaluation of the laws but it is a picture of what the legal regulatory landscape looks like. CDC is going to work in partnership with the Center for Injury Control and the CDC Public Health Law Program to keep these - this website updated in the future. Thank you for your attention and I pass on the baton to Christie Porucznik.

Dr. Christie Porucznik: Good afternoon. Thanks to the organizers for inviting me to speak about our experience responding to prescription drug poisoning in Utah with a

particular focus to methadone. I'd like to invite you all to join me on slide sixteen for my title and then move to the next slide - slide seventeen.

I'd like to start by sharing what I call the grass that started it all. Even though this figure represents a great deal of work. Our state medical examiner came to the epidemiology group at the health department in 2004 saying that he thought we had a problem with prescription drug poisoning. We have a centralized statewide medical examiner system who's jurisdiction includes deaths thought to be drug related.

In response, I reviewed all of the more than two thousand drug related deaths in the medical examiner files between 1991 and 2003 and classified each by the category of drugs involved with the results shown here. Deaths caused by strictly illicit drugs - shown in the pink broken line - had peaked in about 1999 and then leveled off. This category included primarily deaths caused by heroin and illicit mixtures such as heroin and cocaine.

Deaths caused by both illicit and non-illicit drugs in combination comprise a small fraction of the deaths. As seen in the green broken line at the bottom. This category primarily consisted of an illicit drug such as heroin - along with a prescribable opioid such as oxycodone.

Deaths caused by non-illicit drugs only - shown in the blue solid line - were increasing every year. This category included prescribable drugs such as stimulants, sleep medications and opioid pain medications. We describe them as prescribable drugs rather than prescription drugs because at the time we couldn't distinguish how the decedent had acquired the medication and recognized that their virgin - their version - likely accounted for some of the exposure.

We decided to investigate these deaths further and continue to do so. Now to be clear, I want you to know that the presence of alcohol is recorded in the medical examiner file. But we did not consider alcohol to be a drug for any of our analysis. Alcohol alone would not cause a person to be counted as a case of non-illicit drug poisoning. And the decedent whose toxicology indicated alcohol along with an illicit drug such as heroin would be counted in the illicit drug category rather than in the combination of illicit and non-illicit category.

While we began by describing broad categories of drugs such as illicit and non-illicit, over time we discovered that prescribable and opioid medication were driving the increase in non-illicit deaths and has modified our classification to focus our effort on that particular drug class. Next slide.

So on slide eighteen, I want to show you that there is hope. This figure displays the number of prescription opioid related deaths investigated each year by our state medical examiner for the years 2000 to 2011. The medical examiner investigated sixty such deaths in 2000, with this number peaking at three hundred and twenty-six investigated cases in 2007. Since then we have seen a general decline in the annual number of cases.

We first presented our work about prescription drug related harm to the Council of State and Territorial Epidemiologists in 2004 and first published the findings in MMWR in 2005. I point this out to illustrate that it took some time for us to observe changes in the outcome of opioid related fatalities - even though we are working diligently on the problem. Both in terms of research to identify risk factors and intervention to change prescribing and medication use behaviors.

One continual challenge in public health is that the time horizon required for change may be longer than political terms, a legislative session or single grant funded projects can accommodate. And we always must undertake good and

reasonable communication about what metrics of success should be and what change we can expect. Our 2011 deaths were about back to the numbers we saw in 2006 and we see this as a small victory.

Next slide. Slide nineteen displays the number of non-illicit accidental and intent undetermined deaths by year and by drug class from 1999 to 2008 from our medical examiner database. It compares methadone, hydrocodone, oxycodone and sentinel. In 1999, there were fewer than twenty deaths each from methadone - shown in the red solid line; oxycodone - green broken line; hydrocodone - in the blue broken line; and sentinel - in the yellow solid line.

Between 1999 and 2004, the number of deaths related to each of these drugs increased steadily. Given the relative rarity of methadone prescription, we are particularly concerned about the numbers of death associated with methadone which peaked at close to one hundred deaths in 2004. Next slide.

An enterprising fourth year medical student joined us in 2005 to review the medical examiner case files related to methadone. Click again to make the picture show up. He took this picture with all of the case files from the year 2000 on the left and 2004 on the right, which I think did a great job on capturing the impact of the increase in our burden of cases.

As a part of our methadone investigations, we documented a real patient safety component to the problem. About half of the methadone related deaths actually had a valid prescription for the drug at the time of death and half of those were taking methadone for the very first time when they died. It seemed that initiating methadone therapy was particularly risky time with many deaths occurring within four days of the first prescription. Let's move to slide twenty-one.

In response to growing evidence of harm related to opioid drugs, the Utah Department of Health worked with stakeholders to create the Utah clinical guidelines of prescribing opioids based upon seven other evidence based guidelines. This consensus product was first released for comment in 2008 and finalized in 2009, with an accompanying physician and patient educational component.

Within the guidelines were two that related specifically to methadone. First, long duration of action opioids should not be used for treatment of acute pain including post operative pain except in situations where adequate monitoring and assessment for adverse events can be conducted. And the second guideline was methadone should be prescribed by clinicians - only prescribed by clinicians who are familiar with it's risks and appropriate use.

During this time period, members of our research team continued to give scientific and community presentations about prescription opioid related harm to disseminate our findings and keep the discussion alive. Next slide.

We're presently studying the impact of our educational campaigns and the interventions and guidelines using data from our prescription monitoring program which we called the controlled substances database. We worked with the legislature to get research access to this database and has successfully linked it at an individual level with other studies about prescription drug adverse events, but I will not be presenting about our linked analysis today.

The figure on slide twenty-two displays two themes. The number of methadone patients is plotted on the left hand axis in the green broken line and the number of filled prescriptions for methadone is plotted on the right axis in the blue solid line.

We first started presenting about methadone in about 2005 with pictures and graphs like those I showed you a couple of minutes ago. As we moved into the phases of the educational campaign and guidelines and development and implementation - we thought our numbers of methadone patients and prescriptions have declined. Next slide.

Unfortunately, since we implemented multiple interventions concurrently, we can't say which components are most effective at changing behavior with regards to methadone prescribing. But we believe that talking about the problem and examining the problem for many different facets while sharing our data has helped changed the course of this exposure and adverse event in Utah.

I leave you with an image from our public education campaign and to say that we recognize that sometimes in public health the severity of outcomes and burden of disease merit taking intervention even when we aren't in the position to design a great evaluation. But that doesn't diminish the importance of taking action.

Now I'll turn the time over to Tim Whitmire to tell you about some work from North Carolina. Thanks for your attention.

Dr. Timothy Whitmire: Thank you Christie. Good afternoon everyone. Please turn to slide number twenty-four if you aren't already on it. It's a pleasure to be here and share with you some of the things going on in North Carolina to understand more about unintentional poisonings. Today because of the time constraints, I want to share with you some of what we've learned in particular about methadone poisoning deaths.

So, just to give you a big picture of what I'll be sharing with you, I conducted a study that was completed a couple of years ago on a cohort of unintentional

poisoning deaths among the Medicaid population. With the help of Glenda Adams, a clinical pharmacist with the Division of Medical Assistance, we wanted to understand more about this population of decedents by taking a close look at their Medicaid claims around the time of their death. Turn to slide twenty-five please.

I would like to start off by providing with a little background information about the study. North Carolina's unintentional overdose death rates have and still do exceed the national average. Mortality data from North Carolina's State Center for Health Statistics shows that between 2000 and 2007 the unintentional death rates increased from four point eight deaths to nine point nine deaths per one hundred thousand population. And which this represents a hundred and six percent change over the time period.

In 2007, the majority of these deaths were caused by opioid use and methadone was associated with thirty-four point one percent of these deaths. So to get a better understanding of unintentional poisoning deaths and methadose - excuse me - methadone overdoses in particular Glenda Adams and I examined medical and prescriptions drug usage among the 2007 Medicaid decedent population. Turn to slide twenty-six.

The first step in this research process was to examine the 2007 electronic death certificate file housed at the State Center which is where I work, and pull out all the deaths that contained an underlying cause for unintentional poisoning. And when we did this we identified nine hundred and one deaths.

In the second step in the process, we took the nine hundred and one death records and based on social security numbers, looked across the entire Medicaid enrollment records for that same year to see how many of these decedents we could find in Medicaid. When we did this, we found that three

hundred and one of the decedents had been enrolled in Medicaid at some point and time in 2007.

Once we found the Medicaid enrollment records, we could then take their Medicaid ID's from the records and use those ID's to pull all Medicaid medical and prescription claim records. So for the three hundred and one unintentional poisoning deaths, we found around forty thousand paid claims in 2006 or 2007. To compare the unintentional death population with the overall Medicaid population, we drew a simple random sample of twenty-five hundred living Medicaid recipients.

We sampled only those who were similar in age and sex with the decedent population. Next slide please. Okay so what you're looking at in this table are some findings based on the Medicaid drug claims. This table shows the most frequently prescribed drugs within one year of death for the methadone death population. As you can see on the top row, hydrocodone was more frequently prescribed than any other drug within one year of death.

Of the ninety-eight methadone decedents, forty three point nine percent had a prescription for hydrocodone within one year of their death. Ranking second in this top ten list was aprazoline. A benzodiazepine and tyranciantine medication. Approximately forty one percent of decedents had a prescription for aprazoline.

I won't go through each of these but let me skip down to look at methadone. Of the methadone decedents, we see that eighteen percent had a prescription within a year of their death. I do want to point out that for each of these drugs, there were significantly higher percentages of methadone decedents who received a prescription for these drugs than the comparison population as indicated by asterisks.

And for clonazepam, it was also significant at the point zero - zero one level, but I failed to include this on the slide and so I appreciate if you overlook that error on the slide. Another interesting thing about this top ten list is that three of the top ten drugs were benzodiazepines. We also see a couple of other opioid drugs and a couple of sedatives making the top ten list.

Slide number twenty eight. Okay on this table you can see a comparison of the methadone death population and a comparison sample for several categories of diagnosis. These results show that the methadone decedent population had higher percentages for every diagnosis category than the comparison sample. It's worth mentioning each of these in particular.

Fifty three point one percent of decedents had diagnosis for muscular, skeletal and connective tissue compared to approximately twenty-five percent of the comparison sample. Forty-eight percent of decedents had diagnosis for mental disorders compared to twenty-one percent in the sample. Forty-five point nine percent of decedents had diagnosis for injury and poisoning compared to fifteen point nine percent in the sample.

Thirty-four point seven percent of decedents had diagnosis for the respiratory system, compared to nineteen point nine percent of the sample. Twenty five point five percent of decedents had diagnosis for the circulatory systems compared to twenty percent of the sample. And twenty-three point five percent of decedents had diagnosis of drug dependence compared to three point six percent of the sample. Let's turn to slide twenty-nine now.

Before I move away from the findings, let me just take a minute just to highlight just a few of the results we found. The Medicaid methadone death population received more Medicaid paid services for drug dependence, mental disorders, joint and back disorders, diseases of muscular skeletal and

connective tissue and diseases of respiratory system than the comparison sample.

Diagnosis for mental disorders for the methadone death population were twice as high as the comparison sample. Several drugs on the top ten list were for the treatment of mental health disorders such as anxiety. One quarter of the Medicaid methadone death population had one or more methadone prescriptions or methadone administrations within one year of death. Okay, let's turn to slide thirty now.

Lastly I would like to say a few words about the implications of this public health policy. With only a quarter of the methadone death population having received the Medicaid paid prescription for methadone or methadone clinic administration, the findings suggest a large proportion of methadone deaths occurred as the result of taking methadone that was unauthorized or purchased illegally.

Since the findings suggested that methadone deaths may be more closely associated with substance abuse and mental disorders than with routine medical care for pain management, as evidenced by the high percentages of diagnosis for each of these. This study suggests that a broad set of prevention strategies were needed.

And lastly, methadone deaths may be reduced by such things as narcotics lock in programs - educating the general public - educating physicians. As additional background information, I just want to add that in October of 2010, the Division of Medical Assistance implemented a narcotics lock in program. What this means is that a Medicaid patient would be locked in to one prescriber and one pharmacy for one year if certain types of prescribing patterns occur such as if they are getting too many benzodiazepines or opioids in a short period of time.

Medicaid enrollees will also get locked in if they are referred by a provider or the Division of Medical Assistance. Well this is all I have for right now and I'll turn things back over to Dr. Baden.