

EPISODE TWENTY ONE OF "ARMED WITH SCIENCE: RESEARCH APPLICATIONS FOR THE MODERN MILITARY," A DEPARTMENT OF DEFENSE WEBCAST HOST: DR. JOHN OHAB SUBJECT: SUBSTANCE USE AND ABUSE IN THE MILITARY GUESTS: MICHAEL KILPATRICK, M.D., DIRECTOR, STRATEGIC COMMUNICATIONS FOR THE MILITARY HEALTH SYSTEM; TIMOTHY CONDON, DEPUTY DIRECTOR, NATIONAL INSTITUTE ON DRUG ABUSE TIME: 2:30 P.M. EDT DATE: WEDNESDAY, JUNE 24, 2009

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ANNOUNCER: "Armed with Science: Research and Applications for the Modern Military" is a weekly Webcast that discusses cutting-edge science and technology and how they apply to military operations.

Each week we will interview scientists, administrators, and operators to educate and inform our listeners about the importance of science and technology to the modern military.

DR. OHAB: Good afternoon, and welcome to Episode 21 of "Armed with Science: Research and Applications for the Modern Military" on Wednesday, June 24th, 2009. I am your host, Dr. John Ohab.

Today we'll turn our attention toward an issue of great concern in the U.S. military, substance use and abuse. We're very fortunate to have two experts in this area joining us today.

Dr. Michael Kilpatrick, director of Strategic Communications for the Defense Department's Military Health System, will discuss programs to prevent substance abuse, provide counseling and ongoing studies to better understand factors for these issues.

Also, Dr. Timothy Condon, deputy director of the National Institute on Drug Abuse, or NIDA, who will discuss a research initiative NIDA is leading on substance abuse and use among U.S. military personnel, veterans, and their families.

Dr. Kilpatrick, Dr. Condon, thank you for being here today on "Armed with Science." How are you?

DR. KILPATRICK: Very well, thank you. It's a pleasure to be here.

MR. CONDON: Terrific. Thanks for inviting us.

DR. OHAB: A quick note to our listening audience. If you have any questions, you can tweet them in the standard 140 characters-or-less message to @armedwscience, or you can post them on our show page, [Blogtalkradio.com/armedwithscience](http://Blogtalkradio.com/armedwithscience), and we'll see about getting those answered for you.

Dr. Kilpatrick, I'd like to start the discussion with you, but I encourage both of our guests to interject and add thoughts as we go along.

Dr. Kilpatrick, substance abuse is obviously an enormous concern. What are some of the specific reasons that the Department of Defense places such emphasis on programs to prevent substance abuse?

DR. KILPATRICK: Well, I think the primary reason is because DOD does care about the physical and mental health of our service members and their families.

Readiness for the military mission is always our primary reason for existence, and the health of our men and women in uniform is really critical to sustain that readiness.

Our military is a microcosm of our society. And our programs that have an emphasis on tobacco cessation, for example, are there because scientifically we recognize there are short- and long-term benefits for individuals to not use tobacco. Both for those who quit using and for those around them who don't use tobacco products there is a tremendous health benefit. And again, our military is a very young population, primarily young folks, so programs to prevent underage drinking, for example, are very, very important.

The adolescent brain continues to develop until age 21, and alcohol, while that brain is developing, can damage that development of the brain.

So we're, again, very interested in the health of our people and trying to optimize that health.

A lot of what we have focused programs on are related to what our service members tell us. Since 1980 we've been conducting a health-related behavior survey every three years, asking a myriad of questions.

And just to focus on alcohol for a minute, for those who are of age to drink, we ask about binge drinking, which is defined as five or more drinks at a period of drinking, whether that's a day at the beach or a party in an evening at a friend's house.

And our data from 2005 shows that over 40 percent of our service members responded that they had had an episode of binge drinking at least once during the past month, and over half of those individuals said they'd had an alcohol-related problem.

So programs to de-glamorize alcohol and to educate people about the negative issues of alcohol are very important, and that kind of rolls into all the substance abuse issues.

DR. OHAB: Now, has substance abuse become a bigger concern for the Department more recently?

DR. KILPATRICK: Well, I think that clearly our operational tempo over the last six years has been extremely high.

And we have programs related to deployment, doing health assessments before and after deployments so that our early diagnosis and treatment of both physical and mental health issues has increased in the last five or six years.

We know that we have a larger number of service members taking all types of medications for the health issues, and -- whether those are physical or psychological health issues related to having deployed, or the stressors of the operational tempo for those who've not deployed.

So we have to be very focused on how to prevent misuse of the prescription drugs, and that is a huge issue for us.

DR. OHAB: (Inaudible.) I'm sorry; go ahead. DR. KILPATRICK: Of course, we do have our random drug testing program, and that discourages the use of illegal or illicit drugs. And I think to try to make a separation of those and the prescription drugs and the illegal or illicit is very clear in the minds of our service members.

I think for anyone who is not in the military, if you want to see something that really understands the military look at illicit drugs, there's a Marine video called "Good to Go." And it really does exemplify the courage of standing up to say no to drugs. I think we have a hyperlink for that that you can provide our folks.

DR. OHAB: Yes. And we're going to get into -- hopefully, more into the prescription drug issue as the show goes on.

Dr. Condon, the National Institute on Drug Abuse, or NIDA, is really a focal point in the federal government for drug abuse and addiction research.

Can you tell us about NIDA's role in understanding, preventing, and treating substance abuse?

MR. CONDON: Certainly, John.

The National Institute on Drug Abuse is one of the 27 institutes and centers at the National Institutes of Health, so we are the nation's research organization for all diseases of human beings.

And so NIDA specifically looks at drugs of abuse, use, and the addiction that can result from them.

We fund probably about 85 percent of the world's research on drug abuse and addiction. So we've got a lot of different kinds of research going on, looking at drugs at the cellular level all the way up to how they impact communities, families, managed care and how, in fact, they're impacting on our military personnel as well.

So over the last 10 or 15 years, the neurosciences really blossomed more than any other area of science except, perhaps, maybe genetics.

And the neuroscience has really shown us that drugs specifically work targeted areas of the brain and people become addicted to these substances usually after prolonged drug use.

And what it really does is it actually changes some of the circuitry within the brain and really creates a different brain state. So that people no longer can just stop taking drugs once they become addicted. They really -- it's essential that they have treatment and get some professional help.

Of course, you get the biggest bang for your buck with prevention programs, and we have a very broad spectrum of research on prevention at the community level and the school level and the -- essentially, environmental strategies.

And these target young people, children, but also mature adults. Prevention programs would be very useful, as Dr. Kilpatrick was saying, for our good men and women who are serving their country in the military as well. DR. OHAB: Could you give our listeners an example of an addiction research area sponsored by NIDA that is of special urgency to the military community?

MR. CONDON: Well, some of the areas -- of course, all areas of addiction research, from understanding how they -- it actually starts, to the consequences that can result over -- from long-term or prolonged drug use, are obviously very important for anybody.

As Dr. Kilpatrick said, the military is a microcosm of our society, and that's very much in keeping with what the portfolio is.

But to be more specific, we, of course, look at things like post-traumatic stress disorder; TBI, traumatic brain injury. And these two things in particular tend to be risk factors for people to go on to having substance use disorders.

So understanding how those are linked -- how those things occur and actually the mechanisms of action by both PTSD and TBI in the brain -- why does that make somebody more vulnerable to either use or abuse drugs?

DR. OHAB: Dr. Kilpatrick, what programs does the Department of Defense currently have in place to treat service members with substance abuse problems?

DR. KILPATRICK: Well, as you would probably expect, each of our military services, with their concern about the service members in Army, Navy, Air Force and even the Coast Guard, have their own unique programs that are tailored and set up to work and be very effective on their platform, as we like to say.

For the Air Force, they have a program entitled Alcohol and Drug Abuse Prevention and Treatment. And as we're so involved with acronyms in the military, that would be ADAPT, A-D-A-P-T.

It really is made up of three components: one, urine testing for drugs, both in military and civilian personnel. Then there's individual and group counseling that includes the family focus. And then finally there's the treatment for people who -- being evaluated or shown to have a problem with alcohol or drug abuse.

And so it really covers the whole program, from the testing to the counseling to the treatment.

The Army's program is called the Army Substance Abuse Program, and that's called A-S-A-P, or ASAP. And its emphasis is to really focus on readiness as the mission for the military and the personal responsibility to prepare themselves to be ready to go for the military mission. The command role in this program is focused primarily, as Dr. Condon said, on prevention, because that does get the biggest reward. But then the drug and alcohol testing program is part of that, the early identification of individuals having work or behavior

problems or perhaps other diseases, as Dr. Condon mentioned -- the PTSD or traumatic brain injury, and then rehabilitation.

And as part of all of this, of course, the administrative and judicial action is always a concern, and the decision to separate or retain a military person who has a problem with substance abuse is really made at the local command.

So it's not just the medical care and treatment that gets involved, but it's the whole administrative process, and is that individual still worthy and able to serve the country in a military role. And that decision is made on an individual basis.

The Navy's program is divided, again, between a program that's called Substance Abuse and Rehabilitation Program, or the SARP. And that program is to really focus on to increase readiness through healthy lifestyles and healthy communities, and then gets involved in the treatment for drug and alcohol abuse.

There are screening programs that go on. There are counseling programs. And then, of course, referral to treatment. And, of course, training providers to recognize signs and symptoms and be able to be attentive to referring individuals who are having some issues.

The Naval Environmental Health Center program is focused entirely on prevention, and that's both command- and individual-directed.

The Marine Corps program is called Substance Abuse Counseling Center, the SACC. And that program is very focused on education and counseling.

Marines -- if you, again, watch the Marine video I mentioned, they are very adamant that illicit drugs or drug abuse really has no role in a Marine. And so that, again, is the extremely -- everyday life of the Marines.

The Coast Guard, again, is at times part of the military service when they are supporting the military mission. And their programs are focused on training and counseling individuals, to educate them on the awareness of substance abuse and how to respond if individuals have an issue.

At the unit level, there's the collateral duty alcohol representative, CDAR, and that individual's there to assist after any alcohol-related incident to make sure that the individual not only gets care and treatment, but again, the right referral for an substance abuse problem that may be there.

DR. OHAB: We know there are stigmas associated with seeking treatment, in some cases. What are common barriers to servicemen and -women seeking treatment for addiction, and how is DOD working to overcome those barriers?

DR. KILPATRICK: Well, again, I think that some of these issues are a huge program to try to understand how do we move forward.

The military required that anyone being referred for any alcohol-related event, the command had to be notified. And so we have essentially a program to try to take a look at if the individual is being referred for either some sort of screening or some sort of counseling, that that necessarily wouldn't be treatment, so the command wouldn't have to be notified just of that, moving forward.

I think that for our military people we recognize if they don't have a need for a program, they don't register that that program exists. They may have driven by an alcohol counseling center every day on their way to work but never saw it.

And you mentioned the stigma. I think clearly it's looked at, often, as a sign of weakness or loss of respect by peers and leaders or damaging to careers.

And so programs to try to reverse some of that, to have senior leadership be supportive of people getting care, we've recently launched a new program called Real Warriors. And that's encouraging people to reach out for help, whether it's for psychological health issues or physical health issues that have not been addressed.

And this would include oftentimes what we call the co-morbid conditions of abuse of alcohol or drugs or even the misuse of prescription drugs so that people can get that kind of care and support.

I think all of our support systems are very focused on health and wellness with community support, focused on family readiness. We have chaplains and volunteers in the environment in which people live that all are getting training on how to help recognize and support people and refer them for care.

So it's a -- takes a whole community; it takes a whole military to support one another. And I think that, again, is a reflection of taking care of your people. And that really is what this is about.

DR. OHAB: Now, Dr. Conlon, would you like to add anything to that from NIDA's perspective?

MR. CONDON: Well, I think in this situation there's also, because of the nature of the troops that we have in Afghanistan and Iraq returning, a large percentage of them are in fact Reserve and National Guard members.

And so many of them return to their communities, and the stigma associated with not talking about these issues really impact on the community itself. So community treatment providers are very important as well.

SAMSA, Substance Abuse, Mental Health and Services Administration, has a treatment finder, locator.

And one of the things that we've recently launched is a project called NIDA-MED. And this is really for everyone, but it's particularly important for our men and women who really are going back to their community or speaking to their physicians on military bases.

They need to know the whole picture. They have to know everything that's going on, or you can't get the whole treatment. Without the whole picture, you might not get the right prescription. DR. OHAB: Now, can we turn this toward the research angle?

Dr. Condon, can you tell us a little bit about the research NIDA's doing currently to improve treatments that we have, and then discover new ones?

MR. CONDON: Well, we have a very large portfolio related to behavioral therapies -- things like cognitive behavioral therapy, motivational

interviewing, motivational enhancement, multisystemic therapies. These are just a few of the tried-and-true and tested approaches to help people overcome their addiction and their substance use disorders.

We also have a large program where we're trying to identify and develop medications to treat various addictions. We've had some success with that in treating opiate addiction or heroin addiction with medications like Methadone and Buprenorphine.

Not quite so much success for treatment of stimulants, so we still don't have a medication to treat cocaine addiction or methamphetamine addiction.

There certainly, of course, has been some success in terms of medication development for nicotine addiction with the nicotine replacement therapy as well as a couple of other compounds that are on the market right now to treat and help people in their smoking cessation programs.

It's -- these are all important research accomplishments to try to find medications, behavioral therapies. And really, the best therapies are going to be those that combine both the medications and the behavioral therapies.

There's not going to be a magic pill, nor does one size fit all for every individual, but that's well and good.

We also have to do research, and have been conducting research, at the community treatment provider level so that we can make these treatments what we call community-friendly, so that people can access them, are aware of them, and feel comfortable accessing them in their -- well, in their own communities.

DR. OHAB: What about the drug vaccines that we've been hearing about in the news? Could you explain for our listeners how a drug vaccine would work?

MR. CONDON: Well, I certainly can explain it in a theoretical concept. There are a number of companies, for example, that have been working on vaccines for nicotine, and those are the farthest along.

And how that would work, well, one would take an individual -- and they have been doing this in animal studies, and now they have moved into the clinical arena with the phase two's testing for the nicotine vaccines. And you attach the nicotine to some kind of a carrier protein -- something that, when it's attached to and you inoculate somebody, that their body recognizes it as a foreign compound. And as such, the body's immune system would raise antibodies to that.

Now, this is the way most of our vaccines for diseases like chicken pox and polio, they work along these lines.

And once the body has raised antibodies to a particular substance and recognizes, let's say, the nicotine molecule, when somebody lights up, the antibodies are floating around in their system and they essentially bind the nicotine and prevent it from getting into the brain, crossing the blood-brain barrier.

And of course, drugs of abuse all have to get into the brain to have the desirable effects. That's why people take them.

And so the concept is that if you precipitate them out and prevent these drugs from getting into the brain by using a vaccine, that you can either prevent people from becoming addicted or probably, more likely, John, that these would be vaccines that would be used to help people who are in recovery from the relapse that may occur. And this is a normal part of the recovery process.

DR. OHAB: Dr. Kilpatrick, can you talk a little bit about the research investment and some efforts at the Department of Defense to better understand the scope of substance abuse in the military?

DR. KILPATRICK: Well, I think one of the major areas that we have been using for many years is the health-related behavior study that I mentioned earlier that was started in 1980 and done every three years.

It's an anonymous survey, and it's sent to a random selection of service members, including the Guard and Reserve. And it really asks a lot of very detailed questions of a very large number of military personnel.

And the results from these surveys have traditionally been used to evaluate what programs may be needed or what needs to be modified to better provide support to educate and provide diagnostic and therapeutic interventions for individuals.

And this has not been focused just on drugs and alcohol, but a whole spectrum of health-related behaviors.

But just to kind of focus on, for example, illegal drug use, when we started doing the survey in 1980, 28 percent of the individuals responding said that they had -- over the last year had used an illegal drug. In 2002, that percent was down to 3 percent. So I think, again, our drug counseling centers and the illegal drug -- understanding how it impairs readiness had been very effective.

What happened, though, in 2005, is we changed one of the questions and added prescription drug misuse to the illegal drug use. And it's very hard now to tease out one from another, and we don't have the same historical background on it.

But the prescription misuse in 2005 was 5 percent, and the indicators that we have from information gathered more recently is that that number has probably at least doubled. And that has to do, again, with many more people getting more medications.

I think that as we kind of take a look at what are some of those concerns, it really leads us to say what else can we do to better understand this?

We have initiated the Millennium Cohort Study, and this is probably about six years ago. That is a first-ever study of its kind. It's a proactive study. We're going to be looking at 140,000 individuals, doing health assessments every three years for 21 years.

DR. OHAB: Wow.

DR. KILPATRICK: And the goal of the study is to really understand health outcomes following service.

And we'll be able to evaluate service members to say what are the health issues that come out, what may be related to deployment exposures, environmental exposures, what about psychological health after military service, because of the military service itself?

And this Millennium Cohort Study really focuses just a bit on alcohol and tobacco, so it isn't focused as much as, say, the health-related behavior survey on many areas.

But as they are going through this, we are seeing continual papers being written and information being provided, and we do know that, for example, increase in smoking has been shown in people who deploy, that if our basic rate is about 30 percent, it goes up as high as 50 percent in the deployed force.

So people who'd quit smoking returned to smoking, and people who'd never smoked began to smoke while deployed. And to better understand that, obviously, more research needs to be done. And I think the Millennium Cohort will perhaps give us some view into that.

And finally, another area where we take a look to try to understand is for almost every military person who dies on active duty, we do perform an autopsy to understand what may have contributed to the death of that individual.

And the information from that, clearly, we're looking at any sort of substance abuse data. And, again, that information will be used to, again, better direct and design programs to educate, diagnose, and treat individuals.

So I think that we are looking at all the possibilities of how to better understand why individuals may be using illicit drugs or misusing prescription drugs or abusing alcohol.

But again, a lot of the research we do is going to be in partnership with our other federal partners, including NIDA and SAMSA and the VA.

And again, it's looking at that continuum of health, because our concern is not just for the health of our individuals today, but for the rest of their lives. DR. OHAB: Dr. Condon, I understand that NIDA has an initiative focused specifically on substance abuse and use with military personnel, veterans, and their families. Can you tell us more about that?

MR. CONDON: Certainly.

Yes, we initiated last year a bringing together of many number of agencies within the federal government to actually address the issues and bring all the partners together so that we could kind of understand what -- where were the gaps and what our understanding and our knowledge was.

We convened a large interagency meeting, a public meeting, but as I said, a multi-agency collaboration in January of this year where we focused on looking at the epidemiology, the prevention, the treatment of substance abuse, and co-morbidities among the military, the veterans and their families, which is a really important component that sometimes gets overlooked.

We really laid out a research agenda for that population. Many gaps that we have were identified, and also many opportunities for doing research in these populations and in these environments which present unique challenges to the research community.

Now, doing research on military bases with military personnel isn't something your garden-variety NIDA researcher is always used to. So there are unique and complex issues that need to be addressed.

And a lot of that was discussed at this conference. I think this was a very enlightening experience for both those who were part of the armed forces as well as those who were part of the academic community. So there was really a meeting of the minds.

We're about to release in the next month or so a request for applications -- a pretty hefty one, again, supported by a number of different agencies -- where we hope to have people come together and submit applications so that they can study both the prevention in these communities and in these individuals and what strategies we can optimize, but also the treatment, (about ?) the substance use disorder, as well as the other sequelae or co-morbidities that occur.

DR. OHAB: Well, thank you.

And as we wrap up today's program, I'll ask -- I'll direct this question to both of you. First, Dr. Kilpatrick.

What is your take-home message for service members, veterans and their families who are struggling with addiction, and what is the most important thing for them to know?

DR. KILPATRICK: Well, I probably would have two comments, and the first is that early identification of health issues we know will lead to better outcomes. And if we can prevent self-medication, that's extremely important, because what that does is delay the individual getting to appropriate treatment for the underlying medical problems. And it certainly complicates the situation for everyone.

But I think on how to do this, because the military is a community, medical readiness is a shared responsibility of the military commanders, the military medical personnel, and the individual service members.

I like to call it a partnership for health. And each person, each side of that partnership, needs to play its role and work together. It's really an important triad to make sure that our personnel remain ready to go and fight and win the wars.

And we want to make sure that we do that to minimize the risk of harm to any individual. And for those that do have issues, we owe it to them to provide them the care and treatment so that they can continue with the rest of their life, whether that's still with the military or when they return to civilian life and become a productive member of our society.

DR. OHAB: Dr. Condon?

MR. CONDON: I would agree with Dr. Kilpatrick. I think one of the issues that we really need to move past is the stigma that we associate with people who become addicted to drugs.

Now, most people don't become addicted to drugs, but unfortunately, some do. And once they become addicted, this disease of the brain that they've acquired requires treatment, like other chronic relapsing diseases.

Do people recover from it? Absolutely, and we need to recognize that it's not just weak will and moral fiber, but that there may be some underlying vulnerabilities here. People recover all the time. Millions of people are in recovery.

One of the last things I'll say, though, is for those who are struggling with this issue, both the individuals and their families, be aware that during the recovery and long-term recovery process, relapse is a reality.

It's part of the disease, just like it is for other chronic relapsing diseases. And so those don't really constitute failures, but the normal course of the treatment.

DR. OHAB: Our guests today were Dr. Michael Kilpatrick, director of Strategic Communications for the Defense Department's Military Health System, and Dr. Timothy Condon, deputy director of the National Institute on Drug Abuse.

Thank you both for being here today and for a very important discussion. Listeners, please tune in next week, Wednesday, July 1st, when we are joined by members of the Joint Non-Lethal Weapons Directorate located at the Marine Corps Base in Quantico.

We will discuss the Joint Non-Lethal Weapons Program and the importance of non-lethal weapons in the battlefield. Kelly Hughes, strategic communications officer, and other subject matter experts, will specifically address optical distracters -- essentially visible laser devices -- that are currently in use in Iraq and Afghanistan.

Thank you again for listening. I'm Dr. John Ohab, and you have been scienced.

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