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The Physician's Role in Controlling MRSA in Healthcare Settings

PHYSICIAN'S ROLE IN CONTROLLING MRSA IN HEALTHCARE SETTING.

Our Presidential Election is only days away, 48 million people in America are uninsured and healthcare costs are rising 2 to 3 times faster than our nation's GDP. Where will America's health care system be in 5 years? Welcome to ReachMD's monthly series Focus on Public Health Policy. This month, we explore the many questions facing health care today.

Life-threatening methicillin-resistant Staphylococcus aureus infections occur most frequently in healthcare settings among patients with weakened immune systems. What the clinicians need to know about preventing MRSA infections in hospitals, nursing homes, dialysis centers, and other care facilities. You are listening to ReachMD XM 157, The Channel for Medical Professionals. Welcome to a special segment Focus On Health Care Policy. I am your host, Dr. Jennifer Schu, practicing general pediatrician and author. Our guest is Dr. John Jernigan, Deputy Chief of the Prevention and Response branch of the Division of Health Care Quality Promotion at the Centers For Disease Control and Prevention and assistant professor of

medicine at the Emory University School of Medicine.

DR. JENNIFER SCHU:

Welcome Dr. Jernigan.

DR. JOHN JERNIGAN:

Thank you very much for having me.

DR. JENNIFER SCHU:

Let us talk a little bit about how common MRSA is in healthcare settings.

DR. JOHN JERNIGAN:

Well, MRSA is common. We know that it causes about 8% of all health-care associated infections for some specific infection types such as surgical site infection, ventilator-associated pneumonia, blood treatment infection are proportionately even higher and we know that there are much larger portion of patients who actually carry MRSA and this is an important problem because the colonized patients can serve as reservoirs of transmission. So, MRSA is very prevalent in healthcare facilities in the United States.

DR. JENNIFER SCHU:

And what type of precautions should clinicians use in order to prevent transmission of MRSA. I mean we do the standard universal precautions for all patients with good handwashing and hygiene, but are

there other precautions that should be used?

DR. JOHN JERNIGAN:

Right, because MRSA is caused almost exclusively by transmission from patient to patient usually indirectly through the hands of healthcare workers or the contaminated clothes or sometimes contaminated equipment. The CDC actually recommends caring for patients under what is known as contact precautions. So, in addition to standard precautions, this would include routine use of gloves and a gown for any contact with the patient or their environment. There are also some provisions in contact precautions for treating a patient in a single room if possible and also to use certain designated patient care items such as stethoscopes and blood pressure cuffs that do not move from patient to patient without being disinfected first.

DR. JENNIFER SCHU:

Is it assuming that a clinician will first screen a patient for MRSA that way we will know which precautions to take?

DR. JOHN JERNIGAN:

Well, the recommendation is to use contact precautions for those patients who are known to be either infected or colonized with MRSA and there are two different ways to know this. Number one is, we can identify patients who are colonized with MRSA by looking at clinical cultures, i.e. cultures that are obtained for, you know, diagnostic purposes and if MRSA shows up there, you know that the patient is colonized and that is an indication for contact precautions. One of the questions is, do we need to look harder for patients who are colonized with MRSA. We know that if we take that strategy, we will miss a certain proportion of patients who are carriers of MRSA, but are asymptomatic from it and are not recognized because a clinical culture was not obtained. There are those that argue that it is important to identify that subset of patients in order to apply contact precautions consistently amongst the entire

universe of carriers. In order to do that, we have to do active surveillance. Now, it is possible that you might be able to control MRSA in your facility without taking that step and in fact, CDC recommendations for control of MRSA in other multidrug-resistant organisms actually recommend sort of a two-tiered approach. The first tier is a series of recommendations that focus on standard precautions, that focus on instituting a multifaceted program in your hospital that includes activities and interventions across a wide variety of disciplines including education, training a personnel, administrative control, the use of antimicrobial judiciously is obviously a big part of any antimicrobial resistance control program, environmental measures, and doing surveillance for infection rates, and getting those back. Now, there is a series of recommendations in those areas that we think that all hospitals should implement. An active surveillance is not part of that first year. After you have successfully implemented that program, you look at the results; see what is happening in your hospital with regards to MRSA infection rates and potentially colonization rates. If you feel like those rates are going down and you are controlling them, then may be you do not need to do active surveillance. If the document says if you are not controlling MRSA or other MDROs, then you should go to a second tier of interventions, which include intensified measures across all those categories that are mentioned before, but one of those is potentially the use of active surveillance cultures. So, the summary is, they may not need to be used universally and all the time, but in settings where there is continued and uncontrolled transmission of MRSA, it is something that CDC recommends you should consider.

DR. JENNIFER SCHU:

So, let us say a facility does decide to do active surveillance, how often does a screening need to be performed, is it just on admission or it does not need to be repeated?

DR. JOHN JERNIGAN:

Well, probably the most important time is at the time of admission because we know that there are proportions of patients being admitted to some units that are carriers of MRSA. There are number of reports in the literature that suggest as many as 10-15% of patients coming into some unit types are unrecognized carriers of MRSA. So, it is important to apply the appropriate infection control precautions as soon as possible there. Now, if your patient is there for an average length of stay of only

3-4 days, it is probably not that critical to repeat the surveillance culture. If they are for a prolonged period of time, it is possible that they may have acquired the MRSA some time during the admission and you might not know about it unless you did some subsequent followup surveillance culture. One commonly applied technique is to culture patients on admission and then weekly thereafter. Others have taken different approaches. There is no real magic solution, but the bottom line is for patients who are there for a long time, it may not be a bad idea to screen them intermittently during the course of this prolonged hospitalization to make sure they have not acquired any additional infection control precautions apply.

DR. JENNIFER SCHU:

Now, let us say a physician has a patient who is tests positive as a carrier for MRSA in a hospital setting, what are the CDC's recommendations for visitors who come to see patient with MRSA infection. Is casual contact okay? Do they need to take certain precautions?

DR. JOHN JERNIGAN:

Well, I think the first thing to remember is that in terms of the risk to the visitor, the risk is very, very low. We are not so concerned that visitors might acquire MRSA and be at risk for subsequent infection or adverse event related to that. What we are more concerned about generally in the healthcare setting, is preventing transmission from patient to patient. If a visitor comes in to a hospital, interacts with a patient, and leaves directly without interaction with other patients, chances are, they are not contributing epidemiologically to transmission to any significant extent in that hospital. The recommendations on this are pretty flexible and I know that various hospitals have tried different things. Some hospitals recommend that visitors follow the exact same precautions as healthcare workers, although one could argue that it is not as important as the healthcare worker because the healthcare workers after all are going to spend their entire day going from patient to patient, to patient, to patient, so it is critically important that they avoid serving as a vector for transmission. Again, for the visitor who is coming in to see that patient and then leaving the hospital without interaction with other patients, may be it is not quite as critical, so in my personal opinion, I think it is okay to come up with sort of a separate visitor policy and be a little more relaxed about that. I think probably educating the visitors on

good hand hygiene technique, is probably the most important step.

DR. JENNIFER SCHU:

What about patients in long-term care facilities for whom group activities like meals are very important. What do you recommend for that?

DR. JOHN JERNIGAN:

Thank you for raising the issue of the long-term care facility. This is a big unanswered question in my opinion. It is true that the prevalence of MRSA carriage in long-term care facilities is high, probably a lot higher than in acute care facilities. We have seen some recent studies that suggest, in some long-term care facilities, the carriage rate is high as 40-50%. On the other hand, the infection rate amongst those patients is very low because in general, it is a much lower level of acuity of care. There is less use of invasive devices, although there are some clearly and long-term care is heterogenous in terms of the acuity of care as well. There is long-term acute care, which is much more like you know an acute care hospital, even Intensive Care Unit care and on the other end of the spectrum; you have people who do not have much in the way of indwelling devices and simply residential care. An another question that is largely unanswered is, is that high prevalence of MRSA in long-term care due to transmission that is occurring there or is it simply a reservoir for patients who might have acquired MRSA carriage during some previous health care stay in an acute care setting and they simply come and are there for a long time and in some sense, long-term care facility may be serving as a sink actually. We do not know the answer for that. We notice a lot of MRSA there, but we do not know if long-term care facilities are drivers of transmission of MRSA. Obviously, the practicalities of implementing contact precautions in single rooms and so forth, is much more difficult than problematic in a long-term care setting, and so I think recognizing the unanswered questions about whether long-term care facilities are drivers of transmission and the concerns about the logistical difficulties of caring for patients using this aggressive infection control techniques probably warrants a more intermediate approach and in fact, the CDC guidance is a little bit more lenient there and is a little more focused on, sort of standard precautions for control of MRSA in those settings. I now would encourage readers to go look at that document, and look at some of the differences there, but I think it is important to keep into

consideration, the fact that for many patients, this is their home and isolation is more difficult.

DR. JENNIFER SCHU:

And just one final question in the short time we have left, there have been a number of legislative efforts both on the state and national level, requiring MRSA screening as well as public reporting of MRSA rates in hospitals, is there any evidence that this legislation has had an impact on rates of hospital-associated MRSA infection?

DR. JOHN JERNIGAN:

Not yet, this legislation obviously reflects an increasing public awareness of this important problem and they are interested in controlling it, so awareness of the problem can certainly be a good thing, but it is important for folks to remember that, in particular with the MRSA folks, legislation and active surveillance is only a single component and what we think should be a comprehensive multifaceted prevention strategy. Again, CDC has issued guidance that provides sort of a roadmap for healthcare facilities that spans a wide array of potential interventions, only one of which is the use of active surveillance. So, I think it remains to be seen, awareness is a good thing, I think there could be potential unintended consequences of these legislative efforts that we need to be aware of and need to look for, and providing adjustments as we learn more about the impact of these efforts.

DR. JENNIFER SCHU:

I would like to thank our guest, Dr. John Jernigan. We have been discussing the physician's role in controlling MRSA in healthcare setting. I am Dr. Jennifer Schu. You have been listening to a special segment Focus on Health Care Policy on ReachMD XM 157, the channel for medical professionals. Be sure to visit our web site at www.reachmd.com featuring on-demand pod cast of our entire library. For comments and questions, please call us toll-free at 888 MD XM 157, and thank you for listening.

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