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www.reachmd.com
info@reachmd.com
(866) 423-7849

Quicker Diagnostic Testing of Cardiac Conditions in the ER

POINT-OF-CARE DIAGNOSTIC TESTING

Point-of-Care Diagnostic Testing known in the industry as laboratory in your hand has evolved in the last decade allowing for immediate diagnostic testing at the patient's bedside, but a new study points to perhaps some usages and healthcare benefits not previously realized such as in the emergency room. Welcome to The Clinicians Roundtable on ReachMD XM 157, The Channel for Medical Professionals. I am Bruce Japsen, the healthcare reporter of the Chicago tribune and with me today is Dr. Peter Farrell, the Divisional Vice President of marketing and clinical affairs by Abbott Laboratories Point of Care. Mr. Farrell joined Abbott Point of care in March of 2005 and he brings with him several decades of healthcare experiences in the pharmaceuticals, diagnostic, medical imaging, and biotech industry. Working with Abbott for 5 years and BioChem Pharma, started up public imaging company.

BRUCE JAPSEN:

Peter Bell welcome to ReachMD XM 157, The Channel for Medical Professionals.

DR. PETER FARRELL:

Thanks Bruce.

BRUCE JAPSEN:

Well, we know in healthcare, one of the most expensive settings for class is the emergency room and what you are talking about is that this point of care testing business and if you could tell us little bit about that, but also how this is going to be effective in the emergency room?

DR. PETER FARRELL:

Sure. First of all, the Abbott Point of Care Division of Abbott Laboratories has an analyzer called the i-STAT. There have been significant trends and changes in the emergency department across the country in the United States and lot of them are driven by the medical treatment and labor act from 1986 which allows people to be screened and treated in the emergency medical from emergency medical conditions without any discriminations and this really made the ED a primary spot for people to go to get care and the emergency departments have 3 goals. One is triage are the patients they want to

treat them quickly and safely and then they want to make sure that they are working efficiently. And what we see and what some of the data points to is that there is some key matrix in the emergency department that people need to be aware of and our point of care testing device in the emergency department, the i-STAT can help with some of those things. So, when you look at an emergency department is really couple of key matrix that people for. It is overcrowding and there is lots of evidence of that showed a number of EDs in the United States has declined and certainly the number of people that are visiting emergency rooms annually has gone up dramatically. There is also the boarding where people are in the emergency department but they do not have a bed for them to go to, so they stay in the hall, they stay in close proximity to the emergency department. They cannot be dispositioned throughout the hospital and the last one is just diversion, which is the number of ambulance visits, that show up, to the emergency department, but there is no space in the emergency department and the ambulance has to drive to another emergency room to be able to treat that patient. So, there is clearly something you read and see in the paper and the public all the time that our driving care and changes in the emergency department.

BRUCE JAPSEN:

And so when you think about also the rising number of uninsured, I mean 45 million of uninsured people and there is a huge number of them that show up into the emergency room that if you have devices of any kind that can triage these people and get them to the right place at the right time, it could save some dollars and potentially some lives. If you could perhaps walk us through some examples on this with this device?

DR. PETER FARRELL:

First of all, I would just like to state you are absolutely right and that there are many uninsured people that are showing up to the emergency department because that is their only source of real care and emergency departments are certainly aware of that and as it relates to cardiac care for example, where the main issue that is seen in the emergency department are chest pain and shortness of breath. The emergency department has started to transition to different ways. They have transitioned to have chest pain centers and different observation units, so that they can actually start to categorize their patients better and put them in units where they can observe them and not keep them in the emergency department, that has become quite popular in the United States to be able to make sure that you are putting those chest pain patients into the right level of care so that you can move them either through the hospital or out of the hospital efficiently. So, with those tools and those observation in heart centers, they have started to specialize in care, which then has allowed more beds to be available for general sick people that come into the emergency department.

BRUCE JAPSEN:

If you could give us an idea how many beds frees up, what kind of savings, or other data points that you saw on the study?

DR. PETER FARRELL:

Yeah, I will. Specifically in the study what we are looking at is it was done through the University of Cincinnati with other affiliated academic centers that were part of it and there are 2000 patients in this randomized control clinical trial went on over 2 years and what some of the data that we were able to see from this is that it really did have an impact doing point of care testing. It did have an impact on the discharge of patients when you looked at testing being done in the central laboratory versus being done at the patient's bedside. So, one of the most important things is that there are some guidelines that have been established for ACS or cardiac testing to get your troponin test done within 60 minutes preferably within 30, but mandated within 60. This is an AHA guideline and almost 97% of the case of Point of Care was able to meet that 60-minute turn around time where it was less than 50% with the central laboratory. And so what we are able to see is that the treatment decisions were actually sped up by almost 20 minutes with the use of the i-STAT Point of Care

device.

Well, if you are just joining us or even if you are new to our channel you are listening to The Clinicians Roundtable on ReachMD XM 157, The Channel for Medical Professionals. I am Bruce Japsen, the healthcare reporter with the Chicago Tribune and joining me today is Peter Farrell who is the Divisional Vice President at Abbott Laboratories Point of Care Business who joined this from their offices in New Jersey and we are talking about these new kinds of test Point of Care, which are essentially laboratory in a doctor's hands to test patients. We are just talking about the benefits of this, or the potential benefits if you will in hospital emergency room

BRUCE JAPSEN:

Mr. Farrell, if you could tell us how these tests are used and some examples of where the care, what kind of care is given to them, likewise?

DR. PETER FARRELL:

Sure, well traditionally, these types of testing will focus on cardiac markers or those tests that are done in the emergency department, general chemistries, or cardiac test as a predominant one. They have been traditionally done in the laboratory setting, which means that the sample be collected from the patient and somehow they will get down to the laboratory, the tests will be run, and then the information will be sent back to the emergency department. The use of the i-STAT system, it changes the dynamics of how patient care is administered because you are able to get the results within 2-10 minutes. So, with 2 drops of whole blood into a cartridge within 2-10 minutes, the healthcare professionals have the results to be able to make quicker decisions about what to do with that patient.

BRUCE JAPSEN:

And what kind of diagnosis will they be given and what you would diagnosis somebody if that would need to be sped to certain department right away?

DR. PETER FARRELL:

Well, I think that the most obvious is what we read in the paper everyday and that is for those people that are suffering from chest pain whether or not, they are having a heart attack and the use of cardiac markers along with other tools to be able to diagnose up to 10% of all people that enter into an emergency department have chest pain. So, differentiating whether the person is having a heart attack is done on a lot of patients but it is also critical because those heart attack patients, the longer their heart muscle is being damaged because of lack of blood flow to the heart muscle the more likely they are to have event to either cause death or permanent heart injury.

BRUCE JAPSEN:

And according to the study, you had said that the patients were treated and discharged by hospital as much as 44 minutes faster than those whose lab tests were evaluated by a standard lab. Whether there any sort of data points in the study where they looked at patient outcomes or anything like that?

DR. PETER FARRELL:

The patient's outcome would be a landmark study at that time. It has been elusive to many different people trying to monitor many different disease states; it is very difficult to do. So, there was not really any thing as relates to the patient outcome, but certainly what we have been able to find is that there were really 4 key findings from the study. The first was the decrease in time for disposition and that was up to 20 minutes faster using a Point of Care device. Then there was the finding of being able to meet the guidelines almost 98% of the time of point of care versus just 53% of the time when it was done in the central lab. The third was the length of the stay, which you mentioned and reduction between 22-44 minutes. In these cases that equate to almost 60 hours of bed space monthly, which could be significant because each day, a bed is occupied in the emergency department would cost the institution or the providers somewhere between 3-4 thousand dollars.

BRUCE JAPSEN:

Especially at a teaching hospital where they are supposed to be caring for the sickest patients and their costs are a lot higher. If you can get people in and out of the teaching hospital quicker and to the right place for less acute condition, the potential for money saving is probably huge.

DR. PETER FARRELL:

Yeah Bruce you really did hit on what the advantage of point of care testing is. It is to not only make a quicker diagnosis to a patient who is sick to get him to the right place whether it would be the cath lab or to have open heart surgery or to move them on to the ICU, if they are septic to be able to diagnose that, but it is also to be able to get the patients that aren't really sick out of the emergency department so that they are not taking a bed space for somebody who is sick.

BRUCE JAPSEN:

And what about the adoption of this? Is this primarily with these type of devices, are they being used predominantly in the hospital and nursing home, I mean they do more need to be used in the emergency room? Is that sort of a new area?

DR. PETER FARRELL:

I think what the menu in the evolution of cardiac testing is that there is more point of care testing now starting to be used in the emergency department to follow guidelines. This has been widely used in the ICUs and other places of the hospital, the NICUs, to do blood gases for many years, but as the menu expands and the i-STAT menu is very expensive, does blood gas testing, chemistry testing, coagulation, and cardiac markers. It really does provide you the flexibility to check on many different disease states of a patient very quickly and all there you really do to have a lab in your hand.

BRUCE JAPSEN:

And also do you see just looking down since you brought it up the potential evolution of these type of devices to test are, you talked about various cardiac markers, if you will look into the future and see potentially what other tests you think these devices could do?

DR. PETER FARRELL:

Well, I think quite frankly, any test that you can use the results within 10 minutes to be able to make a better diagnosis of a patient's disease state could be a test that could be added to the menu of the i-STAT system. It really is that simple. Think about a test that needs to be done quickly and that is the type of test that would go on the i-STAT device.

BRUCE JAPSEN:

Well with that I would like to thank Peter Farrell, the vice president at Abbott Laboratories Point of Care Business who has been our guest. We have been talking about diagnostic testing and point of care testing that gives both in and out of the hospital emergency room faster or at least that ends all. I am Bruce Japsen, the health care reporter of the Chicago Tribune. I would like to thank Peter Farrell who has been our guest and you have been listening to The Clinicians Roundtable on ReachMD XM 157, The Channel for Medical Professionals. If you have comments or suggestions about this or any other show, please call us at 888MD XM 157 and I would like to thank you today for listening.

You are listening to ReachMD XM 157, The Channel for Medical Professionals. Welcome to the CBC Full View Update provided by the influenza division of Center For Disease Control And Prevention. This week's featured speaker is Dr. Joseph Razi, Epidemiology and Prevention Branch G, in CDCs Influenza Division.

DR. JOSEPH RAZI:

In this week's influenza update, we will mark the traditional start of CDCs influenza surveillance year. While CDC conducts surveillance for influenza year round, the first week of October marks the point when CDC begins the post weekly updates of national influenza activity on our website. During this last week, low levels of influenza activity had been observed in the country. Only 7 states reported sporadic influenza activity while 41 states and the District of Columbia reported no activity. Less than 1% of the specimens tested in the surveillance laboratories were positive this last week and the proportion of death attributed to pneumonia and influenza and the proportion of outpatient visits for influenza-like illness remained at low levels as well. This weeks CDC published 3 years from its surveillance of pediatric influenza associated deaths, which is now nationally notifiable disease. In this report, CDC highlights that while pediatric influenza deaths are uncommon, the proportion of those deaths among children could also have a Staph aureus co-infection increased during the 3-year period from 2% in 2004-2005 influenza season to 30% in the 2006-2007 season. Physicians are asked to suspect Staph aureus pneumonia in patients presenting with influenza who also have severe respiratory symptoms and also suspect co-infection in patients with a history of Staph skin infection and severe respiratory illnesses. The full recommendations as well as surveillance data from CDC can be found on CDC's influenza website.

You have been listening to the CDC Full View Update provided by the influenza division of the Center for Disease Control and Prevention. For more details on this week's show or to download the segment, visit us at www.reachmd.com and for CDC's full view website at www.cdc.gov/flu.

Hi, this is Dr. John Jernegen with the Centers for Disease Control and Prevention at Atlanta, Georgia and you are listening to ReachMD XM 157, The Channel for Medical Professionals.