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The Lab in the Doctor's Hands: Point-of-Care Diagnostic Testing

Some doctors may view it as a laboratory on their hand. The new Point-of-Care method of diagnostic testing right at the patient's bedside and other remote areas. Welcome to the Clinician's Roundtable on ReachMD XM157, the channel for medical professionals. I am Bruce Jabson, the healthcare reporter of the Chicago Tribune and with me today is Peter Farrell, Divisional Vice President of Marketing and Clinical Affairs with Abbott Laboratories Point-of-Care Business. Mr. Farrell joined Abbott Point-of-Care in March 2005 and he has some several decades of healthcare experiences in the pharmaceutical, diagnostics, medical imaging, and biotech industries working with Abbott for 5 years and at BioChem Pharma, a startup public imaging company. He is a native of Canada and a graduate from the University of Western Ontario in London and he joined us today from Abbott's offices in New Windsor, New Jersey.

Peter Farrell, welcome to ReachMD, the channel for medical professionals.

Thanks Bruce.

BRUCE JABSON:

Well, it is so good to have you to talk to our audience, which as you know is largely Healthcare Professionals, so first of all if you could us a lay around what actually is Point-of-Care.

MR. PETER FARRELL:

What Point-of-Care testing is, it is taking those diagnostic tests that are traditionally done on laboratory closer to the patient, whether it be in a department or actually to the patient's bedside.

BRUCE JABSON:

And so, could you give our listeners an example of maybe how it used to work and how it works now. Perhaps it would be as simple as somebody drawing blood and they would send it off to a reference lab or how all that works now and perhaps where can people generally see this or if doctors have not heard about it, where would they find out about it.

MR. PETER FARRELL:

Sure, let me try and answer the first question, is how would it traditionally be done. Simply a doctor would place an order, a technician would come up to see that patient in let's say the emergency department. A sample would be drawn and the sample would be transported either by somebody walking down to the laboratory or a delivery system or a pneumatic tube system to get the blood sample down to the laboratory. The laboratory will then enter all the information about that patient and then they would run the test. They then would have to put that information either into their data records or to physically take the result back to the area where the patient is and either a nurse or the physician would gather that information to be able to then make a decision on the patient. Traditionally, that has

taken hours, and in some cases days to get those results back to the patient to be able to make some of the diagnosis. With a Point-of-Care device like the Abbott Point-of-Care I-STAT device, what would happen if there would be a decision by the clinician to draw and test for a specific marker, the nurse or other health care professional would take 2 drops of blood, put it onto a cartridge, the cartridge would then be put on the –STAT handheld device and within 2 to 10 minutes, she would receive that information and that would then be translated back to the physicians for them to make the diagnosis. So the Point-of-Care testing is really closing the gap in terms of not only the analytical time, but the pre and post-analytical time, which are very important in diagnosing and making decisions on patients.

BRUCE JABSON:

What kind of tests are done if where we talking glucose to, you know, which is essentially diabetes, cholesterol, what is sort of the gamut of the tests that this device or some of the other ones out that can do?

MR. PETER FARRELL:

The device that I am speaking about the i-STAT device has a very extensive menu. It does chemistry and electrolytes, so those common tests that are done in the laboratory, they do hematology with hematocrit and hemoglobin tests and then they do blood gases, coagulation, and cardiac markers. So really, the menu has evolved into all those critical care tests that physicians want an answer within 2 to 10 minutes to either help with the disposition of a patient, to be able to make better clinical decisions, or to be able to increase their financial opportunities by moving patients through a department more quickly.

BRUCE JABSON:

Where are these devices largely, are they being adapted in hospitals, nursing homes, doctor's office, and how widely it has been picked up?

MR. PETER FARRELL:

At healthcare changes, the demographics are changing, people are becoming older, and there is more financial pressure on the healthcare system. Testing is moving closer and closer to the patient not only in the hospital, but outside the hospital, whether it be in a doctor's office or as you suggested a nursing home or even pharmacies. So depending on the type of tests that are done, some make sense to be done. I would enter into the doctor's office as not all tests because those patients that are being seen by physicians outside of the hospital are usually not as acutely ill because acutely ill patients go to the emergency department, but the trends have been in the emergency department to start doing and looking for ways to be able to improve emergency department's workflow of patients and make sure that we address overcrowding and diverts by being able to make the right decisions on patients more quickly.

BRUCE JABSON:

It would really seems like a no-brainer that hospitals and nursing homes, doctor's office, all kinds of areas would be taking up with Point-of-Care diagnostic testing. I mean how widely is it used or where are some of the areas where, I mean, I assume you guys would like to it be sold everywhere, but where are some of the challenges?

MR. PETER FARRELL:

Yeah, well you know, the glucose for example, if you take that as example, it is used in almost every hospital Point-of-Care with the strep technology that is used with meters. The i-STAT device that is made by Point-of-Care is in over 1800 hospitals in United States, so that is roughly a third of all hospitals have an i-STAT in one department or another and in fact we have some hospitals that have 5 or 6 or 8 departments with over 200 i-STATs in use in those facilities. So it really depends on what Point-of-Care device you are speaking about, but for instance the marker placed with blood gases is more prevalent to do that test closer to the patient as well as some chemistries and now we are just starting to see cardiac markers come closer to the patient based on some of the recent guidelines that have been published.

BRUCE JABSON:

Well, if you are just joining us or even if you are new to our channel, you are listening to the clinician's roundtable on ReachMD XM157, the channel for medical professionals. I am Bruce Jabson with the Chicago Tribune and joining me today is Peter Farrell. Mr. Farrell is the Vice President at Abbott Laboratories Point-of-Care Business and we are talking about this new wave of diagnostic testing called Point-of-Care, which actually eliminates hours if not days for patients to get their some very critical blood tests and such from hospitals and physicians and we were just talking about this, how widely this is adopted.

BRUCE JABSON:

Peter, if you could, if some of our listeners just joined us, could you walk us through this, I mean are there still some hospitals out there that are not using this and also perhaps why did it take days or hours before.

MR. PETER FARRELL:

There certainly are hospitals that are not using Point-of-Care and that it is due to a number of reasons. One is the regulations and how a laboratory manages their testing in the hospital. Some is the expertise to be able to run a Point-of-Care program because there are some things that need to be done and looked at. So we see that because of the different trends that some hospitals are more quickly adopting Point-of-Care testing, for instance in the emergency room than others.

BRUCE JABSON:

Could you talk a little bit of about, you brought this idea of about regulations and guidelines, have there been some things this might have changed or some things that needs to be changed for a wider adoption of Point-of-Care testing because it just seems like this would be something that if you have 1800 hospitals using it already and there are 5000 hospitals and I am sure other companies sell such devices as well. What are some of the hurdles here and what are some of the guidelines

MR. PETER FARRELL:

I would tell you that we look at it in a couple of ways. The first is that there are regulatory agencies in each state that mandate the way tests are done and there is the waived and non-waived testing that are designations for different types of test and they demand different protocols to be used in terms of tracking quality assurance. In those situations, tests that are done in the hospital under a moderately complex license, the laboratory has control and has to sign off on all that testing that goes on in that institution, so they are ultimately responsible to make sure that the analysers are working properly, whether they be ours or others working properly and that the people are satisfactorily trained to be able to operate those analysers. So that is an example of some of the regulatory things that have to happen or be followed into the hospital. I think on the other side, there are a lot of initiatives, whether it be the saving lives campaigns or some of the guidelines by the AHA, the American Heart Association, in terms of troponin testing with the turnaround time being preferably 30 minutes, but at least within 60 minutes. Those are guidelines that are starting to be looked at and viewed as things that people have to certainly be aware of to be able to manage their patient care and to meet the expectations of the governments and the consumers.

BRUCE JABSON:

Well, that is an interesting point, because essentially the American Heart Association would be on the side where they would want more rapid testing, is that what you are saying?

MR. PETER FARRELL:

Yes, they have published guidelines that suggested that and for instance with heart attack patients or patients presenting with chest pain that a troponin test results are available preferably within 30 minutes, but almost always within 60 minutes.

BRUCE JABSON:

And also are there studies that show or studies that have been done and are cost-conscious healthcare system about how much money this could be saving and assuming it is saving money, how much and I would think that health insurance industry might be in favor of this.

MR. PETER FARRELL:

That is a very interesting question. Just to sort of broadly say that the cost of a Point-of-Care product, whether it be ours or others is generally more expensive from a cost for test perspective than what you would get in the laboratory because it is a single use test, it is just smaller. There are a lot of things associated with it being more costly to make as well than more costly to use, but that is a small percentage of what the actual costs are and what we are now starting to see is that people are using Point-of-Care testing in the emergency department as a source of generating revenue and when I say that, it is not about the cost, it is about moving patients to their proper place within the hospital more quickly or out of the emergency department, so there are less diverts and there is less overcrowding. So, if you can keep your patients in the emergency department safely for less time and move them to the appropriate place, whether it be out of the hospital or in the appropriate department to get the right treatment, you are not only going to affect and impact the quality of the care, but also you are going to able to impact the hospital revenue to make it more positive.

BRUCE JABSON:

Yeah, that is an interesting point because I recently wrote a story in the tribune about how University of Chicago and you know a lot of big teaching hospitals are trying to provide patients with the medical home if it were because you get a lot of people who show up to the emergency room in other locations because they do not have anywhere else to go. So I guess what you are telling me is that a device like this, because it does these rapid tests of, is it safe to call them basic tests that you could get to the patient to the right place at the right time?

MR. PETER FARRELL:

I do not know that I would call them basic, how I define them is those tests that are critical types of tests that affect treatment of patients and diagnosis of patients by getting those tests within a short period of time. Through the classic tests, the chemistry tests or electrolytes, like sodium and potassium, calcium, creatinine and hematocrit and hemoglobin, the traditional blood gases and coagulation, PT/INR, ACT that is used in the cath lab and CVOR and then of course cardiac markers like troponin, CK-MB, and heart failure markers like BNP, so they are really those tests that are used to be able to make better decisions when you get the results more quickly.

But to bring up from something very interesting is that the Emergency Medical Treatment And Labor Act that was passed I think in 1986, it really has changed the way people use the emergency departments and the emergency departments have become the primary source for healthcare services for many people and so when they get to these Eds, they want to triage the patient quickly, they want to treat them quickly and safely, and then they want to make sure that they are efficient and there are some interesting statistics that you are probably aware of as related to overcrowding in emergency rooms, Emergency room visits have increased 32% to about 120 million visits a year in the last 10 years while the total number of EDs in the United States has decreased by almost 5%, so they are very interesting trends.

BRUCE JABSON:

Well, with that, I would like to thank Peter Farrell who has been our guest. He is the Vice President with Abbott Laboratory Point-of-Care Business and we have been talking about essentially a laboratory in their hand, as they say in the industry. It is the Point-of–Care method of diagnostic testing that I am sure physicians and consumers alike will be hearing more about. I am Bruce Jabson of the

Chicago Tribune. I would like to thank Peter Ferrell who has been our guest and you have been listening to the Clinician's Roundtable on ReachMd XM157, the channel for medical professionals.

If you have comments or suggestions about this or any other show, please call us at 888 MD XM157 and I would like to thank you for listening.