

Ensuring cost savings reality...

BY VIRTUAL INNOVATION

Virtual Classroom ensures cost savings, waste reduction, and enhanced patient care by training and supporting millions of caregivers in new thermometry technology. So exactly how does it work?

What is the cost savings reality you are referring to?

Francesco Pompei. Temporal artery thermometry (TAT) has produced an estimated \$100 million in direct cost savings and 10,000 tons of waste reduction in the last few years for healthcare institutions. For a typical 300-bed hospital, this translates to nearly \$100,000 in unnecessary costs and two tons of waste eliminated per year. Furthermore, a recent independent study reported that TAT also saves 87 percent of nursing time used for taking temperature.

These are certainly impressive numbers. How does new thermometry technology do this?

FP. TA thermometry lightly scans the intact skin of the forehead, placing it in the same category as a stethoscope – simply clean between patients with the same wipe used with the stethoscope. Conventional thermometry systems require a probe to be inserted into a body cavity, which in turn requires robust protection from contamination by applying a single-use disposable cover. The dramatically reduced use of disposable probe covers is a major benefit from TA thermometry, eliminating approximately 90 percent of the direct cost of providing this vital sign.

In addition, since there is no small fragile probe to be inserted into a body cavity, TAT can be designed to be far more robust than conventional thermometry, and can carry a lifetime warranty. This not only eliminates direct repair costs, but also greatly reduces all of the indirect costs, such as removal of equipment from service, evaluation by biomedical engineering, return to the manufacturer, receipt of the repaired device and reinstallation to service. Since typical payback for TA thermometry is measured in months, hospitals using TAT have effectively eliminated the cost of patient temperature as a vital sign.

How can you provide technology training and support for millions of caregivers without substantially increasing your own costs?

FP. Comprehensive training for new technology always carries a very high cost, particularly a technology that is used as extensively (millions of users) and across as many skill sets (MDs to RNs to PCAs) as thermometers. The supplier's cost in providing this training necessarily has to be passed along as part of the cost of the thermometry system. For the older thermometry systems, the unending stream of payments from disposables and repairs paid for the costs of training and support. For TAT, since only 10 percent of the cost of the older thermometry systems is available as revenue, we had to innovate to preserve the savings for hospitals.

There is also a substantial cost for the hospital in maintaining competency levels on all equipment used in patient care, which new technology should not increase, but preferably reduce. This is where avatars and the Virtual Classroom come into play.

Why avatars in a Virtual Classroom?

FP. Because we found that everyone is fascinated by this medium, and enjoys and pays attention to the content. Training videos, written materials, and even personal in-servicing tend to be boring and are often ineffective, requiring frequent and expensive follow-up by both supplier and hospital educators. Avatars are compelling. The movie of the same name, vast numbers of video games, and extensive social networking are testament to their effectiveness in capturing the attention of the viewers, which is the most important element in training and support of millions of users. The Virtual Classroom presents familiar scenes and interactions for clinicians, but with avatars substituted for real people.



Francesco Pompei is Founder and CEO of Exergen Corporation, and holds 60 US patents in non-invasive thermometry for medical and industrial applications. Earning BS and MS degrees from MIT, and an SM and PhD from Harvard, Dr. Pompei also holds an appointment as Research Scholar in the Dept of Physics at Harvard.

“When five senior physicians in a major university teaching hospital crowded around an iPhone’s three-inch screen, watched intently, requested a replay, and then described it as ‘brilliant’, we knew we were on the right track. When 35 nurses crowded around an iPad’s 10-inch screen, watched intently, laughed at the avatar interactions as similar to their real life colleagues, and exclaimed ‘such a great idea’ we knew our primary audience would be engaged. And the final test was when 1000 nurses and PCAs were trained for TAT by viewing the Virtual Classroom on a large projection screen. The subsequent written competency exam was passed by 100 percent of the attendees, and the return demonstration was passed by 99.9 percent on the first try. Prior to the Virtual Classroom, the initial pass rates on personal in-servicing could be as low as 50 percent, which was costly for both supplier and hospital to remedy. The Virtual Classroom is a major improvement and cost benefit for both hospital and supplier.

An important cost advantage to the supplier is the ease in which the Virtual Classroom can be updated to include new training, new products, or new methods. In turn, this lower cost translates into lower cost for TAT users in healthcare.

What convinced you that it would work?

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How do sales people respond to the Virtual Classroom?

FP. With a standing ovation. First they learned what they needed to know very quickly and efficiently, and then realized how easily they could provide excellent training and support for their customers by employing the Virtual Classroom.

How about Nurse Educators?

FP. They immediately embraced the Virtual Classroom, as it made it possible for them to assure correct training on new technology, without increasing costs. This is particularly important given the staff reductions that many hospitals are facing. Nurse Educators have become strong advocates of the Virtual Classroom as an important tool to help them do their jobs.

How are hospitals implementing Virtual Classroom?

FP. By uploading the Virtual Classroom to their intranet, all clinicians have convenient access at all times. This allows staff to review the TAT science and methods at their convenience rather than at specific times that might compete with patient care. Those without an intranet provide a Virtual Classroom CD to all nursing units. The Virtual Classroom also includes internet links for more detailed clinical information.

How much does the Virtual Classroom cost the hospital?

FP. Zero. We provide this tool free of charge. The Virtual Classroom copyright explicitly gives permission for any use in connection with TAT. A convenient flash version is also available at www.exergen.com/virtualclassroom that can be accessed anytime. High resolution CDs are available on request by emailing medical@exergen.com. ■

