



ACCE News

Newsletter of the American College of Clinical Engineering

July—August 2013

Volume 23 Issue 4

ACCE Board and Officer Election Results

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President's Message: Clinical Engineering's Sweet Spots



Two recent stories from the [Washington Post](#) hit right on the sweet spot of clinical engineering. The [first](#) addressed cyber security of medical devices. It pointed to newly published draft guidelines from FDA in which it details tighter regulatory standards for how medical devices are to be protected from malware and other cyber threats. The [second](#) was a front page story and covered alarm safety and the Joint Commission's new [National Patient Safety Goal](#) on alarm management.

These stories are in our sweet spot because they cover our medical device domain and they provide opportunities for clinical engineering to bring new value to our institutions. They also address key technology management and safety concerns that our hospitals need us to take on – as major players – to help resolve. In fact I think it's our [responsibility](#) to address these issues and ideally not just as a major player but as the leading player or at least one of the leading players at our facilities.

As I write this I am traveling by train from Hartford Hospital in Hartford Connecticut. I had the opportunity to visit the hospital's [Center for Education, Simulation, and Innovation](#), which is affectionately known as CESI. It's an impressive 20,000 square foot facility that will be undergoing major expansion over the next couple of years. The center is very actively used for training of surgeons, medical residents, and other clinical staff. It's also being used for training of manufacturer's representatives and even military corpsmen with intense reproductions of battlefield conditions. As you might imagine CESI is very well equipped with a wide array of medical technologies that require the support from clinical engineering professionals. It's another example that's a direct hit on the sweet spot of clinical engineering.

The cyber security article described how security analysts were able to easily figure out hundreds of passwords for medical equipment, including surgical and anesthesia devices, patient monitors, and lab analysis tools. These kinds of problems are expected to significantly increase over the next few years. They are the types of vulnerabilities that clinical engineering should be on top of and be responsible for managing. A first step is to develop an understanding of what medical devices from our inventory can be connected to wireless or wired networks or can be accessed via basic user interfaces, thumb drives, CD-ROMs, or other media. From these devices one should then determine what the risks are for them to be accessed in any inappropriate and/or non-secure manner. A good tool to use for this assessment is the HIMSS [Manufacturer Disclosure Statement for Medical Device Security](#). ACCE helped create the form and thousands of completed versions can be found for medical device manufacturers' products. Are you or your hospital's clinical engineering department taking this on?

The story on clinical alarms talks about the widely publicized problem with alarm noise and alarm fatigue in hospitals. It's been something we've been hearing about for many years. In fact my organization has had alarm hazards at or near the top of its list of Top Ten Health Technology

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President's Message: Clinical Engineering's Sweet Spots

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Hazards every year we've published the list. But the new National Patient Safety Goal brings this issue to a new level. The goal requires hospital leaders to establish alarm system safety as a hospital priority, that hospitals identify the most important alarm signals to manage, and that they establish policies and procedures for managing those alarms. The policies include approaches for checking individual alarm signals for accurate settings, proper operation, and detectability. If you or your clinical engineering department is not already deeply involved in alarm safety at your hospital it's time to get moving. As a first step, get yourself invited to your alarm safety committee and ideally offer to serve in a leadership role. If your hospital does not already have a committee, start one. The only way to effectively meet the Joint Commission's goal is to establish a multi-disciplinary committee that is represented by knowledge of clinical practice for alarm-based medical devices like patient monitoring, medical device technical concerns (i.e., from clinical engineering), information technology factors, and risk management perspectives, and others.

Not every organization can invest in the simulation-related resources that I observed during my visit to Hartford Hospital but many are beginning to move towards simulation. However, I learned during my visit that payers' reimbursements may be tied to some type of clinician simulation training. If this happens then hospital use of simulation technologies is likely to grow significantly. Hospitals will need expertise in helping to plan for, develop, expand, and/or grow their simulation centers and services. A big part of that is the device simulators, medical devices in the simulation rooms, and connectivity going on between simulation rooms and outside of simulation centers (e.g., to training facilities and rooms). It's another sweet spot opportunity for clinical engineering to take on, or as they say, Carpe Diem.

As I have said in recent newsletter President's articles. It's a great time to be a clinical engineer. The cyber security, clinical alarm, and simulation examples I've discussed are just a few of the opportunities we can take on. And if you are already involved in these activities, please share your knowledge and experience with your clinical engineering colleagues. One way is through articles in ACCE's newsletters or presentations during our educational programs.

Enjoy the rest of your summer, and try to stay cool. Hopefully we won't have too many 100 plus degree days. I'll be spending a bit of time with family in Rhode Island during August trying to avoid the heat and hopefully relaxing on and around the water.

Before I wrap up I'd like to welcome the newest member of ACCE's Board. Don Morge from the VA Medical Center in Providence, RI will be serving as Treasurer. Don is taking over for Colleen Ward who has done an excellent job keeping the finances on track for our organization. Thank you for your dedicated service Colleen! And thank you to the rest of our Board for agreeing to serve for another year. They include President-Elect Paul Sherman, Vice President Ilir Kullolli, Secretary Pratyusha Mattegunta, Past-President Mario Castaneda, and Board Members at-Large Jon Blasingame, Ismael Cordero, Alan Lipschultz, and Jim Welch.

We also have a new Chair of our Education Committee. He is Jacob Johnson from Kaiser Permanente. Welcome Jacob! You and your team have already been doing great work preparing for our next series of audio conferences.

One last thing. We'll be holding another virtual membership meeting/webinar this October. Please let me know if you have any suggestions for topics or issues we should be addressing. I can be reached at president@accenet.org.

Jim Keller, President ACCE



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2013 ACCE Officer and Board Election

The election for ACCE's new Board for the year 2013 has been finalized and the results have been approved by the Board. Votes were collected for the annual election of President, President-elect and Vice President as well as Treasurer, who serves a 2-year term. For more details on ACCE officer tenure and voting and elections, please see Articles V and VI of the [ACCE Bylaws](#).

The election ballot was emailed to **271** eligible members, which includes Individual, Fellow, and Emeritus members in good standing. Institutional Fellow and Individual members also participate in elections. Of the 271 members, 113 votes were cast between July 1 and July 16, 2013.

Member voting results as of July 17, 2013 were as follows:

Title	Name	Votes
President	Jim Keller, Jr. BS MSBE	103
President Elect	Paul Sherman, CCE	99
Vice President	Ilir Kullolli, MS	103
Treasurer	Don Morge	100

The following Board members will be continuing the second year of their term for this year:

Title	Name
Secretary	Pratyusha Mattegunta, MS
Member at Large 1	James P. Welch, CCE
Member at Large 2	Jon Blasingame, MSBME, MBA, CCNA, CCE
Member at Large 3	Ismael Cordero
Member at Large 4	Alan Lipschultz, CCE, PE, CSP

ACCE wishes to honor the following outgoing board members for their service, and for their dedication and selfless support of the ACCE 2013 governance team:

Colleen Ward, MS, MBA, who served as **Treasurer** for the term **2011-13**.

The new Board will officially take office as the governance body for ACCE as of **August 9, 2013**. We are pleased to announce our wonderful team and as always, we look forward to serving you and your needs.

Thank you for participating in the 2013 ACCE Officer and Board Election and casting your important vote.

Pratyusha Mattegunta, ACCE Secretary

Welcome New Members

Let's welcome our newest members, approved by the Membership Committee and supported by the Board of Directors.

Candidate Members:

David Chartash—Ph.D Candidate, Indiana University, Indianapolis, IN

Individual Members:

Photios P. Dalamagas, CBET—Consultant, Soma Technology, INC, Avon, CT

Jacques Gagne, CCE—Regional Clinical Engineer, National Capital Health and Social Services Agency, Quebec, Canada

Ronald I. Gregory, CPE—Director, Spectra Engineering LLC, Nixa, MO

Barry Kohler, MS, CCE—Clinical Engineer, Children's Hospital of Philadelphia, Philadelphia, PA

Edward P. Myers, Jr.—Software Quality Engineer, Philips Healthcare, Andover, MA

Kenneth B. Ross—Senior Program Manager, ECRI Institute, Plymouth Meeting, PA

Donald G. Tucker, Jr., CBET—Corporate Director, CHRISTUS Health, Irving, TX

Associate Members

Miguel H. Romero, MD—Clinical Engineer III equivalent, Dr. Elliott Romero Medical & Research Practice, Santa Ana, CA

Gina Marie Roy, RN— Sr. Medical Equipment Consultant, Kaiser Permanente, Oakland, CA

Organizational Members:

US Department of Veteran Affairs

Katherine Breffeilh Navarro—Biomedical Engineer, South Texas Veterans Healthcare Systems, TX

Ashley O'Mara, MS, CCE—Supervisory Biomedical Engineer, Gainesville, FL

Kurt A. Finke, CCE—Director, Office of Healthcare Technology Management, Minneapolis, MN

Donald Morge—Chief Biomedical Engineer, Providence, RI

Congratulations to the following ACCE members:

Malcolm Ridgway, PhD, FAIMBE, CCE was awarded the **Emeritus Status** in recognition of his distinguished service to the profession/achievement in the field of Clinical Engineering.

Patrick Lynch CBET achieved **Fellow Status** on June 19; he was awarded this honor on the evidence of his distinguished services to the profession and outstanding contributions to the field of clinical engineering.

John Rhoads, PhD upgraded to **Individual Status**.



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ACCE Congratulates the 2013 Class of Certified Clinical Engineers

Jacklyn M. Bohman
Michael Ross Landis
Michael M. Hamid
Colleen E. Ward
Micah Benjamin Brown
Mery Isabel Vidal Vidal
Umair Siddiqui
Barry Allan Kohler
Jason Haines
Paula Andrea Berrio Molina
Yonathan Amare Teklehaimanot
Mickey Wayne Spivey
Abdullah Aqeel Alaqeel
KaMan Liu
Jacob Bradley Johnson
Shiny Jacob

Journal of Clinical Engineering Subscriptions for ACCE Members

ACCE members receive a discounted subscription to the [Journal of Clinical Engineering](#) for only \$99! (Originally \$222) Visit LWWW.com and enter code WDK136ZZ at checkout.

Journal of Clinical Engineering Call for Papers

The Journal of Clinical Engineering prints selections of the ACCE News in each issue and is interested in papers from you. If you have an urge to write, and good clinical engineering activities or ideas to share, please consider JCE as one of your outlets. One type of article not seen in a while is the Department Overview which presents how your department is structured and how it performs its functions. Shorter "Perspective" pieces are also welcome. You can discuss manuscript ideas with fellow member William Hyman, who is one of the editors of JCE. Contact: w-hyman@tamu.edu.

Send manuscripts to William or Michael Leven-Epstein at: Michael.levenepstein@gmail.com

ACCE News

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AAMI Update

New Campaign Promotes Value of HTM Field

AAMI has launched a major initiative to promote the value of the healthcare technology management (HTM) field to hospital executives, clinicians, information technology (IT) personnel, and prospective students.

The centerpiece of the campaign is a series of marketing materials, some of which includes a unifying tagline: "I am HTM."

The materials include:

- Posters promoting specific attributes of members of the HTM field, including their expertise on safety issues, financial stewardship, and state-of-the-art technology
- Fact sheets
- Four information sheets to promote the field to specific audiences

The materials are available for free and can be downloaded at www.lamHTM.org. Additional resources, including a PowerPoint presentation, will be added throughout the year.

The materials were developed by AAMI's Technology Management Council (TMC) and participants of the two Future Forum meetings convened by AAMI. The Future Forum participants included representatives from hospitals, government, manufacturers, educators, biomedical associations, the American College of Clinical Engineering, and ECRI Institute.

"These resources were designed and written to emphasize the importance of our profession," says TMC Chair Dave Francoeur, a regional vice president at Crothall Healthcare. "We need the help of everyone—national organizations, individuals at hospitals, and biomedical associations—to use and distribute these materials."

The campaign also features a series of

posters with such messages as "We ensure the safe and effective use of healthcare technology" and "I am a link between state-of-the-art technology and clinical care."

The campaign was unveiled at the AAMI 2013 Conference & Expo, held in early June in Long Beach, CA. If you have any questions about this effort, please contact Patrick Bernat at pbernat@aami.org.

Although there are a number of degree and certificate programs for biomedical equipment technicians (BMETs) in the United States, there has been no published set of competencies to help schools design a curriculum for a BMET program.

That is about to change.

AAMI Core Curriculum Committee Unveils Core Competencies for the BMET

A group of educators, hospital administrators, medical device industry experts, and others have been working for two years on a project to help guide schools in developing a BMET curriculum. The group shared the "Core Competencies for the Biomedical Equipment Technician (BMET)" document at the AAMI 2013 Conference & Expo in Long Beach, CA. Some finishing touches are in the works, and the entire publication, which is free to schools, will soon be offered on CD and in a hardcopy format. It also will be available in a downloadable format on the AAMI website.

In response to member concerns about the varying levels of BMET education, AAMI launched its Core Curriculum Committee, which was guided by consultant Robert Stiefel, of RHS Biomedical Engineering Consulting, LLC, at its 2011 Annual Conference & Expo. The group's work led to the identification of 10 main competency areas and the establishment of learning objectives within each. Topics that schools should incorporate into their curriculum to fulfill the objectives also were developed.

Several academics expressed enthusiasm

about the core competencies. "Educators can benefit from the evidence-based development of the core competencies as a tool to drive curriculum development, review, and revision," said Barbara Christe, PhD, program director and biomedical engineering technology associate professor with the Engineering Technology Department at the Indiana University-Purdue University Indianapolis. "The core curriculum features input from a diverse group of healthcare technology management stakeholders, fostering purposeful alignment between skill development in the educational setting and professional practice. The guide can serve as a benchmark for academic expectations and rigor."

As schools begin to adopt the core competencies, employers also will benefit in terms of the kind of resumes that come across their desks. As Dave Francoeur, a regional vice president at Crothall Healthcare, noted, employers will be more confident that applicants will have the knowledge and skillset appropriate for the position.

FCC Urged to Give Healthcare Facilities 'Priority Access' to Spectrum

AAMI has submitted comments to the Federal Communications Commission (FCC) recommending that as the agency seeks ways to make additional spectrum available to unlicensed devices, healthcare delivery organizations be given vicinity-based prioritized access to these new bands.

In February, the FCC announced it was taking steps to increase available spectrum in the 5 GHz band to reduce anticipated congestion. The proposal would make up to 195 megahertz of unlicensed spectrum "available for ultra-high-speed, high-capacity Wi-Fi—known as 'Gigabit Wi-Fi'—by up to 35 percent," then-FCC Chairman Julius Genachowski said at the time. The commission issued a notice of proposed rulemaking (NPRM) seeking

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Perspectives from ECRI Institute



Eric Sacks, Director of ECRI Institute's Healthcare Products Alerts

The September 2012 recall of Stryker's Neptune Ultra 2 and Neptune Silver fluid waste management systems has been a big headache for hundreds of healthcare provider organizations. Selecting, acquiring, and implementing an appropriate replacement technology has generally been an unplanned and unbudgeted expense and a drain on technology management resources.

In addition, for those organizations that continue to use these devices under a certificate of medical necessity, there is also the burden of user training for personnel who work in treatment locations where the systems are installed. Stryker has provided the educational materials for the training, but it is up to hospitals to coordinate and document the training.

The training required related to the Stryker Neptune problem seems to be part of a trend. ECRI Institute has seen an increase in the rate of alerts that announce new safety instructions for a medical device or that reinforce standing instructions.

Here are examples from recent weeks:

- How to avoid overwriting the data

log of a particular model of syringe pump when copying drug library and configuration information from one pump to another.

- The need to connect an auxiliary equipment jack to a certain nurse call system to ensure that patient calls actually sound at the system console.
- How to avoid unintended changes to treatment plans with a specific configuration of a certain stereotactic surgery system.

In the last example, the manufacturer announced that it would develop a software update to address the problem but that the fix would not be available until December 2013. In the interim, safe use of the system is dependent on effective user training.

Health Technology Managers play a key role in such cases simply by helping to identify affected devices and setting the training process in motion. Some questions to ask about your device safety training program include:

1. Is there an effective process in place to ensure that training is completed when devices affected by such an alert are found?
2. Who owns the training program and what is the Health Technology Manager's role?
3. How does the process ensure that all appropriate staff get trained?
4. Does the process ensure training of new staff or others who were not available during the initial training effort?
5. Does the process ensure that the manufacturer's fix is implemented when it becomes available and the training program is revised appropriately?

Health Technology Managers can increase their value by becoming more actively engaged with the people and processes that ensure staff are notified of safety alerts affecting the medical devices that they use and that, when appropriate, training is completed and documented.

AAMI Update

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comments from interested parties.

Many medical applications operate on the unlicensed 2.4 and 5 GHz bands. However, no interference protection exists in the bands, posing the potential risk to patient safety due to connectivity challenges, AAMI notes in comments to the NPRM. Thus, simply making new spectrum available in the 5 GHz band with no sort of interference protection or coordination of use could create further challenges in ensuring safe and effective device operation as this new spectrum becomes increasingly congested over time.

"Allowing healthcare vicinity-based priority access to one of the 5 GHz U-NII bands under discussion will provide much-needed spectrum for medical devices to operate in a managed interference environment," AAMI says in its comments. Should this spectrum become as congested as the 2.4 GHz band, this proposal provides a safety valve.

To read AAMI's comments, please go to www.aami.org/news/2013/060513_FCC_COMMENTS.pdf.

View from the Penalty Box

For the past 12 years as I have written this column, I have tried to inject a little humor along with some potential ways that we can improve ourselves and healthcare. Over the years we have watched all sorts of “breaking stories” about healthcare, costs, deaths, new diseases, new ways of doing things only to settle back to our slow progress of improving healthcare. While our do-nothing reps and senators in Washington, propose grand changes in healthcare, they keep pushing the dates further out so the impact will be less. A lot of people will die because the politicians cannot make a decision and stick with it. I, for one, think that term limits are needed on our elected officials, two terms in office followed by one term in prison for all the stupid mistakes that they caused and the people who died because of their lack of a backbone.

I have no idea how many of you watched any of the Stanley Cup series as in the series that many players showed if you are dedicated to your job you do your best to overcome the problems. We saw a player break a leg blocking a shot, get up and skate for about a minute before skating off the ice. We saw another player skate two-plus games with cracked ribs, a dislocated shoulder and a punctured lung, with two trips to the hospital thrown in.

I am not saying that we should follow the lead of hockey players but think about their desire to win and what they are willing to put themselves through to get that win. In clinical engineering we do not take the beatings that hockey players do, but most of us push hard to get our jobs done and improve healthcare. Wouldn't it be great if the rest of the healthcare players have the same push for improvement as we do? It has been more than 50

years since I skated in the finals of a Stanley Cup series, which we lost, but the drive to do better still is in me, now instead of hockey it is healthcare and clinical engineering that I am trying to improve. I know that most of you reading this also have that drive now. We just have to pick our fights and win.

When I entered hospital employment, coming from medical equipment design, there were about 14 devices per ICU bed. Now the average is well over 40. This includes the support equipment in labs and other areas. But in many cases the number of people maintaining the equipment has declined. Some of the decline is supported by better equipment with lower failure rates. But there is always the “skunk” device group that takes a very high percentage of our time and efforts. What we have to do is to look at the “skunks” to determine what can be done to better support the patient's needs. Is it more testing? Is cleaning a problem? Is user training an issue or is it poor design?

Look at the test results, if there are a majority of “no problems found” as the resolution on the work orders you have either a problem with the user training or a poor design. Talk with the clinical trainers and users to see if more training will solve the problem or do you have to start a replacement program on that device(s). What can be very frustrating is that it can take upwards of 18 months to replace a device(s) under the normal budget cycle, so be prepared to go the emergency route on the replacements. To justify emergency replacements, generally 6 months, you have to show a high failure rate, high cost of repairs, impact on patient care, rental costs and any other costs that are present. The information is in your repair database. All you have to



do is dig it out, which can be a problem with some software. While digging for information you should also check who has been doing the repairs on these devices, if one person has done the majority of the “repairs” you need to check not only what they do but how, as they may be the “skunk”, not the design or the users. If your person is the “skunk” get them retrained quickly.

For some reason the sharing of data is a problem for many clinical engineers, I don't know why but we need to share information, both good and bad. Call colleagues at other hospitals in your area and ask them if they are seeing the same things that you are. Check the FDA recall notices. It is surprising that so many clinical engineering departments don't get the recall notices from the vendors. Instead, the notices go to materials, risk management, or some clinical department. You have to be proactive on the recalls.

Knowledge is power so keep gaining knowledge so you can bring the best possible care to the patients possible. Help train those entering the profession to also seek knowledge and improve patient care, as they will be the ones with the hand on the tiller when we are in the ICU bed.

Have a great summer.

Dave Harrington

dave@sbttech.com

Establishing a Home Treatment Management System

By Mohamed Basiony

Among the many changes to come as a result of the healthcare reform bill will be a greater emphasis on home healthcare as a way to decrease hospitalizations, reduce costs and improve patient outcomes. Providers will need a reliable tool for evaluating their services, related vendors and equipment.

An efficient way to manage and assess home healthcare is the implementation of a home treatment management system (HTMS). Such a system provides an organization's home treatment performance evaluation committee with the data required to determine the effectiveness of a patient's home treatment and use that information to make a decision on whether to continue or terminate the treatment. The evaluation committee will be managed by a director of clinical engineering and consists of department managers, head nurses, reimbursement managers, administration representatives, material managers and other personnel as needed.

The HTMS communicates with each department inside the healthcare organization via a departmental sub-system. Each piece of home equipment communicates with its associated departmental sub-system (Figure 1) via the Internet. This network enables the HTMS to collect all data needed to develop the Home Treatment Performance Index (HTPI).

Determining the HTPI

The HTPI is the sum of the scores of 13 factors related to the patient, equipment, vendor and medical staff. A low HTPI (0-10) means the treatment is producing favorable results and should be continued. A medium HTPI (11-20) suggests the treatment's effectiveness is uncertain and should be monitored closely, while a high HTPI (21-31) means the treatment is ineffective and should be terminated.

Patient-related factors are Mean Time for Operational Errors (MTOE); Annual

Number of Patient Visits to the hospital (ANPV), and Annual Number of Medical Staff Visits to the patient's home (ANMV).

Equipment related factors are Mean Active Maintenance Down Time (MAMDT); Maintenance Cost Ratio (MCR), and Life Support Index of the equipment (LSI).

Scores for MTOE, ANPV, ANMV, MAMDT, MCR and LSI are determined by industry, manufacturer or medical standards, as applicable. These scores are:

MTOE, ANPV, ANMV, MAMDT & MCR:

- Significantly below average — 0
- Below average — 1
- Average — 2
- Above average — 3

LSI (Life Support Index) equipment classification:

- Life support — 3
- Therapeutic — 2
- Diagnostic — 1
- Other — 0

Vendor-related factors are evaluation

of the Delivery Process of Consumables (DPC) used by equipment during in-home treatment; Spare Parts and Standby Equipment Availability (SPSEA); evaluation of the Vendor's Technical Capability (VTC) and evaluation of the Communication Process with the Vendor (CPV). Scores for these factors are:

DPC (Delivery Process of Consumables):

- Delivery on time — 0
- Occasional delay in delivery — 1
- Regular delay in delivery — 2

SPSEA (Spare Parts and Standby Equipment Availability):

- Always has spare parts and standby equipment in stock — 0
- Sometimes has spare parts and standby equipment in stock — 1
- Never has spare parts and standby equipment in stock — 2

VTC (Vendor Technical Capability):

- Highly qualified technical staff — 0
- Some of the staff is qualified — 1
- None of the staff is qualified — 2

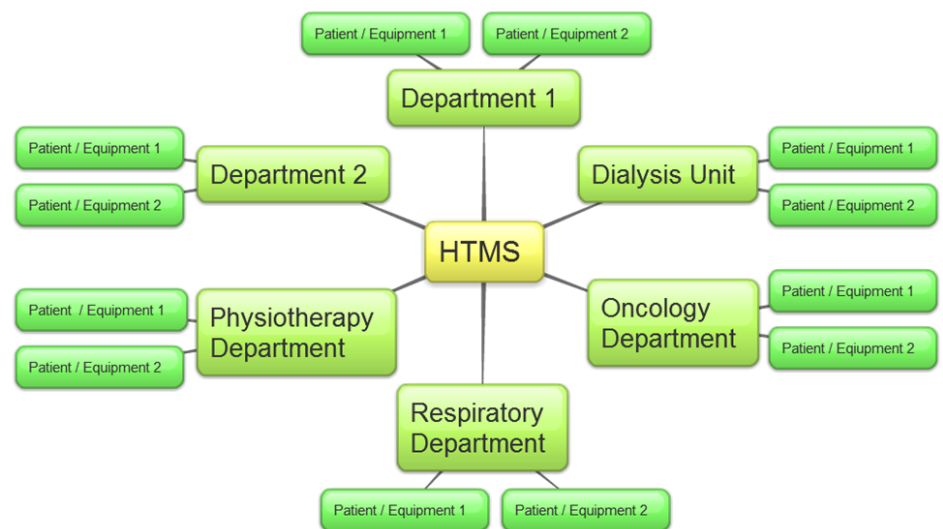


Figure 1

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HIMSS Seeks Contributions to Future Care

As a not-for-profit affiliate with HIMSS, ACCE has some unique opportunities to contribute to HIMSS. HIMSS recently announced one such opportunity. From their email:

HIMSS Media welcomes not-for-profit affiliates to contribute relevant blogs to its new web site, [Future Care](#). This is a great opportunity to share your perspective and build awareness of your organization and mission with a global audience.

Future Care's goal is to spotlight worldwide efforts to improve, promote and advance holistic, patient-centered healthcare care, while also reducing the cost of care.

Subject matter includes: care coordination; collaboration among providers, payers and other stakeholders; new models of care that improve outcomes and reduce costs; population health; and analyzing data, information and interactions to continually improve quality and outcomes.

In short, Future Care is all about innovative efforts to think beyond traditional models of care to improve health, well being and economic vitality at both the individual and community level.

If you'd like to submit a blog (it can be specifically for Future Care or rerun from another web site), please contact Future Care Editor Ben Harris.

*Ben Harris Future Care Editor
Phone: (207) 699-4950 x305
Email: Ben.Harris@medtechmedia.com
@bharris_HITN*

We encourage any ACCE member to contribute to this dialog. If you wish to submit as an individual, we ask that you mention you're an ACCE member. If you wish to contribute on behalf of ACCE, please submit the blog/article to ACCE; we'll then review it and forward for submission. This is to ensure that ACCE presents a consistent message to the public.

Also, we encourage you to submit the article or blog to the ACCE Newsletter Co-editors, Jared Ruckman (jared.ruckman@live.com) and Ted Cohen (tedcohen@pacbell.net), for publication.

If you have any questions, please feel free to contact me a presidentelect@accenet.org.

Regards,

Paul Sherman, President-Elect

Establishing a Home Treatment Management System

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CPV (Communication Process with the Vendor):

- No communication problems — 0
- Occasional communication problems — 1
- Regular communication problems — 2

Medical staff-related factors are patient evaluation of the Communication Process with Medical Staff (CPMS); Availability of Medical Staff (AMS) to visit the patient in his/her home, and patient evaluation of the medical staff's Patient Training Program (PTP). Scores for these factors are:

CPMS (Communication Process with Medical Staff):

- No communication problems — 0
- Occasional communication problems — 1
- Regular communication problems — 2

AMS (Availability of Medical Staff to visit the patient's home):

- Staff always available — 0
- Staff sometimes available — 1
- Staff never available — 2

PTP (Patient Training Program by medical staff):

- Training was effective and complete — 0
- Training was ineffective or incomplete — 1

Delivery of scores to the HTMS

MTOE and MAMDT: The departmental sub-system will automatically calculate these scores and feed them to the HTMS.

ANPV, ANMV and all patient-scored factors (DPC, CPV, AMS, CPMS and PTP): The department operator will enter this information to the sub-system, which in turn will feed it to the HTMS.

MCR, LSI, VTC and SPSEA: The department technician will enter these scores in the HTMS.

Note: Operation cost is not involved as a factor as the evaluation committee will have chosen all systems after conducting life-cycle cost analyses of the alternatives

Conclusion

As healthcare continues to evolve, there will be an

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Establishing a Home Treatment Management System

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increasing need for more diversified methods of delivery of services. As a result, in-home healthcare will become an ever-larger component of healthcare organizations.

Managing and evaluating the effectiveness of in-home healthcare, therefore, will be-

come more important and more complicated. Implementing a tool such as an HTMS to gather data from equipment, providers and end users is critical for the benefit of patients and healthcare organizations.

Reference

Giovanni Mummolo, Luigi Ranieri, Vitoantonio Bevilacqua, Pierpaolo Galli "A Fuzzy Approach for Medical Equipment Replace-

ment Planning"

Mohamed Basiony is a senior marketing engineer and medical equipment planner for KJWW Engineering Consultants. He brings clients extensive technical and project management experience developed over 25 years as a clinical engineer in support of major healthcare facilities, principally throughout the Middle East.

ACCE International Membership Fees

The ACCE Board established an international membership fee structure based on country of residence in 2011. This is based on the World Bank 2011 data. At that time many countries were not in the World Bank Table. This table lists countries as Low Income Economies, Lower Middle Income Economies, Upper Middle Income Economies and High Income Economies. Not all countries are included in this table.

The ACCE International Committee recommended that our fee structure be updated based on the 2013 World Bank Table that included more countries. At the same time the level of all countries are updated in our fee structure table. Our new fee structure table is on the ACCE website at <http://www.accenet.org/default.asp?page=membership§ion=application>

The membership fees are:

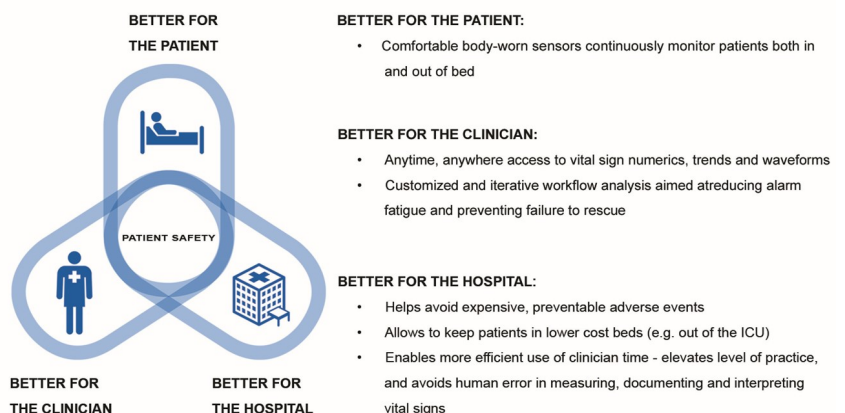
Countries in Column 1	\$75
Countries in Column 2	\$50
Countries in Column 3	\$15
Countries in Column 4	\$4

You can view the World Bank Data at http://data.worldbank.org/about/country-classifications/country-and-lending-groups#Low_income

James Wear, Membership Committee Chair
membershipchair@accenet.org



ALL VITAL SIGNS: ECG, Heart/Pulse Rate, Respiration, Blood Pressure, SpO₂, Temp (Skin)



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Volunteering with ORBIS:

A profile of Leo de Kryger

Born in the Netherlands, Leo de Kryger immigrated to Canada after serving in the Royal Dutch Signal Corps. After some time with Picker X-ray, Leo began working as a biomedical technologist with Ottawa General Hospital, now known as the Ottawa Hospital. Shortly after retirement in 2007, Leo and his wife heard that the ORBIS Flying Eye Hospital was scheduled for a visit in Ottawa. During his visit of the Flying Eye Hospital (FEH), he decided to join ORBIS as a member of the volunteer faculty.

ORBIS International is a nonprofit organization that works in developing countries to save sight by working with local partners to help them develop strong eye health infrastructure. Local staff is trained to provide sustainable quality eye care in their communities. The organization utilizes a specially designed and converted DC-10 aircraft, the world's only airborne ophthalmic training facility, complete with an



Leo pictured in front of the ORBIS Flying Eye Hospital.

operating room, recovery room, and a 48-seat classroom. ORBIS partners with local institutions at predetermined sites. The volunteer faculty works with the local hospital to organize training and pre-select patients for treatment. Once on-site at the partnered hospital, a team trains local ophthalmologists, ophthalmic surgeons, anesthesiologists, nurses, biomedical engineers and technologists. Cases performed on the pre-selected patients provide an opportunity for the visiting faculty to teach local physicians and nurses.

ORBIS has long-term projects with many institutions, primarily located in Asia and Africa. Leo has volunteered on many trips over the years including visits to Kuching, Malaysia, Nepal, Vietnam, Syria, Niger, Tanzania, Zambia and Ethiopia. Often these are two-week training programs, sometimes scheduled back to back. The biomed portion of the training typically includes a Healthcare Technology Trainer and a Biomedical Technician, or Technologist, working together to train local technical staff using a combination of lectures and hand-on labs.

When asked to compare his experience at partner hospitals with institutions in North America, Leo had many stories to share. The technical staff at partner hospitals must learn to do more with less. Of the problems facing these host hospitals, "80% are simple problems that can be fixed with little knowledge". Often much of the equipment is donated, older equipment, possibly damaged from shipping or broken beyond repair. The lack of tools, manuals or parts makes it difficult to repair. Slit lamps go unused because there is limited or difficult access to spare bulbs. Sometimes, safety may be compromised by unconventional repairs, such as bypass-



Leo working with the trainees in Da Naag, Vietnam aboard the FEH.

ing fuses using wire. The work that ORBIS does with its volunteers helps to teach partner hospitals how to better maintain and safely use this equipment.

Leo is currently planning his 15th volunteer trip with ORBIS to Yaoundé, Cameroon in Central Africa. Not only do the volunteer trips provide you with an opportunity to share your knowledge and experience in these developing countries, but also a chance to observe the community's culture from an inside perspective. Leo found this to be one of the extra perks of volunteering with ORBIS, experiencing the local customs and way of living.

ORBIS is currently seeking additional volunteers for future trips and their CyberSight program. If you have experience with ophthalmic equipment and are interested to learn more about volunteering, please visit www.orbis.org and go to the "Get Involved" page.

Jared Ruckman

Co-Editor, ACCE Newsletter

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Healthcare Technology Foundation News

Annual Meeting

HTF continues to review discussions held at our annual meeting. We are working on planning for additional board members to complement our strategic projects described below. It is important to maintain depth for succession planning.

Fundraising

As with any foundation, fundraising is an important factor. We continue to follow-up with contacts made at the AAMI Expo. We are striving to present actual projects that can be funded. It has helped to form strategic partnerships with various organizations. HTF is also considering how to better engage ACCE members. How can we work together to support our missions? What projects does ACCE feel are important to bring forward? How can we use our collective expertise to develop projects and raise funds?

Patient Education on Technology Safety

Final touches are being placed on the next brochure: *Home Infusion – A Safety Guide for Patients and Caregivers*. We hope to release this in the next few weeks.

What other patient education materials are needed? We have historically been focused on home technologies. Is that a viable venue? As this area of focus is an important part of our mission we look forward to hearing from you.

HTF is a supporting organization for the AAMI/FDA summit on Healthcare Technology in Nonclinical Settings in October. We want to educate on our current brochures and further develop opportunities for distribution and future topics.

Clinical Alarm Management

Due to the recent release of the Joint Commission safety goal on alarms, this continues to be an important topic. Board members participated in a Q&A session with AAMI to develop an article for ACCE News. The draft notes from the roundtable discussion at AAMI will be sent to those attendees who completed the sign-up.

ACCE is set to host webinars on the topic of alarms. HTF will participate to bring some teeth and examples for folks to utilize in meeting the goal.

We are working with AARC on an article they want to push to their membership. It is focused on the survey results specific to respiratory therapy. A peer reviewed article *Clinical Alarms: Have Attitudes and Practices Changed?* has been submitted to the American Journal of Critical Care. American Association of Critical Care Nurses (AACN) will be publishing an article on the AAMI roundtable co-hosted by HTF in their Bold Voices publication. Marge Funk continues to work with Yale University colleague Linda Pellico in analyzing the comments received on the most recent alarm survey.



Improve healthcare delivery outcomes by promoting the development, application and support of safe and effective healthcare technologies.

Managing Risks of Integrated Systems & Networks in the Healthcare Environment

The group is reviewing the RFP submittals that were sent to AAMI. This is to develop content for a training program on risk management of integrated systems. Developers will draft content and present materials at face-to-face workshops held in late 2013 and 2014 and further expand and adapt content for an online program.

Be sure to visit the HTF website to see all the latest news from the foundation, our programs, and resources. While you are there, feel free to hit the DONATE NOW button. We will accept them anytime and they are always tax deductible!

Tobey Clark, MSEE, CCE
President HTF
president@thehtf.org

Jennifer C. Ott, MSME, CCE
Secretary, HTF
secretary@thehtf.org

IHE-PCD News

Integrating the Healthcare Enterprise (IHE) Patient Care Device Domain (PCD) is launching new efforts to improve patient safety and device management. The project has the potential to significantly improve the productivity of Healthcare Technology Managers. Interoperable, standards-based messages sent to the Computerized Maintenance Management System (CMMS) can provide device condition (e.g., self-test failure, battery level and condition, PM need based upon cycles/hours), H/W and S/W versions and patch level, device identifiers (including UDI),

alerts and events (e.g., device failure, low battery indication, self-test notification). When coupled with interoperable location messages, clinicians and CE staff will be able to respond quickly and appropriately to technical issues. When devices can report failure, the future may permit many of today's unnecessary scheduled inspections to become an historical artifact.

This work builds upon and extends existing interoperable message structures that have been developed for clinical applica-

tions. A demonstration of the concept was on display in AAMI's 2013 Exhibit Hall. Development of the HL7 message content for location and for device condition and other data is currently underway. To learn more about the IHE and PCD go to www.ihe.net. To join this or other PCD efforts send an email to pcd@accenet.org. The PCD is sponsored by AAMI, ACCE and HIMSS.

For more information contact Manny Furst, pcd@accenet.org

2013/2014 ACCE Webinar Series:

Solution edition

The American College of Clinical Engineering is putting on the 2013/2014 webinar series to address challenges facing today's clinical engineering professionals. This year's "Solutions Edition" moves beyond the issues and into real life solutions and strategies providing a "back of the book" answer key to today's biggest issues as authored by the industry's top talent. This year's program will include ten web based sessions occurring once a month running September through June. Sessions will include Alarm Optimization, Integrated Clinical Systems Management, RTLS 2.0, and CE's Role in the Continuous Care Model: Home, Hospital and Back Again. Information on the series can be found [here](#). Please check the ACCE website for updated information and registration. The [ACCE calendar](#) has also been updated with the dates for the webinar series.

Jacob Johnson, Education Committee Chair

ACCE Job Opportunities

To view information on available job opportunities, visit the

[ACCE Job Postings site](#)

For information on posting job opportunities, please contact Dave Smith at

advertising@accenet.org

ACCE Calendar

August 14, 2013

CE-IT Virtual Town Hall Meeting: Calling all Techies: mHealth Trends

Register here: <https://www1.gotomeeting.com/register/147737657>

August 22-24, 2013

ACEW—Location: Barranquilla, Colombia

October 3, 2013

ACCE Fall 2013 Virtual Membership Meeting

October 8-10, 2013

ACEW—Location: Florianopolis, Brazil

November 21-22, 2013

5th Annual Medical Device Connectivity Conference and Exhibition, Herndon, VA

February 23, 2014

HIMSS 2014, Orlando, FL

May 31-June 2, 2014

AAMI 2014, Philadelphia, PA

June 1, 2014

ACCE membership meeting & awards reception Philadelphia, PA

ACCE

AMERICAN COLLEGE OF CLINICAL ENGINEERING

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