Dear ACCE Community,

On behalf of the ACCE Board and its Committees, we wish you all a belated Happy 4th of July! Through the holidays, pandemic efforts, and 24/7, clinical engineers around the world are contributing to and ensuring patient safety. ACCE applauds your continuous efforts.

After a long hiatus, we had the opportunity to meet our members and collaborators in-person at the AAMI Exchange in San Antonio. I met with the AAMI Board of Directors and award recipients on June 3rd for a fantastic dinner reception and boat ride around the Riverwalk. The standard of excellence goes higher each year with the caliber of candidates and their selection to receive awards. I was very thrilled to receive the AAMI HTM Leadership Award this year and connect with my mentors, team members, and circle of support.

The ACCE Clinical Engineering symposium on June 4th was a full room discussing the most challenging topic the industry has seen in the last couple of years – recruitment, retention, and recognition. Our speakers, Perry Kirwan, Nader Hammoud, Cody Nelson, and Angela Bennett did a great job of addressing crucial issues surrounding the community. They ensured an interactive three hours with the audience to discuss strategies to retain talent, recognize new and existing workforce, and improving efficiencies through recruitment. The symposium presentation can be downloaded from ACCE’s website.

The ACCE awards reception that evening allowed our members to connect in a more informal setting while recognizing experts who have contributed greatly to the profession. In addition to the 2022 ACCE Advocacy awards, we recognized two new CE-Hall of Fame inductees, Matt Baretich and Bill Gentles, and the AAMI/ACCE Robert Morris Humanitarian Award recipient, Kevin Taylor. All three were recognized for their significant contributions to the profession over a span of 30+ years.

Over the last year, we have had 15+ expert speakers deliver the educational webinar series and ACCE is grateful for their time and commitment to advancing the quality of professional development in the community. We have had several sponsors that have made our industry engagements possible and I am very grateful for their generosity supporting the profession.

On behalf of the ACCE Board, I thank outgoing Board members - Kamecia Bruce, ACCE Secretary; David Braeutigam, Member-at-Large; Jim Caporali, Member-at-Large; and Samantha Herold, Member-at-Large – for all their contributions, time, and commitment to ACCE’s mission, vision, and values. I am very grateful for continuous commitment and value delivery from Jim Keller, ACCE News Managing Editor and CE-HOF Nominations Review Committee Chair and Ricardo Silva, HTCC Chair. These two positions are not easy ones and Jim and Ricardo have set a high bar for the next set of leaders. Frank Painter has served on the CCE Review Series as an instructor and has educated hundreds of candidates to excel in the profession. I sincerely thank him for his contributions and passing the baton to the next set of instructors. All of these expert individuals volunteer their time and efforts to advance the profession through ACCE, outside of their day jobs.

(Continued on page 2)
President’s Message (continued)

(Continued from page 1)

Over the last couple of years, we have seen an ever growing increased need in core clinical engineering activities in health systems and ways to demonstrate competencies. The CCE exam exemplifies a clinical engineer’s competencies and ensures these individuals can deliver on the patient safety needs. The ACCE Board, HTCC, US and Canadian BoE, and BoK committee sought experts to audit the CCE certification process. We have made huge strides in understanding our successes and areas of improvement over the last few months. The ultimate outcome of this process is to ensure the high standard of excellence in the profession, flexibility to exam applicants around the world, and a continuous improvement cycle that ensures the certification aligns with the growing needs of the profession. After the participating committees evaluate the audit report and determine ways to operationalize the improvement plans, we will share our findings and improvements with the ACCE community.

Again, I thank you all for a great year and look forward to another successful and eventful one that showcases the value and contributions of HTM/CE professionals.
CCE Prep: Sample Questions

In this column we are providing sample questions and information regarding preparation for the CCE exam. The sample questions are based on topics from the ACCE Body of Knowledge survey and the Study Guide v11 (2022 version).

Note that the instructors for the ACCE CCE Prep courses, and the writers for this column, do NOT have any affiliation with the CCE Board of Examiners and have no access to the actual exam questions. If you have specific topics you would like us cover please contact editor@accenet.org.

Question 1:
What are the key factors in conducting the assessment of a new technology in EACH of the four fundamental areas of review - Need, Impact, Cost and Benefit?

Answer and explanation:
1. Need - application based on disease conditions and demand of the population served, historical information on similar technology applications used in the diagnosis, therapy, monitoring, or rehabilitation of the same condition(s).
2. Impact - infrastructure requirements, staff ability to be trained or new staff hiring needs, effects on other technologies in use (e.g., new CT scanner effect on catheterization laboratory procedures), the context of the population served – culture, social, economic, ethical and legal (primarily for macro assessments in a country)
3. Cost - total cost of ownership which would include costs to purchase, install, construct or renovate space, maintenance, update/upgrades, software licenses, training costs for users and maintainers, new personnel, financing, consumables, accessories, utilities, insurance, etc.
4. Benefit - evidence-based proof of clinical outcomes – mortality and morbidity, increase in effectiveness, reliability, ease of use, patient safety, etc.

Question 2: Follow-up to question 1
What are two aspects related to the technology assessment of medical devices and systems that make it different from the more commonly performed pharmaceutical assessment?

Answer and explanation:
1. Total cost of ownership over the life cycle as devices may require maintenance, software updates, consumables, etc.
2. Use of devices may require training, human factors design, and the effect of operator error must be considered
3. Infrastructure needs such as utilities, environment, network connections, building space, etc.
4. Outcomes for devices and systems are typically in terms of diagnostic yield and therapeutic advantages whereas drugs also have a focus on quality-of-life improvements.

Question 3:
What are four factors leading to the inclusion of a medical equipment item in the capital replacement plan?

Answer and explanation:
The factors considered would include:
1. Unresolved safety issues or recalls, equipment incidents, use problems, lack of safety features
2. Regulatory prohibition
3. No support from the manufacturer or 3rd party providers for technical expertise, parts, service contracts, diagnostics, documentation, or tools
4. Maintenance costs increasing rapidly
5. Poor reliability
6. Commonly used equipment, e.g., infusion pumps, doesn’t meet the organizational standard for manufacturer and model used
7. Doesn’t meet the current clinical standards of care
8. Technically obsolete
9. Cost advantages with a new technology

Question 4: Follow-up to question 3
What are current and future factors related to including a medical equipment item for replacement planning?

Answer and explanation:
1. Replacement of devices which are planned to be connected to the network for providing data to the electronic health record or other purpose but can’t or only can be connected with significant expense or complexity: There is an ongoing need to connect devices to the network for healthcare delivery and quality.
2. Cybersecurity issues with existing devices: Cyber-attacks are increasingly common and can affect the healthcare network.
ACCE at AAMI Exchange 2022 – San Antonio

ACCE CE Symposium: The 3 R’s Round Table – Recruitment, Retention and Recognition.

The symposium had over 100 attendees, with a full house. The panelists discussed the struggles with acquiring and retaining qualified HTM/CE professionals. Attendees shared their thoughts and their best practices. If you missed the CE Symposium, the presentation slides can be downloaded from ACCE website.

CE Symposium panelists: l-r: Angela Bennett, Nader Hammoud, Cody Nelson, Perry Kirwan

All attendees actively participated in this interactive symposium

(Continued on page 5)
ACCE at AAMI Exchange 2022 – San Antonio

(Continued from page 4)

ACCE Reception and Awards Ceremony, Saturday, June 4, Grand Hyatt San Antonio River Walk, Texas

2021 Awardees received congratulations and plaques from Ilir Kullolli, ACCE Past-President (2019-2021)

Frank Painter was inducted to Clinical Engineering Hall of Fame, class of 2021. Receiving certificate from Ilir Kullolli (ACCE President 2021)

Hank Stankiewicz – 2021 Lifetime Achievement award recipient

Mery Vidal Vidal – 2021 ACCE A. Hernandez International award recipient

Tomokazu Nagasawa (middle) received from Ilir Kullolli & Binseng Wang the 2022 ACCE/HTF International Organization Award on behalf of the Japan Association for Clinical Engineers (JACE)
ACCE at AAMI Exchange 2022 – San Antonio

Awardees receive congratulations and awards from Priyanka Upendra, ACCE President.

Arif Subhan, 2022 Advocacy Award recipient, receiving award plaque from Priyanka Upendra, ACCE president.

Samantha Jacques received the 2022 Professional Achievement in Management award plaque from ACCE President Priyanka Upendra.

Richard Straub, received the 2022 Challenge award from Priyanka Upendra, ACCE President.
ACCE at AAMI Exchange 2022 – San Antonio

Priyanka Shah received the 2022 ACCE/HTF Marv Shepherd Patient Safety Award from ACCE President Priya Upendra.

Tom Judd received the 2022 Lifetime Achievement Award plaque from ACCE President Priya Upendra.

Antonio Gibertone received the 2022 A. Hernandez International Award plaque (on behalf of colleague Lucio Brito) from ACCE President Priya Upendra.

Ilir Kullolli received the 2022 Professional Achievement in Technology Award from ACCE President Priyanka Upendra.

Matt Baretich was inducted into the 2022 Clinical Engineering Hall of Fame.
2022 ACCE Officer and Board Election

Thank you for participating in the 2022 ACCE Officer and Board Election and casting your important vote. The election for ACCE’s new Board for the year 2022 has been finalized and the Board has approved the results.

The election ballot was emailed to 340 eligible members, who include Individual, Fellow and Emeritus members in good standing. Institutional/Corporate Fellow and Individual members also participate in elections. Of the 340 members, 101 votes were received between July 11 and July 25, 2022.

The new Board of Directors will take office as the governance body for ACCE on August 26, 2022. We are pleased to announce the 2022-2023 team and, as always, we look forward to serving you and your needs.

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Votes received</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Priyanka Upendra</td>
<td>89</td>
</tr>
<tr>
<td>President Elect</td>
<td>Kim Greenwood</td>
<td>87</td>
</tr>
<tr>
<td>Vice President</td>
<td>Katherine Navarro</td>
<td>91</td>
</tr>
<tr>
<td>Secretary</td>
<td>Michele Manzoli</td>
<td>89</td>
</tr>
<tr>
<td>Member at Large</td>
<td>Jim Panella</td>
<td>85</td>
</tr>
<tr>
<td>Member at Large</td>
<td>Kevin Kreitzman</td>
<td>83</td>
</tr>
<tr>
<td>Member at Large</td>
<td>Erin Sparnon</td>
<td>87</td>
</tr>
<tr>
<td>Member at Large</td>
<td>Ashley O’Mara</td>
<td>90</td>
</tr>
</tbody>
</table>

The following Board member will be continuing the second year of his first term:

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasurer</td>
<td>Bhaskar Iduri</td>
</tr>
</tbody>
</table>

The following Board member will remain as Immediate Past President when the President takes office for her second term:

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Past President</td>
<td>Ilir Kullolli</td>
</tr>
</tbody>
</table>
World Health Organization (WHO) Collaborating Center for Health Technology Management Update

The Ministry of Health & Wellness in Jamaica has committed to a Health Technology Assessment & Management two-year initiative in partnership with the Pan American Health Organization (PAHO). The specific outputs of this program are needs assessment for health technology, a health technology assessment framework, strategic investment plan for medical equipment, and a maintenance program. The first phase tackled was the development of a national policy for Maintenance Management of Medical Devices. In May, the WHO Collaborating Center for HTM at the University of Vermont (UVM), Technical Services Partnership reviewed and commented on the draft policy. In June, a site survey of primary to tertiary care in the four healthcare regions of Jamaica was performed in conjunction with PAHO and MOH&W and after a two-day retreat with the Technical Working Group, the final draft policy was created incorporating most of the collaborating center’s input. Maureen Golding, Chief Technical Officer, and Marlon Jones, Director of Health Facilities Maintenance Unit, both from the MOH&W, led the work with Ian Stein, Primary WHO Representative for Jamaica and his team facilitating the efforts. The policy will be presented to the MOH&W Permanent Secretary.

Other activities planned by PAHO for the collaborating center include virtual workshops for Suriname, Trinidad & Tobago, and Haiti; webinars and on-site training on health technology topics; and coordinating a PAHO Virtual Campus for a Public Health course developed by the University of Vermont – Introduction to Biomedical Technology – which has been translated into French for students from Haiti.

The WHO training videos for biomedical equipment used with oxygen delivery systems developed with contributions from nine individuals associated with the WHO Collaborating Center for HTM have been exceptionally well received with over 11,000 individuals enrolled in the OpenWHO free, self-paced course series. A certificate of participation is provided for those completing the course series. The project was led by ACCE member Adriana Velazquez, Team Lead Medical Devices, and In Vitro Diagnostics, at WHO. ACCE members Bill Gentles and Tobey Clark were coordinators of the video series involving over 100 contributors from 20 countries. The videos are also available on YouTube. The links are below:

- OpenWHO
- YouTube Training

The current coordination work related to these WHO training videos is their translation to French, then the other WHO languages including Arabic, Chinese, Russian, and Spanish.

Tobey Clark tobey.clark@uvm.edu
Michael Lane Michael.lane@uvm.edu

CCE Prep: Sample Questions (continued)

(Continued from page 3)

3. Adverse events due to poor human factors design, software errors, or similar faults: Adverse events must be reduced.
4. High utilization of equipment: Analysis of device utilization through network connection may show the need for device replacement.

Question 5: What are some of the common issues that lead to donations of medical equipment to developing countries not being beneficial?

Answer and explanation:

1. The device is not clinically relevant to the health needs of the healthcare system
2. The device was not requested by the healthcare system
3. The infrastructure - electrical, space, HVAC, other utilities - doesn’t support the technology
4. The clinical staff don’t receive training on operation, interpreting the diagnostic data, or procedures
5. The maintenance staff doesn’t receive training or service documentation

6. Consumables are not available for the device
7. Parts are not available or have significant delivery delays
8. The device has significant safety problems
9. The device doesn’t meet the developing country’s regulatory requirements
10. There is no ongoing budget for operations over the device’s life

Tobey Clark tobey.clark@uvm.edu
Welcome New ACCE Members

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Class</th>
<th>Job Title</th>
<th>Organization</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jonathan Quintero</td>
<td>Individual</td>
<td>Risk &amp; Quality Manager</td>
<td>Interior Health Authority</td>
<td>Kelowna/Canada</td>
</tr>
<tr>
<td>Ryan Schafer</td>
<td>Institutional/Individual</td>
<td>Clinical Systems Engineer</td>
<td>Yale New Haven Health System</td>
<td>CT/USA</td>
</tr>
<tr>
<td>Keith Whitby</td>
<td>Individual</td>
<td>Sector Head/HTM</td>
<td>Mayo Clinic</td>
<td>MN/USA</td>
</tr>
<tr>
<td>Fabiola Martinez</td>
<td>Associate</td>
<td>Professor/Researcher</td>
<td>Universidad Autonoma Metropolitana</td>
<td>Mexico City/Mexico</td>
</tr>
<tr>
<td>Jason Fulqui</td>
<td>Associate</td>
<td>Chief Engineer</td>
<td>John Muir Health</td>
<td>CA/USA</td>
</tr>
<tr>
<td>Lindsay Pristou</td>
<td>Institutional Associate</td>
<td>TCF Biomedical Engineer</td>
<td>Veterans Affairs/Greater LA</td>
<td>CA/USA</td>
</tr>
<tr>
<td>Audrey S. Lee</td>
<td>Institutional Associate</td>
<td>IS Consulting Senior Manager</td>
<td>Kaiser Permanente</td>
<td>CA/USA</td>
</tr>
</tbody>
</table>

Welcome to our newest Institutional Member: SUNY Upstate Medical University.

ACCE Website Job Postings

For posting job opportunities, please contact Dave Smith at advertising@accenet.org
Thank you to Our Member Volunteers at AAMI Exchange 2022 - San Antonio

Thank you again for taking time from your busy schedules while at AAMI Exchange 22 to man the ACCE booth, set-up, or dismantle, package and ship booth materials, or in taking pictures.

Our immense gratitude to the following wonderful volunteers as we couldn’t have done it without their volunteering time: Eric Aring, Dave Braeutigam, Kim Greenwood, Michele Manzoli, Avery Newson, Nader Hammoud, Kevin Kreitzman, Jennifer Nichols, Juuso Leinonen, Katherine Navarro, Bhaskar Iduri, Ilir Kullolli, Kevin Ferguson.

After the hiatus of 2 years, traffic at the ACCE booth was heavy during the two exhibit days, with members and non-members from the US and around the world.
International Committee Report

On June 4, 2022, during the 32\textsuperscript{nd} ACCE Members Meeting & Awards Reception in San Antonio, TX, ACCE signed a collaboration agreement with the German clinical engineering association, FBMT.

The International Committee (IC) held its fourth 2022 bimonthly meeting on July 15, 2022. At this meeting, the chair reported that a webinar entitled “Fundamental Concepts and Tools for Managing Financial Resources” was delivered by Binseng Wang on May 24\textsuperscript{th} per request of the South African CE association (CEASA). In addition, Binseng attended the annual conference of the Italian CE association (AIIC) in June 13-15, 2022. There he delivered, together with the former IC member, Kevin Taylor, the 2021 ACCE-HTF International Organization Award to the AIIC leadership. Originally this award was scheduled to be delivered in 2021 but the AAMI eXchange that year was converted to a virtual conference. He also made two presentations, one on CE benchmarking and another on the Right to Repair for Medical Equipment in the US.

IC members are working with other national CE associations with which ACCE has signed collaboration agreement to deliver webinars or in-person presentations at their national conferences. The current list of webinars being offered is available on the ACCE’s website: https://accenet.org/International/Pages/Webinars.aspx. ACCE members who are not IC members are welcome to consider offering webinars they believe are of potential interest to our foreign colleagues. Interested persons should contact one of the IC members (see list on https://accenet.org/International/Pages/Default.aspx) and provide a short description similar to what is available on the ACCE webpage. Potential presenters are reminded that such activities are strictly voluntary and does not involve any honorarium or coverage of travel expenses.

Binseng Wang, IC Chair
International.chair@accenet.org

2021 ACCE-HTF International Organization Award presented to AIIC in Riccione, Italy. Shown on the picture are, from left to right, Umber-to Nocco - AIIC President, Leonardo Leogrande - AIIC Immediate Past President, Binseng Wang - ACCE International Committee chair, Kevin Taylor - former ACCE International Committee member.

Shown on the picture are, from left to right, Binseng Wang – ACCE International Committee chair, Priyanka Upendra – ACCE President, and Frank Rothe - FBMT International Committee chair.

2022 CCE WRITTEN EXAM REVIEW WEBINAR SERIES
Date: Wednesdays, Aug 10 - Oct 12, 2022, Time: 12:15 pm - 1:45 pm (EDT)
Register today and start preparing for your November Clinical Engineering Certification Written Examination

Faculty

Kim Greenwood  Jenn Nichols  J. Tobey Clark  Elena Buckley  Arif Subhan  Chris Riha  Ted Cohen  Alan Lipschultz

To register: complete the online registration form https://www.surveymonkey.com/r/2022CCEwebinars or scan the QR code:

Disclaimer: This webinar is prepared and offered by individuals who are not involved in the preparation of the CCE Exam.
ECRI Perspectives

Hello from ECRI!

We’re enjoying Sizzling Pavement Season in scenic Plymouth Meeting, where we’re making great use of our newly renovated laboratories and looking ahead to 2023’s pipeline and Top Ten Hazards list, and pumping out the knowledge:

1. Did your Spring Cleaning leave you with a pile of equipment to decommission? Our cybersecurity engineers recently published guidance on the information security concerns here. First, it’s important to identify sensitive data, including protected health information (PHI) or any sensitive IT data that could be used as intelligence in a cyberattack against the healthcare organization. If you plan on destroying the device, then destruction of storage media is fairly straightforward. However, if you’re selling or donating equipment, then you need to be able to remove this sensitive data without affecting device performance. And it’s not just the information on your device: if your system utilizes cloud storage or interpretation, for example, it’s critical to permanently disassociate the device from any cloud services so the next user isn’t given access to your data.

2. Do you—or someone you know—wear a smartwatch to track health or fitness? Do you want to send ECG information to your providers, or track transient cardiac symptoms for your own use? Are your providers asking for advice on using smartwatches for patient management? Our team just completed testing of six popular medical smartwatches by Apple, Fitbit, and Samsung. We looked at the important performance, workflow, and safety considerations when choosing a medical smartwatch and its associated mobile phone applications.

3. Have you ever wondered if there was a better way to detect infiltrations in patients receiving intravenous therapy? We’re deep into testing the IVWatch, a sensor-based system intended to detect and alarm for infiltration and extravasation of optically clear fluids, and it’s been really fun to figure out how to simulate these conditions without actually harming our staffers’ vasculature. We’ve built several phantoms out of gelatin, dug deeply into the physics and optics of recognizing infiltration and extravasation, and are looking forward to publishing this Fall.

4. Are your hospital gowns providing enough protection for your caregivers? Building on ECRI’s testing of gowns from nontraditional suppliers last year, in which more than 50 percent of the disposable isolation gowns it tested failed to meet standard levels of protection, we’re now in the process of testing gowns from traditional suppliers in our labs. We’re learning more than we ever thought we would about AAMI PB70 and customer expectations for these products, as well as building our own test rigs to bring the science to bear on the durability, permeability, and protection offered by these gowns. Kaiser Health News recently published an article “Widely Used Hospital Gowns Show Signs of Exposing Workers to Infection,” highlighting our important work in this space.

If you’re ever in the neighborhood, we’d love to show you around our gorgeous new laboratory space. But, in the meantime, wash your hands, keep on excelling, and, as always, tell us what you’re seeing.

Erin Sparnon,
Senior Engineering Manager,
Device Evaluation, ECRI
esparnon@ecri.org
AAMI has launched a new online platform to bring together its many resources for the health technology, medical device, and sterilization communities. That platform, called AAMI ARRAY, functions as a “one-stop shop” for accessing AAMI’s journal content, industry news, and association updates, as well as the most up-to-date standards, guidance documents, and books. ARRAY launched on Monday, July 18.

“An ‘array’ is defined as an impressive display of a particular type of thing, and we want AAMI ARRAY to be that impressive display for our resources on health technology and medical device safety,” said Stephanie Rizk, vice president of brand and technology at AAMI. “AAMI ARRAY is the new backbone of our digital library of content and allows AAMI members and customers to access the best resources we have to offer in one single platform.”

Specifically, AAMI ARRAY serves as a hub for:

- Books and specialty publications
- Scholarly articles from BI&T, AAMI’s peer-reviewed journal of health technology and sterilization
- AAMI blog and multimedia content

According to Gavin Stern, editor in chief and director of publications for AAMI, the development of AAMI ARRAY was driven by the need to prepare AAMI’s development and delivery of publications for the future. With more than 10,000 members and tens of thousands of weekly readers, AAMI has sought a new way to efficiently deliver the resources that health technology professionals use to enrich their careers, their customers’ experience, and their patients’ safety.

“Medical device manufacturers, health technology professionals, and sterilization professionals look to AAMI as an authoritative source of practical information, support, and guidance. But, until now, accessing those resources hasn’t always been intuitive,” Stern said. “We built AAMI ARRAY to deliver the resources these folks need to advance the safety of health technology—whether that’s through healthcare technology management, industrial sterilization, healthcare-focused AI, cybersecurity, and more.”

ARRAY visitors in need of assistance should contact array@aami.org.

A look at AAMI eXchange 2022: “HTM I see you.”

Here’s looking at you, healthcare technology management (HTM) professionals. From enhancing the patient experience to partnering with the C-suite to strengthening cybersecurity, AAMI President and CEO Pamela Arora and a panel of experts see more significant roles for HTM professionals in the future.

“HTM, I see you,” said AAMI President and CEO Pamela Arora in the Opening Keynote at the AAMI eXchange in San Antonio, Texas. Arora shared her personal story as a breast cancer survivor who recognized HTM’s care for her support (Continued on page 15)
Panelists cited the push toward interoperability of medical devices and data integration as the impetus for HTM–IT collaboration over the past decade or so. The focus is changing, but the need for HTM talent is only increasing. “Different things that only HTM can think about are really going to impact our healthcare system,” said Katherine Lusk, vice president of strategic partnerships at the Texas Health Services Authority.

As hospitals and healthcare providers leverage technology to move more services into ambulatory settings, communities, and homes, HTM’s expertise is vital. HTM professionals know how to support clinicians, IT specialists, and patients—and they bring crucial patient safety and risk management knowledge to the table.

“In many ways, HTM may be more prepared than IT at this point,” said Sue Schade, principal of StarBridge Advisors. “HTM recognized the need to integrate with IT. I’m seeing HTM initiating those partnership discussions happening already.” With new C-suite level positions, such as “chief digital health officer,” emerging, she said it is incumbent upon HTM leaders to reach out and make great partnerships.

“The challenge is about taking data and really using it in clinical decision support,” said Philip Bradley, digital health strategist at HIMSS. There are still opportunities across America to do that better in acute care settings—and new opportunities to integrate smartphones and other devices into other healthcare settings and into homes. For example, he said, emergency departments pride themselves on identifying sepsis, a serious condition for which early treatment improves survival rates. “What if we could use devices to monitor respiratory rate,” a symptom of sepsis, “in a patient’s home?” he asked.

The Cybersecurity Challenge—and HTM Opportunity

Monitoring such data from medical or personal devices in patient homes and on the go could improve patient outcomes, reduce clinician burden, and reduce costs. But there’s a big obstacle to reaching that point: cyberattacks. “There’s been a huge change over the past 10 to 15 years,” said Kevin Fu, director of the Archimedes Center for Medical Device Security and director of medical device security at the Food and Drug Administration’s Center for Devices and Radiological Health. It’s no longer just rogue actors carrying out such attacks. It’s nation-states with highly skilled groups wreaking havoc on hundreds of hospitals at a time.

“Ten or 15 years ago, we were in more of a denial stage,” Fu said. “Now there’s recognition that that cyberattacks present real patient safety issues. Cybersecurity is a shared responsibility. It’s one thing to work on cybersecurity within hospital walls. Homes are a highly different environment, with different risks. We have to think of cybersecurity as a solution, not a problem. If we don’t solve the problem, it’s less likely that we’ll be able to have devices in homes.”

Cybersecurity is on the radar screen of the Joint Commission as well. “We’re going to ask, ‘What will you do? What is your plan?’” said Herman McKenzie, director of the commission’s Department of Engineering in the Standards Interpretation Group. As your organization matures, we’re going to be more prescriptive, moving from ‘What will you do?’ to ‘You will do.’

2022 Class of Certified Clinical Engineers (CCE)

[Images of individuals listed with their titles and positions]

CONGRATULATIONS!
Education Committee Report

In this edition of the ACCE News, the Education Committee would like to take some time to thank our speakers/panelists from the 2021-2022 Educational Webinar series. They made it possible to have a very successful Webinar Series. We had a lot of distinguished speakers from all over the country, representing manufacturers and hospital staff. We had clinical engineers, IT representatives, managers, directors, administrators, etc. We would like to thank all of them for taking time out of their busy schedules to share with us their knowledge, help us advance the Clinical Engineering profession, and support ACCE through the Webinar Series. From all of us in Education Committee – THANK YOU!

For the first time in ACCE history, the 2021-2022 Educational Webinar series was delivered complimentary to all ACCE members with the support of the following sponsors: ARMIS, Crothall, Cylera, Enlighted, Medigate & Sodexo.

ACCE Board continues working to maintain this goal, and thanks to our generous supporters, the Education Committee can continue to provide the 2022-2023 Educational Webinar Series FREE to all members.

Join us to thank the following supporters:
The 2022-2023 Webinar Series will kick off on 09/15/2022, with Mike Powers sharing the topic Implementing Quality Management Program.

This session will be followed by 9 more sessions (10 total) that will dig deeper into some of the topics that Clinical Engineering Departments experience globally. We have a great line-up of speakers this year and hope to continue building on the previous years’ successes.

ACCE Members (in good standing), register here. -If you have not renewed your 2022 membership yet, please renew it via PayPal here, or contact us at secretariat@accenet.org to request an e-invoice.

If you are not an ACCE member yet, please join us today! Just complete the membership application form and submit it to secretariat@accenet.org. Or if you prefer to register as a no-member, please complete registration for this session here.

Tony Cody & Nader Hammoud
Education Committee co-chairs
educationchair@accenet.org

Suly Chi
Webinar coordinator
Secretariat@accenet.org
Dear community, I start a new challenge with the most extraordinary enthusiasm possible as the new IFMBE Clinical Engineering Division (CED) Board Chair.

The new CED Board that I have the honor to chair is a team of clinical engineers, leaders from each of the World Health Organization (WHO) defined regions, and excellent people. The voting process for our Board at the June IFMBE World Congress completed this week represents the degree of commitment we have to clinical engineering globally. The number and diversity of candidates is a sample of the growth in number and experience of a community that is forging a place in the field of health with its own personality and potential value.

Before us is a series of challenges that will allow the consolidation of our community. This could not have been possible were it not for the effort, dedication, enthusiasm, and passion of both the previous Board and its leader, our dear engineer Tom Judd, to whom we owe, among other things, a community of more than 500 members from all over the world. We are walking on the shoulders of giants, giants like Tom, Yadin David, James Wear, Saide Calil, Paolo Lago, Mladen Poluta, Li Bin, and Kallirroi Stavrianou, among many others who helped pave the way to reach not only clinical engineers from all over the world but also strategically key players in the field of health.

Special mention deserves the extreme collaboration that we have had with the WHO through Adriana Velazquez, in her role as a leader in medical devices, has raised challenges of great importance to improve the quality of patient care through regional and global initiatives that address the most relevant problems of human health. I am fortunate to have known her for a long time. I can testify how her participation has had a definitive and positive impact on actions that have yielded knowledge and experience for the benefit of clinical engineering and its practitioners. Thanks to efforts like Adriana’s, it is possible to think positively about a future of opportunities and achievements in health for the benefit of the population.

One of the milestones produced in this last period is creating a partner with whom we will strengthen efforts to advance the objectives that we have as a division. The Global Clinical Engineering Alliance (GCEA) is an organization whose synergy with the CED has allowed the development of transcendental activities such as the global week of Clinical Engineering and the 4th International Clinical Engineering and Health Technology Management Congress (ICEHTMC) held virtually last year. Organizations such as the Association for the Advancement of Medical Instrumentation (AAMI) and the American College of Clinical Engineering (ACCE) have also been part of the recent history of the CED. It is my purpose to intensify the relationship with these and other organizations in such a way to strengthen the presence of the clinical engineer in the world.

It is my commitment not only to keep up the pace but also to advance in the consolidation of clinical engineering through activities such as webinars, the commemoration of the global day of the clinical engineer, the participation in relevant aspects of medical devices in the WHO, the integration of a worldwide network to share, expose and develop clinical engineering, etc. At the same time, and with everyone’s help, we will also launch new projects and initiatives that enrich the experience of being and doing clinical engineering.

References

- Global Clinical Engineering Alliance (2022)
- International Clinical Engineering and Health Technology Management Congress IV ICEHTMC.
- AAMI
- American College of Clinical Engineering (ACCE)

Fabiola Martínez, Board Chair
IFMBE Clinical Engineering Division (CED)
fmartinez@ci3m.mx
Get your CCE

ACCE BOK Committee has been busy working over the summer to organize and update the 2022 CCE Written Exam Review Webinar Series. Come to join our faculty and your peers during this informative and comprehensive webinar series at NO COST to ACCE Members!

This 10-week series will be FREE to ACCE members with the generosity of MEDIGATE.

Nonmembers are welcome to register with a small fee.

Registration form

**2022 CCE WRITTEN EXAM REVIEW WEBINAR SERIES**

Date: Wednesdays, Aug 10 - Oct 12, 2022, Time: 12:15 pm - 1:45 pm (EDT)

Register today and start preparing for your November Clinical Engineering Certification Written Examination

Faculty

- Kim Greenwood
- Jenn Nichols
- J. Tobey Clark
- Elena Beckley
- Arif Siddhan
- Chris Riba
- Ted Cohen
- Alan Lipschultz

To register: complete the online registration form [https://www.surveymonkey.com/r/2022CCEwebinars](https://www.surveymonkey.com/r/2022CCEwebinars) or scan the QR code.

Disclaimer: This webinar is prepared and offered by individuals who are not involved in the preparation of the CCE Exam.

Hot from the press! CCE Study Guide v11.0 is now available. To order your copy, please visit [ACCE website](http://www.acce.org)
Ghana Medical Help-Clinical Engineering Project

The purpose of this project is to sustainably improve rural health infrastructure in Ghana and create a replicable model for reducing health inequity in resource-poor communities around the world.

An integral part of a hospital’s basic ability to function is the presence of reliable medical equipment. However, on average about 40% of medical equipment in resource-poor settings like rural Ghana is out of service (Perry and Malkin 2011). A 2019 study by Marks et al. found that investing in clinical engineering infrastructure could nearly double the amount of working medical equipment in hospitals like those in northern Ghana.

Three components of the Project include:

1. Provide every hospital with a stationed clinical engineer in the Upper West and Upper East Regions with a proper toolkit containing necessary tools to facilitate equipment diagnostics, cleaning, maintenance and repair. Furthermore, we will develop a triaging system to determine prioritization of toolkits to hospitals in other regions across the country.

2. Provide access to advanced professional learning opportunities through in-person and online educational workshops for all clinical engineers in Ghana.

3. Develop a standardized hospital inventory with an asset tagging system to be used in sample of Upper East and Upper West Region hospitals. This pilot inventory database and tagging system will be evaluated, refined and expanded across Ghana.

As part of this initiative, 5 training videos were created in 2020 regarding Clinical Engineering fundamentals. They include:

- Roles & Responsibilities of Care Givers & Clinical Engineers in the Fight Against COVID-19 in Ghana
- The Fundamentals of a Clinical Engineering Workshop
- Equipment Inventory Systems and Standardized Nomenclature
- Principals of Effective Troubleshooting
- Acquiring Medical Technology, Parts and Supplies

Feel free to provide a link to these training videos to all those interested. https://ghanamedicalhelp.com/our-projects/clinical-engineering-project/

Martin Poulin, M.Eng., P.Eng., FCMBES
Director, Biomedical Engineering, Island Health
martin.poulin@islandhealth.ca

Bill Gentles, PhD, CCE, FCMBES
Vice President, BT Medical Technology Consulting
gentles44@gmail.com
Global Clinical Engineering Journal
Health Technology & Innovation Improving Patient Outcomes

The open access Global Clinical Engineering Journal publishes high quality, timely, peer-reviewed manuscripts about the intersection of technology, engineering and informatics related to health, wellness, disease management, and patient-care outcomes around the world. Wider global community participation is further facilitated through this no-fee publication.

The vision of the Journal is to become the preferred international forum for facilitating the exchange, knowledge sharing, and engagement of practitioners across the globe. We will achieve that vision through a diverse range of high quality contributions of professionals from across the domains of clinical engineering, health-related technology, informatics and patient-care outcomes.

The purpose of the Journal is to collect, review, select, promote, and share original manuscripts, articles, technical papers, letters, scientific opinions, professional development tools, applications, and technical data relating to the clinical engineering and health technology fields.

The goal of the Journal is to advance and disseminate knowledge, to promote professional networking among practitioners and other stakeholders in academia, industry, government, and other decision-makers. We encourage work submissions by both young and senior researchers and practitioners. Our goal encompasses the promotion of education, training and ethical professional practice among members of this professional community.

EDITOR-IN-CHIEF: Dr Yadin David
www.globalCE.org

ISDN: 2578-2562

TOPICS
- Adverse events
- Artificial intelligence
- Artificial organs & Tissue
- Biomedical engineering
- Clinical engineering
- Disaster preparedness
- Engineering education
- Error mitigation
- Forensic engineering
- Health Informatics
- Home care
- Human factor engineering
- Implants
- Innovation and adoption
- Maintenance
- Metrology & device performance
- Professional development & credentialing
- Quality and outcomes
- Regulation science
- Risk control
- Safety
- Social impact and Ethics
- Software applications
- Systems management
- Technology assessment
- Technology integration
- Technology life cycle
- Technology management methodologies
- Telehealth and telemedicine
Journal of Clinical Engineering Subscriptions for ACCE Members

The Journal of Clinical Engineering is a compilation of articles, papers, and extensive manuscripts relevant to clinical/biomedical engineering or biomedical technology. Subject matter directly relates to the engineering or technology involved in patient care and treatment or technology in the broad field of health care delivery.

ACCE members receive a discounted subscription to the Journal of Clinical Engineering for only $99! (Originally $313). You must login to the ACCE website to view the code. Then visit LWW.com to enter code.

ACCE CALENDAR
https://accenet.org/NewsEvents/Pages/Calendar.aspx

5 August 2022 12:00 PM-1:00 PM Complimentary Webinar: Mayo Clinic’s IoT Journey: From Asset Inventory to Cybersecurity,


17 August 2022 12:15 PM-1:45 PM 2022 CCE Review Webinar series, session#2: Service Delivery Management ITechnician / Service Supervision, Equipment Repair and Maintenance, Equipment Acceptance, Equipment Performance Testing, Develop Test/Calibration/Maintenance Procedures

19 August 2022 12:00 PM-2:30 PM 2022-2023 Officers & Board of Directors take office

24 August 2022 12:05 PM-1:45 PM 2022 CCE Review Webinar series, session#3: Service Delivery Management 2Service Contract Management, Maintenance Software (CMMS) Administration, Parts/Supplies Purchase and/or Inventory Management, Technical Library / Service Manuals Management

31 August 2022 12:15 PM-1:45 PM 2022 CCE Review Webinar series, session#4: Technology Management 2Life Cycle Analysis, Return on Investment (ROI), Project Management, Other (Equipment Installation) & Education of Others - Technician Education, Device User / Nurse Training, Develop/Manage Staff Training Plan, Engineering Education, Other Education Responsibilities, International Healthcare Technology

07 September 2022 12:15 PM-1:45 PM 2022 CCE Review Webinar series, session#5: Technology Management 3EMI/RFI Management, Interpretation of Codes and Standards, Clinical Systems Networking, Coordinating Device Interoperability/Interfacing, Clinical Device Use and/or Application, Water Quality

The ACCE Board and Committee Chairs

President ......................................................... Priyanka Upendra
President Elect ............................................. Kim Greenwood
Vice President .............................................. Jim Panella
Secretary ....................................................... Kamecia Bruce
Treasurer ...................................................... Bhaskar Iduri
Member-at-Large ......................................... David Braeutigam
Member-at-Large ......................................... Jim Caporaali
Member-at-Large ........................................... Samantha Herold
Member-at-Large .......................................... Katherine Navarro
Immediate Past President ............................ Ilir Kulloli
Advocacy Committee Chair .......................... Kevin Kreitzman
CE Body of Knowledge/CCE Promo Chair ...... Jennifer Nichols
Education Committee Co-Chairs ............... Tony Cody, Nader Hammoud
International Committee Chair ..................... Binseng Wang
Membership Committee Chair ..................... Juuso Leinonen
Nominations Committee Chair ..................... Ilir Kulloli
CE-HOF Nominations Review Committee Chair .... Jim Keller
HTCC Chair ............................................... Sudhakar Nagavalli
Secretariat .................................................. Suly Chi