

ACCE News

Vol. 12, No. 3— May 2002

ACCE Moves Toward Certification

ACCE Executive Board

ACCE's Executive Board is pleased to report on the significant progress the Certification Planning Committee has made to date on the CCE program. A mission statement is complete, draft bylaws for the CCE Board of Examiners have been developed and exam question development is underway with the questions based on last years ACCE Body of Knowledge survey. As part of this process we have incorporated much review and constructive criticism from AAMI, the AAMI Foundation, and the United States Certification Commission (USCC). We've accepted guidance from AAMI President Mike Miller, USCC Chairman Bill Short, Alan Lipschultz and others in a positive spirit to assure that we create a strong, credible, certification program, and we thank them for their continuing input.

Based on this feedback and the hard work of Frank Painter and his Certification Planning Committee, the CCE program will be configured to meet the National Organization of Competency Assurance (www.NOCA.org) certification standards, appropriate liability insurance coverage will be purchased for a professional certification program, and the budget will be revised to ensure adequate funding to support these and other related administrative expenses throughout the initial start-up years.

Continued on page 15

INSIDE THIS ISSUE

- | | |
|--|------------------------------------|
| ➤ 2 President's Message | ➤ 10 On the Move and in the News |
| ➤ 3 New Members | ➤ 10 Membership Survey Results |
| ➤ 3 HIPAA Update | ➤ 11 The View from the Penalty Box |
| ➤ 4 Perspectives from ECRI | ➤ 12 ACCE Board Highlights |
| ➤ 4 ACCE Annual Symposium | ➤ 13 ACEW Costa Rica |
| ➤ 6 Certification Applications Now Available | ➤ 14 ACEW Peru |
| ➤ 7 The Future of Clinical Engineering | ➤ 14 Calendar of Events |
| ➤ 9 Fashion Tips | ➤ 16 ACCE Teleconference Series |

ACCE News

21 Bob's Lane

Setauket, NY 11733

American College of Clinical Engineering

ACCE News

ACCE Mission

1. To establish a standard of competence and to promote excellence in Clinical Engineering Practice.
2. To promote safe and effective application of Science and Technology to patient care.
3. To define the body of knowledge on which the profession is based.
4. To represent the professional interests of Clinical Engineers.

Web - Accenet.org

President's Message

Elliot B. Sloane, Ph.D., esloane@villanova.edu

A Time for Praise, Recognition, and Celebration!

It is once again the beginning of the season for our national conferences, and it is important for us to take the time to appreciate and express our thanks to our many ongoing partners and sponsors. First, I would like to thank the warm and professional support that ACCE receives each year for our activities at the AAMI, HealthTech and IEEE-EMBS conferences. Without the competent and enthusiastic support that the staff of those organizations provides, it would take a lot more work for the ACCE members to get together and to arrange the useful annual meetings and training programs that we offer and receive. Please make certain that you express your thanks to the fine staff members of those organizations for their ongoing support, and be sure to encourage your suppliers to participate in the conferences. We should also thank the ASHE, ECRI, FDA, JCAHO, PAHO, and WHO organizations, plus numerous private companies like Ode Keil's, for providing speakers and educational content, as well as invaluable partnership opportunities to collaborate on so many critically important issues at our conferences.

In addition, we need to recognize the valuable education and communication opportunities provided by the three main magazines/journals that serve our community. *24x7*, *Biomedical Instrumentation and Technology*, and the *Journal of Clinical Engineering* provide a warm reception to our contributions, and they each help us do a better job in many different and important aspects of our careers. Again, ACCE members should reciprocate by not only expressing your thanks to the editorial teams, but also by writing articles to improve our profession and practice. We also need to remind our

vendors that we invite their support in the form of advertising dollars, as well as asking them to contribute useful articles and training. Although the *Health Devices* journal does not accept articles or advertising dollars, ACCE cannot fail to acknowledge the enormous contributions that publication makes to our field and the generous support that ECRI and its staff always provide, including invaluable education and ongoing mail, phone, and other secretariat support. The ACCE Annual Meeting site has been provided each year by AAMI, and we have enjoyed important continued professional achievement awards donated by DEVTEQ and the *Journal of Clinical Engineering*. Also, for the past two years, Four Rivers Software has generously paid for our annual reception, Kaiser Permanente has filled our bellies, and our own *ACCE News* has enjoyed constant advertising support from DITEC.

Last but not least, I want to thank the many volunteers – you folks! – who make our committees, educational sessions, and all of ACCE's domestic and international programs and services so vibrant and so valuable!

Don't take all of this support, partnership, and fellowship for granted, folks! Please make a special effort to individually acknowledge the individual and institutional contributors by thanking them in person, by email, or by phone and by continuing to offer your interest and support for their activities. They are all very important partners in ACCE's success and they truly help our profession grow stronger.

Thank you ALL for supporting ACCE. Fine partners and members have continued to make ACCE a terrific organization. I am looking forward to seeing each of you at our annual meeting in Minneapolis on June 3 so that we can tell you all about how much progress we've made this year! Come help us celebrate the early successes of ACCE's second decade of existence!



Elliot Sloane

The ACCE Board

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ACCE News

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HIPAA Update

Stephen L. Grimes, sigrimes@nycap.rr.com

On March 28th the HIPAA Task Force met. It had agreed to develop guidelines and tools that would enable clinical engineers to assess the scope of the remediation task before them. The Task Force identified four steps to achieve that goal:

1. Identify a generic list of major biomedical equipment categories ... i.e., a subset of all biomedical equipment categories that represents the substantial majority of biomedical devices & systems typically managed by clinical engineering (likely to be some subset of ECRI's UMDNS)
2. Establish criteria and ranking system to serve as a guide in assigning "potential" security risk levels for *integrity*, *availability* and *confidentiality* to each biomedical equipment category
3. Create a document with a list of major biomedical equipment categories where each category is ranked in each of the security areas, i.e., potential risk associated with a compromise of confidentiality, integrity and availability, using the newly established criteria and ranking system. The completed document would be available to serve as a clinical engineer's tool for:
 - a) assessing the scope of their HIPAA Security compliance need.
 - b) pointing to those categories that most likely will require further, detailed risk assessment
4. Establish a detailed risk assessment tool (questionnaire form) that can be used to identify the actual security risks pertaining to confidentiality, integrity and availability associated with specific biomedical devices and systems in use. This tool would enable clinical engineers to identify actual risks and suggest potential remediation courses.

The Task Force members have begun to work on this process and we will be reporting our progress in subsequent issues as well as publishing the results on the ACCE web site.

In addition to the Task Force's project work, we have also been busy educating those in clinical engineering and other healthcare professions as to HIPAA's implications for our industry. The May issues of both *AAMI News* and *24x7* are carrying articles in which I was interviewed about HIPAA's impact on clinical engineering and the work of our Task Force. Also in the coming weeks, Elliot Sloane, Brian Porras and I are making a series of HIPAA-related presentations at upcoming conferences including the *CIO Forum and IT Executive Summit* in Philadelphia, the *ACCE Symposium* and the *AAMI Conference* in Minneapolis, and the *Emerging Technologies and Healthcare Innovations Congress (ETHIC)* in Washington, DC. Please consider attending these sessions if you have an opportunity.

ACCE Welcomes New Members

The following are the new ACCE Members elected during the period February 2002 through April. Congratulations and welcome!

- Jennifer Barbee
- Melissa Burns
- Theresa Crofts
- John Dangos
- Scott Draper
- Petr Kresta
- Nancy Lum
- Cynthia Rapoo

Perspectives from ECRI

Jim Keller, jkeller@ecri.org

On behalf of ECRI, I am pleased to begin a regular ECRI column to inform the ACCE membership of ECRI activities, provide ECRI perspectives that may be of interest to the ACCE membership, and also to seek your perspectives on issues that ECRI is working on.

First, I would like to start off with a thank you. Many ACCE members have provided input to ECRI over the years related to our comparative evaluations, technology guidance articles, hazard investigations, inspection and preventive maintenance procedures, and other ECRI products and services. Your help has been instrumental in keeping the information that ECRI provides to the healthcare community in such high regard for over thirty years. To those of you that have contributed to our mission through document reviews, survey responses, phone call queries, device problem reports, general advice and so on, we thank you. We believe that the work that we do at ECRI must be in cooperation with the clinical engineering community. The perspectives from your day-to-day experiences allow us to stay grounded and provide practical and sensible advice that we hope helps make your job and that of your colleagues easier.

In case you are not familiar with ECRI, we are most known for our *Consumer Reports*-like evaluations of medical devices. Our evaluations are published in *Health Devices* along with guidance articles on procurement, management, service, and safety of medical technology. We operate an international medical device problem reporting system. Reports received by ECRI are investigated and often reported on as Hazard Reports in *Health Devices*. One of the most frequently used ECRI services is our Health Devices Alerts System, which provides reports of medical device-related hazards and recalls. ECRI also provides a variety of specialized consultation services to the healthcare community ranging from advice on product pricing to guidance on selection of specific medical products.

Many clinical engineers are subscribers to a variety of ECRI publications in the Health Devices and SELECTplus programs. Online access to all of the Health Devices System and SELECTplus publications has recently been made available to any staff member of subscribing hospitals. Starting in June 2002, ECRI will be providing e-mail blasts of weekly Health Devices Alerts Action Items articles. Any staff member at Health Devices System or SELECTplus member hospitals is eligible to receive the e-mails. Please feel free to contact me if you would like to learn how you or your hospital colleagues could access this electronic information.

I would like to thank the ACCE Board for giving ECRI the opportunity to write this column in *ACCE News*. In the next issue I will be providing ECRI's perspectives on the patient safety issue.

Jim Keller is Director Health Devices Group, ECRI, and Member at Large, ACCE Board

ACCE Annual Symposium Perspectives for Successful Leadership in Clinical and Information Technology Services

Ted Cohen, Symposium Chairman,
ted.cohen@ucdmc.ucdavis.edu

ACCE is presenting an all-day symposium entitled *Perspectives for Successful Leadership in Clinical and Information Technology Services* at the Minneapolis Convention Center, Saturday June 1, 2002, from 9:00AM to 6:00PM, in conjunction with the 2002 Annual Meeting of the Association for the Advancement of Medical Instrumentation (AAMI). Co-Chairs of the Symposium are Elliot Sloane and Ray Zambuto. Clinical Engineers, Chief Information Officers (CIOs), BMETs, Information Technology (IT) specialists and others interested in healthcare technology, will hear speakers discuss IT-related clinical technology issues.

Specific presentations in the IT-focused morning sessions include: a CIO keynote, IT Project Management, Manufacturer's Perspective, Systems Integration Issues, Computer Security and Data Confidentiality, and a HIPAA update. Presentations in the Clinical Engineering-focused afternoon session include: Global Perspectives on Healthcare Leadership, IT Basics (Toolkit) for Clinical Engineers, Managing Software Version Changes, Support Strategies for Integrated Clinical and Information Technologies, "real world" case studies and an open forum and discussion at the end.

How will the Clinical Engineering profession evolve as medical technology moves to computer-based systems? Will CIOs, Clinical Engineers, physicians, pharmacists or a new breed of leader manage medical technology? The ACCE Symposium addresses the IT/clinical technology issues with a theme of leadership. Clinical Engineers at all levels of their career must be working with other technology leaders in healthcare, IT and the medical device industry to promote the efficacious and cost effective integration of clinical and information technology.

The Symposium begins with keynote speaker Navy Commander Maria Horton, NC, discussing healthcare's eventual transition to e-health. E-health has many facets and definitions but typically includes computer access by patients, healthcare providers and healthcare suppliers that allows enabling Internet technologies such as e-mail, web browsers, and web-based product ordering to be widely implemented. E-health may also include telemedicine and teleradiology applications, remote video and physiological parameter monitoring (e.g., home monitoring), various healthcare-related electronic record keeping systems, direct e-mail physician to patient consultations and other related applications.

The Internet provides the possibility for reduced patient wait times using web-based call centers (e.g. self-help ▶▶

web sites and web-assisted advice nurses). Futurists further envision Internet delivered healthcare providing an "anywhere, anytime" e-health care service including: virtual MD offices, on-line drug stores (already available for refills), and virtual health agents (e.g. home-based telemedicine applications for the masses). Barriers to broad implementation of e-health include insufficient network infrastructure to the home capable of providing sufficient bandwidth to obtain reasonable response times to queries, computer security and data confidentiality (e.g. HIPAA compliance), and development of friendly "client" applications for minimally-skilled computer users (e.g., patients).

The IT-focused morning session continues with IT Project Management and addresses the system issues and pitfalls faced by healthcare IT professionals in planning large complex IT projects.

Both the underlying technology advances for consumer products and the healthcare marketplace drive many of the product changes that are occurring. The morning session continues with the Manufacturer's Perspective exploring product development issues and challenges including the increasing emphasis on the following: software, hardware and communications standards, use of commercial off the shelf systems (COTS), wireless applications, regulatory agency (e.g. FDA) involvement in software-based medical systems, internationalization, and support challenges in a software dominated environment.

Rob Malliff, Associate Director of ECRI's Health Systems Group, discusses system integration issues. Large integrated systems (e.g., PACS, CIS, CPOE, EMR) pose many of the same selection and support issues seen with hardware-based medical technologies and similar technology management methodologies can be used to optimize the purchase and support of these complex systems. In the selection of these systems, clinical workflow change and other change management is also extremely important. There is often a trade-off between trying to customize the software to meet current business and clinical practices and changing workflow and other current practices to match the software. A critical evaluation of the information systems, current clinical practices, and business practices is required with a goal of making processes more efficient, often via process and system simplification.

Computer security and data confidentiality are key issues today. Data integrity is critical. Information must be kept secure with access only to those who have a "need to know". Computer and data security threats occur from internal and external sources. Threat assessment and mitigation will be discussed next. Accidents, as well as malicious events (internal and external), can and do occur. An introduction to threat assessment and solutions including firewall design and virtual private networks will be discussed as will malicious virus and worm attacks. "Best practices" for computer security will be outlined. HIPAA

regulations and their impact on medical instrumentation and clinical IT systems will conclude the morning session.

The afternoon session begins with *Global Perspectives on Healthcare Technology Leadership* by Yadin David. The technology needs of developing countries vary based on the current state of healthcare in that country. With its Advanced Clinical Engineering Workshops, ACCE is taking a leadership role in training clinical engineers throughout the world in a variety of technology management issues including technology assessment, risk management, accident investigations and other technology-related issues. Dr. David will discuss the current state of Clinical Engineering in the United States and throughout the world with an emphasis on the vast opportunity for Clinical Engineers in integrated clinical and information technologies.

ACCE president Elliot Sloane, in *Essential IT Lingo for Clinical Engineers* provides a "toolkit" of terminology for working in the IT environment. In order to play a leadership role with IT projects, CE's need to speak the IT language. Sloane explains such concepts as Ethernet and Internet protocols, ring and star networks, thin and thick clients, 2- and 3-tier architectures, LANS, WANS, and MANS, and relational, hierarchical, and network databases.

Julia Chan, healthcare IT industry consultant, explains how to manage software versions including tracking, testing, and budgeting.

Ray Zambuto, President-Elect of ACCE, will show how to develop a support structure for this integrated technology, beyond the maintenance and repair tasks that are familiar to CEs and BMETS. In supporting clinical and information systems, support systems must be redesigned from the ground up. Hardware, software, and user education can all contribute to potential problems that can extend beyond inconvenience to improper result reporting, and patient injury. A new world of help desks, web sites, and interfaces with and between vendors must be coordinated to prevent the promulgation of inconsistent information. The coordination and cooperation of clinical engineering, information technology, and in-service education will be required to assure that these systems live up to their potential. Options for support strategy will be discussed in the case studies.

The afternoon continues with three case studies exploring examples of Clinical Engineering and IT, in a variety of organization structures, demonstrating how clinical engineering and IT staff are successfully managing and completing complex, integrated projects. Following the case studies will be an open forum and audience discussion.

Clinical Engineers must be involved with senior leadership, CIOs, and customers to develop optimal policies and practices for the management of integrated IT and clinical technology. The Symposium will provide several best practices to enhance the management of integrated IT and clinical technologies. ▶▶

**Symposium Schedule can be found at
www.accenet.org**

Come To AAMI 2002 With ACCE



Come join ACCE for 4 days of learning and fellowship at AAMI 2002 in Minneapolis MN. ACCE is an educational partner of the AAMI annual meeting and ACCE members have been heavily involved in the planning committee for the annual meeting, to assure that the educational program will be relevant and timely for clinical engineers.

The highlight of ACCE's activities will be the Annual Symposium on Saturday, June 1st. This year's topic is of critical importance to clinical engineers.

Perspectives for Successful Leadership in Clinical and Information Technology Services

ACCE will also be hosting a reception and annual meeting for members – a great chance to catch up with old friends and to make new ones! ACCE has arranged for its members to receive a discount on registration fees. For more information on the Annual Symposium or the AAMI 2002 annual meeting, go to www.aami.org or www.ACCEnet.org. See you in Minneapolis!

Late breaking Clinical Engineering Certification News

Applications are now available for those interested in becoming Certified in Clinical Engineering.

The ACCE Clinical Engineering Certification program administered by the US Clinical Engineering Board of Examiners is now accepting applications from both new and experienced clinical engineers to take the certification exam. Exams are currently scheduled for the 4th quarter of 2002.

The ACCE Clinical Engineering Certification Program will recognize those who were previously certified under the suspended AAMI program. Applications are now available to renew your certification and become listed with the new program. If you are currently renewed under the suspended ICC / AAMI program, or if your renewal previously lapsed, you may now apply for recognition under the new program.

To obtain an application to be Certified in Clinical Engineering or, if you were previously certified, to apply for recognition and renewal under the new program, contact ACCE at:

certification@accenet.org or by calling (610) 825-6067.

Certification Update

Caroline Campbell, Chair, Caroline.A.Campbell@MedStar.net

ACCE Status Report to the USCC - February 15, 2002

Discussion concerning approval of the clinical engineering certification program continues between ACCE, the USCC, and AAMI (see cover story). The dialogue continues to be constructive as well as instructive. To demonstrate our intent to develop a valid certification program, ACCE has agreed to investigate accreditation through the National Commission for Certifying Agencies prior to further submission to the USCC. Achieving this accreditation is one way that AAMI has stated will alleviate its concerns about the program. The Board is continuing its efforts to develop examination questions and is drawing on the expertise of the clinical engineering community to include the appropriate content. Additionally, the Board is relying on clinical engineering educators to assist with development of appropriate questions. Please participate in this process if you are called upon. To learn more about the progress in developing the clinical engineering certification program and to learn about the governance of certification programs by the USCC, consider attending the Certification Orientation Session during the annual AAMI meeting. The session is scheduled on Monday, June 3 from 5:45 to 6:45.

Meetings and Conferences

Future of Clinical Engineering

HealthTech 2002 @ Baltimore, MD
Monday, April 22, 2002

Panel Moderator:

Raymond Zambuto - Technology in Medicine, President

Panelists:

- Malcolm Ridgway - Masterplan, Sr VP Technology Management
- Elliot Sloane - Villanova University, Professor Decision & IT
- Binseng Wang - Mediq PRN, National Quality Director
- Joseph Dyro - Biomedical Resource Group, President
- Frank Painter - Technology Management Solutions

How do we raise/change the perceived value of clinical engineering within the healthcare system?



Sloane: Clinical engineers need to identify who we are. CE needs to come up with a rational way of explaining the profession. Authenticating/validating expertise is crucial to getting people to understand who we are and what we do.

Self-identification ties very strongly to the certification process.

Changing the name "clinical engineering" to something more intuitive as some have suggested is not the real issue. People can become accustomed to "names" over a period of time.

Ridgway: Where is the CTO (chief technology officer) in the hospital? Hospitals don't have CTOs, although hospitals are probably the most technology intensive business sector that exists today. Currently hospitals have committees providing the CTO function albeit not very well. We should think about trying to bring the CTO concept into the hospital one slice at a time, much like we brought electrical safety testing into the smaller hospitals in the 1970s (*i.e.*, think shared service concept "resurrected").



One objection we hear is "Why can't consultants perform the CTO role?" Well, consultants are typically not

invited in until after the "train wreck." We need someone there to see that train stays on track in the first place.

I believe that clinical engineers should strive for the CTO role. The question is how do we sell that concept to the customers? The CTO is the vacant seat at "C" level that we should be moving up to. We're just not doing all we could to move in this direction. If we're going to provide the value we have the potential to deliver, we need to find the way to the boardroom. ►►

ACCE News

Another issue is that clinical engineers are not being trained effectively for the role. We need to introduce more training that would enable us to act as clinical systems engineers focusing on systems analysis and the systems approach.

We need to find that bridge to better times in the future. To find it, we need to be thinking "out of the box" to find a way to change the way clinical engineering is perceived.

Painter: Being from the clinical engineering community close to NYC, we're used to just hunkering down and doing it. Sure technology is changing, but we're smart enough to track that. There is a lot to be said for all this self-analysis. But we want to be careful not to get bogged down in negativisms. There are still needs for clinical engineering. Technology is growing, becoming more information services oriented, and there are a lot of other opportunities. There continues to be a need for techs to "fix stuff", technical



managers to "manage stuff", and a need for engineers to solve problems. There are still opportunities for engineers if they want to be involved in these areas. Maybe we should be encouraging those interested in advancing the level of clinical engineering to get a bachelor's in engineering and then a master's in business or health administration. This may be one way to the boardroom.

Ridgway: I just want to add to my earlier comments ... Keep in mind that even if hospitals could find individuals with all of the special knowledge that the CTO of a healthcare institution needs, they probably wouldn't be able to afford them. Someone with all the technology expertise they need would be too expensive - another reason to consider the shared service approach.

Painter -I agree with Mark Twain, progress is great. All biomedical systems becoming nodes on a network is exciting. Change is something some of us have problem with.



Dyro - Malcolm's "all wet" with suggestion that the term *clinical engineering* might be replaced with a more appropriate title. If someone asks, "what's a clinical engineer?", it should be seen as opportunity to describe the profession. Utilization analysis is an example of what

clinical engineering should move into. You don't need to change the name of the profession to do that.

Ridgway - We need to introduce the missing skills that have been mentioned today into our training programs. I don't think any one of the current programs teaches, for example, utilization analysis or many of the other things that should be the stock-in-trade of the future clinical systems engineer.

Daryl Forsythe, Delmar Community Hospital, Chicago IL - The equipment selection process is thought to influence perhaps only a small part (perhaps 3%) of a hospital's budget. But the downstream effects potentially

have a much greater financial impact (maybe 30%) because the type of equipment selected impacts hospital procedures, hours of operation, training, and maintenance. We need to make the administrator aware of the bigger influence our equipment selection decisions have on the finances. How can we do that?

Sloane - Clinical engineers should get with physicians. Physicians now come out of medical school with more technical skills, systems training, their own programs, and web sites. Today's physicians are much more approachable than they have been in the past. They are receptive to what technologists can offer to improve their bottom line, to make them more efficient, and improve the quality of their service. Today's physicians know they need help. Clinical engineering needs to recruit physicians to the clinical engineering cause. We need to bring physicians onto our certification board. Physicians who we get involved in clinical engineering are likely to go out and become clinical engineering advocates in their own world ... at their medical conferences and in their medical publications.

Ridgway - The technology manager role working with the hospital's capital equipment purchasing committee has always been effective. That's maybe the "beginning" of the bridge into the CTO role. But we should take a look at some of the other existing roles that we play and consider dropping some of the roles that overlap other skill areas, such as supervising on-site maintenance groups, and reduce the potential confusion about what our primary role should be. Any roles that aren't part of what we want to be in the future are distracting red herrings, old baggage that may be keeping us out of the "C" suite.

What are clinical engineering's opportunities & role(s) in the information technology (IT) area?

How does the clinical engineering avoid conflicts in the IT area?

Sloane - Information technology is the ideal opportunity for clinical engineering. HIPAA is coming and so far expert systems and support systems have fallen short of expectations.

A number of us (clinical engineers) recently returned from the HIMSS conference and we found an enormous amount of support for clinical engineering involvement and participation. Before our presentations, many of the attendees said they were largely unfamiliar with clinical engineering ... one attendee admitting he didn't even know his hospital had such a service.

We need to encourage clinical engineers to join HIMSS. Willie Sutton said he robbed banks "because that's where the money is." IT is where healthcare industry's attention and money is. ▶▶

The No. 2 crisis at HIMSS identified this year is “medical errors” and that represents a huge area in which clinical engineering can contribute.

Ridgway – That’s exactly the opportunity! Clinical information systems and the impact of HIPAA on those systems is the clinical engineers’ side of the IT piece. We need to move into that territory very soon. It is our window of opportunity to stake our claim to those areas. We need to have the leading role in bringing those things together. A revolution is underway in clinical information processing. Most of the existing clinical IT systems are far from being as successful as they should be.



Eric Rosow, Hartford Hospital, Hartford, CT – Hartford’s clinical engineering formerly reported to the VP of Support Services but then we recommended we move into IT. It is where the money is and the future is. It was the best way to attract and keep qualified people. It’s also easier to get physician support when associated with IT.

Clinical engineering complements what IT people can do. We’re experts in “near patient” activities, 7x24 activities, and in dealing with continuous, rich data. The money is in ICUs and ORs. There are drawbacks with affiliating with IT. There are frequent changes in management since CIOs seem to have a half-life of around 18 months.

Zambuto – Clinical engineering too often misses an opportunity when it fails to report to influential physicians as well as administration.



Dyro – Those wishing to get more information and a profile of Rosow’s program should obtain a copy of the March ACCE newsletter from the www.acenet.org web site.



Wang – I would like to play the devil’s advocate for a minute. We seem always to be discussing how are we going to survive. Does it mean an alliance with IT or some other new, fancy fad? Something we may want to consider is one of dirty words that no one has mentioned so far, licensing.

Why aren’t we talking about that? Most other clinical professions have licensure. A good example are the pharmacists who are licensed by all the states. If most other clinical professionals must be licensed, why shouldn’t those who maintain critical life support and threatening medical devices?

Ridgway – If you don’t mind adding substantial cost to the already-out-of-control cost of healthcare, then we could consider playing the “licensed professional card.”

But in my view, if we can’t sell clinical engineering without playing that card, then I think we should resign ourselves to living with the unexciting *status quo* situation. Licensing will be perceived as a desperate unionizing type of move.

Let’s go back to the clinical IT opportunity, organize our resources to provide the additional training we need, and move forward in that area.

We should also consider getting into the medical errors arena. No other healthcare professional has skill set needed to provide the kind of systems analysis required to perform this role. The only question is how seriously do we want to become medical error analysis specialists?

Sloane – We should e-mail John Hughes (now more in working on IT side at Computer Sciences Corp, jhughe24@csc.com, get support for ACCE/AAMI participation in the next HIMSS. John is on the education committee for next HIMSS conference.

Clinical engineers should be looking at licensing but I’m not sure how we can get there. I don’t see any downside in taking the path toward licensure. Certification legitimizes our skills and demonstrates that a certain level of knowledge and experience is important. Most groups in healthcare have moved through the licensure process. Licensure may not be worthwhile but it may be necessary.

With respect to medical errors issues, these are system errors caused by system factors. IT does not have the understanding of clinical issues to effectively address medical errors. It’s typically a Drug-Device-Supply-Procedure process where IT lacks experience in this context.

Ridgway – Medical errors is a system analysis problem not simply a device- or drug- related problem.

Spruce Up Your Wardrobe

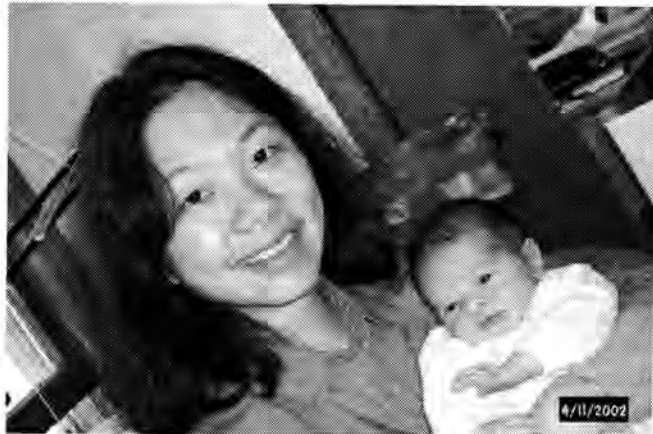


Fashion Supermodel Dyro proudly displays the ACCE T-shirt for the HealthTech 2002 attendees in Baltimore this past April. The many benefits and products offered by ACCE were shown at the ACCE informational booth in the exhibit hall. For more information on customizing your wardrobe by emblazoning scarves, ties, shirts, jackets and other apparel with the ACCE logo, contact Matt Baretich at ACCE.Secretariat@baretich.com

On the Move and In the News

Nancy Lum on Productivity

On April 2, 2002, Natasha Kyra Lupien came into this world weighting 6 lbs 14 oz. The proud mother shown below cradling the new arrival is a new member of ACCE. Nancy is Assistant Director of Clinical Engineering at Massachusetts General Hospital.



Nancy Lum with Natasha Kyra Lupien

Manny Roman Wins Award



Manny Roman

Manny Roman, President of DITEC, won the 24 X 7 Readers' Choice 2002 Award at the annual HealthTech meeting held in Baltimore in April. The Award goes to the best Service Training Program or Aid. DITEC excelled in the specialty of Diagnostic Imaging Service Training. Congratulations, Manny!

Fall 2001 Membership Survey

Raymond Peter Zambuto, rzambuto@techmed.com

We had a total response of 65 members, the overwhelming number being Individual Members. Each section of the survey yielded valuable information that will help guide the Board in better meeting the needs of the membership. ACCE Board Member at Large, Barbara Maguire, compiled the information.

ACCE Benefits: All of the benefits listed were highly valued to the respondents except "ACCE clothing." It must be noted, however, that while clothing may not be highly rated, many of the respondents were unaware of this benefit. This suggests that rather than eliminate the ACCE Clothing line the College should first embark on an advertising campaign in the *ACCE News* and the ACCE Website.

Two other areas that scored high on the "Not Aware" list are Advocacy and Discounts. Since these benefits are both well established, the results also suggest that we need to promote them more and look for additional ways to make them work for the membership.

Activities: All activities except HIPAA received high importance ratings and enjoyed a high degree of awareness among respondents. At the time of the survey, the HIPAA task force was still in formation.

Communication: The survey results indicate that, as might be expected, the College is quickly moving to web access as the preferred mode of communications and newsletter distribution in place of US mail.

Collaborations: AAMI continues to be the favorite collaborating organization for members; however HIMSS showed almost equal support. At a lower, but still significant level, were ASHE and HealthTech. It should be noted, however, that over half of the respondents supported ACCE efforts at collaboration with regional BMET societies.

Comments: There were three central themes in the many text comments submitted throughout the survey. The most universal theme was for an updating of the website to make it more useful and user friendly. A second theme was advocacy. Comments ranged from a desire for "more of it" to specific suggestions regarding ways to upgrade the image of the profession, to "get clinical engineering in sync with the 21st century", etc. Certification was the third central theme. It occurred in multiple sections, with comments that ranged all the way to "Is the CCE Exam Available?"

Beyond these themes, people would like to see a review of the *ACCE News*, and more visibility of the organization in leading the clinical engineering profession. Overall, people expressed satisfaction with ACCE as a society, but clearly want to see more from the organization. The key to achieving more is of course more participation and respondents were quick to volunteer their services for a number of committees. Volunteers' names have been forwarded to committee chairs.

THE VIEW FROM THE PENALTY BOX

David Harrington, davesbt@kersur.net

Clinical Engineers gather information like squirrels gather nuts. And like squirrels we forget where we store what we gather or to use what we gather.

We collect extensive information on device repairs; no problems found, user errors and costs but rarely use the information. We will nurse a 30-year-old x-ray machine for another few years instead of telling the administrator or budget officer that it needs to be replaced. We assume that someone somewhere will have that transformer or relay in his or her garage that we can buy to get another year out of this antique. When we finally run out of used parts and the machine has to be replaced the administrators complain that we never told them that it was past its prime. Or each month we present to the Safety Committee, (or is it now the "Environment of Care Committee"), number of user errors that the department encountered. But have you ever come out and said that the equipment is the problem not the users?

When we finally do go to replace equipment we often stay with the same vendor, in spite of past problems with service support, parts costs or user problems. When we do something like that we waste all the information that we gathered over the years. We often justify the vendor choice as it is the "hospital standard" or everyone is used to the equipment. If you use the same logic on your cars you could be driving a Hudson or an Edsel.

You gather data on repairs, failure rates, mean time to repair, costs and never adjust your PM protocols, intervals or testing. It is good to see Sir Malcolm the Elder is presenting risk base PM programs at conferences; you should listen to him, as this is one squirrel that is trying to use what was gathered. Why gather the information if you don't use it? Are we afraid that if we use the information it will make us look bad? Or are we afraid of change? We learn that devices are no longer supported by the manufacturers and say nothing, assuming that we will be able to find that lamp for the 18-year-old laser. What are we trying to accomplish by holding on to old technology?

At a recent conference I was discussing differences in the approach to healthcare between Eastern Europe and here in Boston. One of the physicians pointed out that when he entered a hospital here; with its grand lobby, restaurants and gift shops he was not sure if it was a hospital or a hotel. Then he got to see the areas where the patients were diagnosed and treated and came to the conclusion that we are not that far ahead of them as we treat our patients with old equipment in cramped rooms but our waiting areas are better. He asked why we spend so much money on "show" and so little on direct patient services. That is a question that is crying out for an answer.

In our self-limited role in clinical engineering we are good squirrels gathering information, reviewing it but all too often not doing anything with it other than to generate meaningless reports. We need to break out of those self-imposed limits and tell administrators and department heads that equipment needs to be updated, that 18 plus year old devices have served well and deserve retirement. Be proactive and get you hospitals out of the dark ages of equipment planning, its easy just publish your information in an understandable form for non technical people and changes will happen.

Do a report containing three lists, list one should contain your five top problem devices, the 5 oldest devices and the 5 most used devices that the manufacturer no longer supplies parts for. That list should have the title "**Replacement ASAP**".

The second list should contain problem devices 6 to 10, the next 10 oldest devices and any other devices not previously listed for lack of manufacturers support. This list should be titled "**Replacement required in 1 to 2 years**".

The third list should contain high cost devices that are subject to technology changes, such as MRI, CT certain lab devices. This list should be titled "**Devices being watched for Obsolete Technology, Probable Replacement in 3 to 5 years**".

You can do these lists in less than 30 minutes send them to the department managers and the CFO. Your boss will complain that you overstepped your authority but the managers will thank you as you just gave them what they need to fight the capital budget battle. Those managers will ask you for the report next year. One last point if you have not gotten the list out by June 1 you will not see new equipment, where it is most needed in the next fiscal year. Capital replacement recommendations needed to be published in the April-May time period to be most effective.



ACCE Board Meeting Highlights - April 17, 2002

President's Report (Elliot Sloane)

Formation of a Patient Safety and Medical Error Task Force proposed. ACCE joint meeting with IEEE/EMBS conference discussed.

President's Elect's Report (Raymond Zambuto)

Substantial ACCE organized sessions and ACCE booth at HealthTech 2002.

Fall 2001 Member survey summary to be published in May newsletter.

Vice President's Report (Ted Cohen)

Ted's article on the ACCE Symposium appeared in the March/April BIT.

Past President's Report (Jennifer Ott)

Bob Morris award nominations submitted to AAMI. Yadin David spearheading 501(c)(3) Foundation establishment. Foundation to be a non-profit independent entity with its own mission, Board and Bylaws funded by ACCE at the beginning. Its formation is essential to the CE certification process and donations/funding.

Secretary's Report (Izabella Gieras)

Matt Baretich signed a 2-year Secretariat contract with ACCE. Secretariat performing in exemplary manner. Members to be informed of ACCE-sponsored activities at Minneapolis AAMI conference this June.

Treasurer's Report (Henry Montenegro)

Henry reviewed the latest financial reports.

CCE Committee's Report (Elliot Sloane for Frank Painter)

Frank Painter is working with NCCA to determine required standards for adherence to the certification process.

Membership Committee's Report (Steve Grimes)

Guidelines/recommendations on advancing members to the Emeritus/Fellow level in progress. The recently revised ACCE membership application forms will be placed on the website. The recent membership drive initiated by the membership committee resulted in many new members.

The following 8 candidates were approved: Theresa Crofts ~ Individual; John Dangos ~ Individual; Scott Draper ~ Individual; Petr Kresta ~ Individual; Nancy Lum ~ Individual; Melissa Burns ~ Candidate; Cynthia Rapoo ~ Candidate; Jennifer Barbee ~ Individual. Ronald Cushman, Andrew Krivoshik, David Francoeur, and Oscar Mislavillalha upgrade to Individual membership approved. Richard Tevis joined ACCE as a "welcome back" member.

HIPAA Task Force's Report (Steve Grimes)

Primary current HIPAA concern is related to the HIPAA security risks associated with Biomedical

Equipment. The HIPAA Task Force agreed that it should (1) identify a list of biomedical equipment categories that represented the majority of devices and systems to be managed by clinical engineering programs, (2) establish general criteria for ranking each device category as to its "potential" HIPAA security risk, and (3) establish a detailed risk assessment tool that can be used to identify the actual HIPAA Security risks associated with specific devices and systems in use.

Education Committee's Report (Jim Wear)

Alan Levenson has put together a great 2002/2003 ACCE Teleconference Series.

International Committee's Report (Tom Judd)

Engineers, physicians and other healthcare professionals attended successful workshops in Costa Rica and Peru. Workshops planned for Brazil and Jamaica. PAHO-ACCE desires ACCE members interested in participating in international teaching or speaking at workshops. Frank Painter will assist the University of Costa Rica to organize an MS degree in clinical engineering.

ORBIS has provided ACCE with \$3000 for 50 International ACCE memberships. This is a great opportunity to further expand ACCE memberships to other countries, enhancing the value of the clinical engineering profession.

Advocacy Committee's Report (Francine Reibman)

The Board welcomed Fran as the new interim Chairperson for the Advocacy Committee. Fran named potential candidates for various Advocacy Awards. She outlined some of the activities that Advocacy would like to pursue including high school outreach programs and promotion of CE profession.

Newsletter Report (Jim Keller)

Replacement of Kathy Zaveron as advertising manager needed.



Costa Rica Welcomes ACCE Team at Workshop

Tobey Clark, Tobey.Clark@ITS.uvm.edu

The Western Hemisphere's center for bio-diversity, Costa Rica, was the site for the 18th Advanced Clinical Engineering Workshop sponsored by the Pan American Health Organization (PAHO) and World Health Organization (WHO). One hundred and thirty engineers, clinicians, academicians, and governmental officials attended the five-day workshop held between February 25-March 1, 2002. Countries represented included Costa Rica, Mexico, Venezuela, El Salvador, Honduras, Nicaragua, Panama, and Jamaica.

Frank Painter and Antonio Hernández assembled an experienced faculty of ACCE clinical engineers including Adriana Velásquez, Jonathan Gaev, Malcolm Ridgway, Bill Betts, Marv Shepherd, Matt Baretich, Kok-Swang Tan, and Tobey Clark. Regional faculty including Sergio Carmona, Director of Operations of Social Security in Costa Rica (CCSS), Fernando Ramirez, also of CCSS, Luis Lara of Venezuela's Simon Bolivar University, and Xinia Carvajal of INAMU.

The healthcare system in Costa Rica is centrally administered by the Ministry of Health and operated through the Caja Costarricense del Seguro Social (CCSS). The CCSS, or Social Security, operates three national general hospitals and six specialty hospitals, which have the largest concentration of the nation's healthcare technology. As of 1995, seven regional and thirteen peripheral hospitals also were part of the CCSS system. About a third of the 150 clinics in the country have specialty practices with the rest for primary care only. According to PAHO, one in ten medical devices is not in good working condition and 6% of the items are under utilized.

The goals of the Advanced Clinical Engineering Workshop were to build and strengthen the clinical engineering and healthcare technology management capacity in the region through these objectives:

- Raising the awareness of decision makers as to the strategic role of technology,
- Equipping technology managers with state-of-the-art knowledge and measurement techniques in the clinical engineering area,
- Identifying the body of knowledge today's clinical engineer must possess,
- Showing practical examples of successful clinical engineering practices,
- Presenting the structure and curriculum for graduate education in clinical engineering, and
- Providing guidance on how clinical engineering could be implemented in the CCSS.

Day One opened with welcome messages from representatives of the Ministry of Health, CCSS and other national authorities. A morning serenade by a local string octet put attendees and faculty in a relaxed mode conducive for learning. Introductions by Antonio Hernandez, Sergio Carmona and Tobey Clark were followed by content overviews by the following faculty:

- Bill Betts - Technology Management Overview,
- Jonathan Gaev - Technology Planning,
- Marv Shepherd - Safety and Risk Management,
- Malcolm Ridgway - Maintenance & Service Management
- Matt Baretich - Human Resources Development
- Antonio Hernández and Kok-Swang Tan - Medical Device Regulation



ACCE faculty: Baretich, Betts, Ridgway, Hernández, Shepherd and Clark

On Day Two, the group was split with administrators and governmental officials learning about policy, administrative, and management topics and a second group of engineers focusing on technical areas. The remainder of the week covered the topics overviewed on Day One in detail. Clinical engineering leaders made lively presentations on clinical engineering progress in Mexico, Venezuela, and Costa Rica. Most of the faculty had the opportunity to visit hospitals in San Jose. State-of-the-art equipment is available to Costa Ricans in these metropolitan hospitals from a variety of common manufacturers, but there was limited standardization even in ICU's.

The last day of the conference included case studies by the ACCE faculty on how clinical engineering involvement improved the acquisition of technology, service and maintenance, and patient safety. Tobey Clark provided a conference summary and noted appreciation to all attendees for inviting ACCE members to their wonderful country. He challenged them to be champions for positive change through actions at their hospitals and by developing a communication and educational network. ▶▶

ACCE News



Workshop participants and faculty poolside at Hotel Herradura

The Costa Rican hosts were very accommodating and gracious to the ACCE faculty - many thanks go out to these wonderful people. Costa Ricans love music and dance, and this workshop included both with one of Costa Rica's premier bands playing after the first day's presentations and again following the conference conclusion.

As usual, Dr. Tan was the first on the dance floor. The ACCE faculty easily lost the dance contest although Casey Clark, celebrating her 18th birthday, was in the running.

Faculty and family members visited Volcano Poas, the rainforest, local markets, and restaurants during non-conference times. On Saturday after the conference, CCSS staff members including Sergio Carmona, Director, took the faculty to Manuel Antonio National Park, home to sloths, monkeys, iguanas, and a variety of flora and fauna, and one of the country's best beaches. It was a relaxing and interactive end to a productive workshop.

The Costa Rican technology managers and service providers are a focused group, proud of their work, and intent on better serving their patients through the provision of functional, safe and cost-effective medical equipment. The country's focus on education has developed a very intellectual community of engineers who also have the practical knowledge to be successful in clinical engineering. Positive outcomes of the workshop included Sergio Carmona of CCSS assembling a team to focus on clinical engineering and technology management. Also, CCSS will be working with universities to develop a clinical engineering curriculum. With PAHO support, the hope is to have these programs operational by 2003. In October 2002,

15 Costa Rican clinical engineers will take the clinical engineering certification exam.

ACEW in Peru

Frank Painter, frpainter@earthlink.net

Peru was also excellent. Not as exciting side trips as in Costa Rica (the transportation people were on strike in Cusco and Machu Pichu so my kids couldn't go on the trip I booked for them and the bombing of the embassy kept us inside in the evening for the rest of the week) but the beer was good and accomplishments were outstanding.

The Minister of Health opened the workshop by saying that the country needed a policy on technology assessment, acquisition and management. He has been waiting for the conclusion of this workshop and he expects recommendations from the University, Social Security and Ministry of Health people who are attending. The President of the Peruvian Medical Society, who is charged with licensing all the 40,000 physicians in the country, attended the closing ceremony. He heard they wanted to start a Peruvian Clinical Engineering Society (on our recommendation) and offered it to be a sub-organization of the medical society (talk about physician recognition). And the president of the medical society who has been charged by the government to look into various important issues (pharmaceuticals, physician quality, care in the Amazon region) by forming physician task forces, will form a new one on technology management in the country and staff it with physicians and clinical engineers.

Tom Judd (Kaiser-Atlanta), Brian Porras (Premier), Tony Easty (Toronto General), Sam Miller (Buffalo), Jonathan Gaev (ECRI) and I were all excited and very gratified at the quality of the 55 attendees, their focused attention all week, the outcomes of the workshop and it's very positive impact on CE in Peru. We were also very impressed with the city of Lima (beautiful, clean, energetic) and the Peruvian people. Brian is already planning a trip back as a tourist and the rest of us would return for the next workshop at the drop of a hat.

I'd say the Peruvian trip was a resounding success as well. Not bad, two for two. Good teamwork.

Calendar of Events

- 9th Annual Diagnostic Imaging Technology Education Conference, May 22-24, 2002, Cleveland, OH. www.DITECnet.com
- 5th Annual ACCE Symposium, June 1, 2002, Minneapolis, MN. Contact Ted Cohen, www.accenet.org.
- AAMI, June 1-4, 2002, Minneapolis, MN, www.aami.org.
- IEEE/EMBS, October 23-26, 2002, Houston, TX. www.embs-bmes2002.org.
- BEACON Symposium, Cardiovascular Technology: Medical Devices and Tissue Engineering, Oct. 31, 2002, Hartford, CT. jane.mussehl@mail.trincoll.edu.
- 2nd European Medical & Biological Engineering Conference, Vienna, Austria, Dec. 4-8, 2002, www.embec.org.
- World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia, August 24-29, 2003, www.wc2003.org.

ACCE News

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continued from page 1

The revised budget has been completed and discussions are already underway with NOCA regarding the specific requirements for bringing the CCE program into NOCA compliance. NOCA requires a two-year "track record" prior to their formal review and we expect to start that two-year clock soon.

The ACCE Executive Board would like to extend its appreciation to the planning committee and the new ACCE CCE Board of Examiners, chaired by Caroline Campbell, for continuing this challenging job. We hope that you, the ACCE membership, and your counterparts in hospitals, industry, research, and academia, will help this important program succeed by pursuing your individual CCE credentials and supporting and recognizing other's efforts to do the same. Also, a new certification renewal program recognizing current CCEs will be announced soon. These programs will need your PERSONAL support to succeed! If you would like to be further involved in the development of this process, please let one of the ACCE board members know of your interest.

Help Wanted - ACCE News Advertising Manager

ACCE News is seeking a member to volunteer for the position of Advertising Manager for the newsletter. The position involves soliciting advertisements from prospective advertisers and coordinating payments for advertisements with the ACCE Treasurer. Please contact Jim Keller at jkeller@ecri.org if you are interested in volunteering for this position or if you would like additional information

2002 ACCE EDUCATIONAL TELECONFERENCE PROGRAM

The American College of Clinical Engineering will bring an exciting and educational program to you beginning May 2002 and continuing into 2003. By participating in audio teleconference sessions, you will be able to learn, remain up-to-date with current topics and earn CEUs from a preeminent educational institution: The University of Arkansas for Health Sciences.

The faculty is composed of recognized experts in the field and is selected to make presentations on topics that have been requested by ACCE members and previous participants. Each lecture (offered the third Thursday at 12 noon Eastern time) lasts approximately 45 minutes and is followed by a 15 minute Q & A period.

The ACCE audio teleconference provides an opportunity to get the clinical/biomedical engineering colleagues in your area together to learn and discuss important issues while exploring local solutions. Moreover, the cost of the program can be shared by different institutions paying for each course or by pooling their funds for the series. A larger site might sponsor the course and charge single attendees from other sites.

- May 16, 2002 **“Getting Respect for you and your department”** — David McCanna, Corporate Director, Forum Health-Trumbull Memorial Hospital, Warren, Ohio
- June 20, 2002 **“EMI in the Hospital, The REAL Scoop”**—W. David Paperman, Texas Children’s Hospital, Houston
- July 18, 2002 **“ ‘Star Wars’ Technology and Maintenance of Hospital Equipment”**— James O. Wear, Ph.D., CCE, Professor, Biomedical Instrumentation Technology, University of Arkansas for Medical Sciences
- August 15, 2002 **“Can Clinical Engineering Departments REALLY do anything about Human Error?”**—Marvin Shepherd, PE, President, DEVTEQ, Walnut Creek, CA
- September 19, 2002 **“Repair or Replace? The Hospital CFO’s Point of View”**—Binseng Wang, Sc.D., CCE, National Quality Director, MEDIQ/PRN, Pennsauken, NJ
- October 17, 2002 **“Just how ARE you gonna deal with the JCAHO?”**— Emanuel (Manny) Furst, Ph.D., CCE, PE, Sharp HealthCare, San Diego, CA
- November 21, 2002 **“Incident—Prevention with HFMEA—and Investigation with RCA: VA and ECRI Approaches”**—Bryanne Patail, BS, MLS, Biomedical Engineer, U.S. Department of Veterans Health Administration, National Center for Patient Safety, Ann Arbor, MI, and Mark E. Bruley, Vice President for Accident and Forensic Investigation, ECRI, Plymouth Meeting, PA
- December 19, 2002 **“Remote Diagnostics—Where are we today?”**—David Harrington, MBA, Technology in Medicine, Holliston, MA.
- January 16, 2000 **“Benchmarking: Who Needs It?”**—Yadin David, Ph.D., CCE, PE, Director, Biomedical Engineering, Texas Children’s Hospital, Houston, TX

The fee for each session is \$125 and includes CEUs from the University of Arkansas for Health Sciences for up to four attendees. Additional attendees are \$10 each.

The course fee includes phone charges, handout materials and CEU certificates.

Please make course registration checks payable to: American College of Clinical Engineering
Purchase orders and credit cards are also accepted.

Mail registration to: ACCE Course Registration
c/o Alan Levenson
30 Knollwood Drive
Morristown, NJ 07960-2616

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