

ACCE News

Vol. 12, No. 4—July 2002



American College of Clinical Engineering

ACCE in Minneapolis

ACCE held its Annual General Meeting in Minneapolis in June. The ACCE Annual Symposium on Information Technology saw record attendance. Intense interest in ACCE was shown at the booth in the AAMI Exhibit Hall. Dick Congdon (r) accepts CE Certification Application from Frank Painter as Antonio Hernández (l) and Ray Zambuto look on approvingly.

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ACCE News

21 Bob's Lane

Setauket, NY 11733

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., eb sloane@villanova.edu

That wasn't so bad, was it?!

So, it's finally done! If you are like me, you approach filling out applications for tests like scheduling your next dental exam, a necessary evil that brings out the heel-dragging teenager in all of us. Well, not only wasn't the Clinical Engineering Certification Application that tough to complete, but I actually found myself enjoying the personal career review that it prompted! Actually, the committee made the application easy to complete; it is well organized and intelligently allows you to submit your CV or resume in place of some of the forms! As I pondered my three professional references, I took a brief but pleasant walk down memory lane, reviewing the situations and colleagues that would best fulfill the written references that must be obtained.

For everyone's convenience, the forms and instructions are available as a PDF file from our ACCenet web site so you can download them at any time. In all, the process only took less than 30 minutes, including reading the instructions. It really gave me a chance to reflect on the rich experiences I've had in this field, and THAT reward alone more than repaid me for the effort of filling in the forms.

I have observed that we often suffer from general inertia in our lives, fighting fires and fixing other peoples' problems with gusto while our own needs are deferred. We owe it to ourselves – and our careers – to invest in our own professional development as often as we can. I see the new certification program is one of those opportunities for me, and for us. The reawakening of our certification program will only have vitality and value if each and every one of us take the time to participate by applying or renewing as appropriate. DON'T WAIT! The hot, slow summer month of August is ideal for filling in the forms and sending out the reference requests so they can be filled in before the rush of autumn chores begins.

OK, OK. Now I guess it's time for me to start thinking about studying for the written exam, too. If I work hard

enough at it, I'm sure I can concoct a solid procrastination program that will fill my time quite nicely. Any suggestions???

In truth, though, is that I have a slightly perverse eagerness to crack open some books to refresh and update my knowledge! I find that having a publicly-declared goal and deadline makes it easier to marshal my energy because I relish a good challenge to prove myself.

An ancient Chinese proverb says, "Better to light a candle than to curse the darkness." I feel like I have just lit another personal "candle" today by finally applying to become certified as a clinical engineer. Let's light a whole lot of candles in this coming year, folks, not just curse the darkness of this blasted economy and the unending challenges to delivering excellent healthcare. OK? We may never make things perfect, but it sure as hell is fun and rewarding to try!

Come on; jump in, the water's fine! Download and fill in your certification application or renewal today and reenergize yourself AND this profession! A healthy personal challenge like this once in a while can really feel pretty good! While you're at it, send a note to Frank Painter and Caroline Campbell and let them know that you appreciate the fine job that they and their teams did and do. OK?

THANK YOU ALL for your partnership in making this past year such a great success! It has truly been a privilege to serve you as president this past year. I am very grateful for the excellent support I have received from all of the officers and committee chairs and members. As I shift to my active agenda of "past president" tasks, I am as committed as ever to ensure that our energy and talents continue to improve patient care wherever and whenever possible. I look forward to continuing to grow professionally and personally and to the rewards of working with all of you in the years ahead.

With my very warmest regards, Elliot



Elliot Sloane

ACCE News

The ACCE Board

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HIPAA	Stephen L. Grimes
ICC Liaison	Frank Painter
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Membership	Steve Grimes
Nominations	Jennifer Ott
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ACCE News

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Certification Update

Caroline Campbell,

Caroline.A.Campbell@MedStar.net

The US Board of Examiners for Clinical Engineering presented several updates concerning the certification in June. Progress was discussed during the annual ACCE membership meeting, during the meetings of the USCC and the ICC, and during the Monday evening session about certification programs and the USCC. 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.

The Board of Examiners is pleased to welcome two new members to the Board. Both are named Bill and represent a whirlwind of professional accomplishments, publications, and recognition. Bill Hyman is Professor and Chair of Biomedical Engineering at Texas A&M University. He is known to many of us as editor of *The Journal of Clinical Engineering*. The Board looks forward to Bill Hyman's contributions particularly as an educator and in the area of safe medical device design. Bill Paulsen is an Associate Professor and Program Director at Emory University School of Medicine. He is very active in the fields of both clinical engineering and anesthesiology. The Board is pleased to have Bill Paulsen in its membership both as a clinician and as an experienced member of the National Certification Examination Committee of the American Society of Anesthesia Technicians and Technologists.

ACCE Welcomes New Members

The following are the new ACCE Members elected during the period May 2002 to June. Congratulations and welcome!

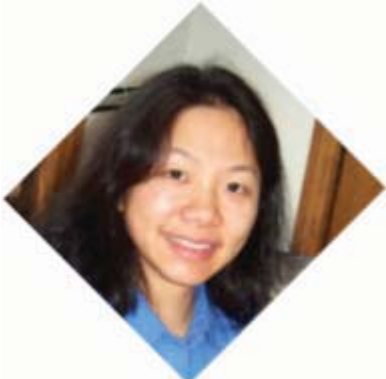
- **Nancy Pressly**
- **Gordon McNamee**
- **James Bishoff**

ACCE News

On the Move and In the News

Nancy Lum Named Director

Nancy Lum has been promoted to Director of the Clinical Engineering at Massachusetts General Hospital.



Nancy Lum

Engenharia Clínica Wins Top Award

Engenharia Clínica Ltda, a Brazilian firm specializing in clinical engineering planning and management of healthcare technology, received the prestigious Prêmio Top 2001 Award from Hospitalar, the country's leading association for healthcare technologies.



Lúcio B (l), Ederson C., and Douglas M

ACCE member, Lúcio Flávio de Magalhães Brito, is founder and President of Engenharia Clínica. Lúcio, past recipient of the ACCE Advocacy Award, continues to be a staunch advocate of clinical engineering in Brazil. He attributes the success of his firm to the hard work and dedication of his associates, shown in the photo above.

HIPAA Update

Stephen L. Grimes, slgrimes@mycap.rr.com

Recently, the Department of Health and Human Services announced that publication of the long-delayed HIPAA Security Final Rule is now projected for August 2002. While many industry insiders have speculated on the imminent release of the final rule since the second quarter of 2001, this is the first "official" announcement by HHS and as such may be considered more credible.

It is the position of ACCE's HIPAA Task Force that it is the Security Rule, far more than any of HIPAA's other rules, which will have a substantial impact on clinical engineering. The regulations detailed in the Security Rule require that precautions be taken to insure the *integrity, availability and confidentiality of all health information that is maintained or transmitted electronically*. This affects a significant portion of all diagnostic and therapeutic devices and systems.

Delays in publication of the Security Final Rule have had the unfortunate consequence of allowing security to fall off many organizations' HIPAA "radar" in favor of the finalized rules for transactions and privacy. This poses a significant problem because there is a substantial amount of work that will be required for most organizations to become compliant with the Security Final Rule and they have only 26 months from the publication of the rule until compliance becomes mandatory.

Report on ACCE's HIPAA Task Force

During Task Force meetings in June and July, we have continued our project work on the ACCE's *HIPAA Security Risk Assessment Guide for Biomedical Technology* and expect to have it available in late August or early September. The *Guide* will be the first of the Task Force's planned reports and is designed to assist clinical engineers in assessing security risks and prioritizing remediation efforts associated with medical technology.

We are getting more opportunities to acquaint others in the health care community regarding HIPAA's impact on medical technology and on the need for clinical engineering participation in the HIPAA compliance process. In June I gave a presentation to the *Emerging Technologies and Healthcare Innovations Congress* (ETHIC 2002) in Washington, DC. Next February, AAMI is sponsoring our presentation on "Implications of HIPAA Security on Biomedical Devices & Systems" at the *Healthcare Information & Management Systems Society* (HIMSS) Conference in San Diego.

Meetings and Conferences

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

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

Fourteen speakers presented an outstanding program to over 120 attendees at the ACCE Symposium: Perspectives for Successful Leadership in Clinical and Information Technology (IT) Services which kicked-off the recent AAMI conference and exhibition in Minneapolis Minnesota. Featured presentations included a morning keynote by Commander Maria Horton, US Navy, discussing the US healthcare system and its transition to e-health, for example, using telecommunication technology to help deliver healthcare, and an afternoon keynote by Dr. Yadin David on the Global Perspectives on Healthcare Technology Leadership (domestic/US Clinical Engineering issues and CE outside the US). The morning sessions focused on the IT perspective with the afternoon focusing on the clinical engineering perspective. The Symposium ended with case studies discussing clinical engineering departments working under the IT umbrella, clinical engineering departments working with IT on a project by project basis, IT technical training for clinical engineers and BMETs, and several examples of clinical/IT projects including a bed control and management application, flexible patient monitoring, EEG, and Labor and Delivery.

What did we learn from this? There are myriad changes occurring in our field and many of them involve the application of IT to Clinical Systems, e.g., HIPAA, EMR, CPOE, PACS, surgical robotics, and wireless Ethernet. All clinical engineering departments and clinical technology service providers need to be involved in clinical information technology projects and their support in order to continue to thrive. As more and more clinical systems become computerized and networked we must include IT in our education

(basic and continuing) as well as our standard “scope of practice.” At the same time we must continue our focus on the clinical aspects of clinical engineering and not lose our ability to intelligently interact with patients, patient care equipment, and the clinical staff.

As program coordinator for the Symposium, I would like to thank all the attendees and presenters for making the 2002 ACCE Symposium a resounding success. If you have ideas for topics for next year’s Symposium at AAMI in Long Beach, CA, please contact me (ted.cohen@ucdmc.ucdavis.edu) or one of the other ACCE board members.



Ted Cohen

ACCE Annual General Meeting

Izabella Gieras, IGieras@bsc-rscservices.com

President Elliot Sloane welcomed all the ACCE members to the Annual Membership Meeting at the AAMI 2002 conference in Minneapolis, MN. Elliot acknowledged and thanked Four Rivers and TMS sponsorship for the cheese and wine reception. The annual membership meeting was attended by more than 50 people.

Addressing the state of clinical engineering, Sloane pointed out that innovative technology has quickly been proliferating into every application on the market. The relationship between IT and clinical engineering is expanding and this connection will strengthen in the forthcoming years. The concentration on patient safety is becoming more visible in the clinical engineering profession and has been displayed through several sessions presented at AAMI this year.

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Advocacy Awards

Ray Zambuto and Jennifer Ott presented the Advocacy Awards for this year to the following distinguished individuals with each individual receiving a plaque:

- *Devteq Award: Leslie A. Geddes*

Dr. Geddes was not able to accept the award in person but asked that the \$250 monetary supplement to the Devteq award be given to the best student paper presented at the AAMI conference.

- *The Devteq Challenge Safety Awards: Leonard Klebanov and John Czup*

Ira Soller accepted the awards on Leonard's and John's behalf and provided a short biography of the two individuals' accomplishments in the profession of clinical engineering. Both individuals received a one-year free membership to ACCE.

- *Advocacy Award: Tom O'Dea*

ACCE announced that from now on all the Advocacy Awards would be named in the honor of Tom O'Dea for his great achievements and contributions to the clinical engineering profession.

- *The 2002 Professional Development Award: Joseph D. Bronzino*

Dr. Bronzino was unable to accept the award in person but provided a thank you note, which was read at the meeting.

- *The Managerial Excellence Award: Ted Cohen*

Fellow Recognition

ACCE honored two distinguished members with a Fellow Membership. Tom Judd and Frank Painter were upgraded to a Fellow status and acknowledged with an inscribed plaque.

Outgoing Officer Presentation

Jennifer Ott, former ACCE President, and Caroline Campbell, former ACCE Secretary, were acknowledged with an inscribed plaque. Their spirit, enthusiasm and contribution to the ACCE were greatly appreciated.

Robert Morris Humanitarian Award

President Sloane and Past-President Jennifer Ott presented Herman Weed with the Robert Morris Humanitarian Award at the AAMI award luncheon on Sunday, June 2. Dr. Weed receives an honorary ACCE membership.

President-Elect Raymond Zambuto described the success of this year's HealthTech conference. Ray also acknowledged Elliot Sloane's valued contributions to ACCE.

Vice President, Ted Cohen, acknowledged that ACCE continues to partner with a variety of healthcare technology-related organizations. ACCE's collaboration with AAMI at its conference and exposition in Minneapolis included the following: development and coordination of the all day ACCE Symposium entitled "*Perspectives for Successful Leadership in Clinical and Information Technology Services*", co-sponsorship of the Technical Iconoclast, Clinical Support and Data Warehouse Tools in Clinical Engineering, and Tools to Improve Patient Safety: The VA Approach sessions. In addition, several other sessions at AAMI were chaired by ACCE members and/or included presentations by ACCE members. During the past year, ACCE also sponsored and chaired seven sessions at the HealthTech conference in Baltimore and participated in the Healthcare Information and Management Systems Society (HIMSS) conference as well as several international conferences.



Weed (l), Ott, and Sloane

ACCE members are a tremendous resource for technical content and healthcare technology-related presentations. ACCE is striving to improve and grow its relationships with other organizations by providing technical content and speakers, where in turn, the other organizations can provide publishing, conferences and other avenues of information dissemination consistent with ACCE's mission. For the near future, discussions are currently underway, or will soon be underway, with AAMI (2003 conference, *Biomedical Instrumentation and Technology*), HealthTech (2003 conference, *24 x 7* magazine), HIMSS (2003 conference, *Journal of Healthcare Information Management*), Aspen Publishers (Publisher of the *Journal of Clinical Engineering*), ASHE, IEEE and others.

New York City Metropolitan Area Clinical Engineering Directors Group

Ira Soller, isoller@downstate.edu

The New York City Metropolitan Area Clinical Engineering Directors Group, consisting of Directors of Biomedical/Clinical Engineering Departments representing all of the major medical centers in the greater New York City area met on June 18, 2002. Barbara Maguire and Nick Pinto of Weill Cornell Center of New York Presbyterian Hospital hosted the meeting.

Michael Parascandola provided a presentation, "Advances in Defibrillation," with the support of Rick Yeung of Zoll Medical Corporation with detailed biphasic information provided. Subsequent member discussion ensued relating to CE Certification. Forms, obtained from Frank R. Painter at the ACCE meeting, were distributed for both new applicants and those wishing to renew their certification. Also discussed were the direction of preventive maintenance as featured at AAMI, the recent NY Times article about blood pressure measurement accuracy, ideas to promote clinical engineering advocacy, job opportunities, and other topics of interest to clinical engineering directors.

Members present included: Joe Galan (Staten Island University Hospital), Andy Veeriah (St-Vincent's-Manhattan), Mike Lauria (Maimonides Medical Center), Alan Levenson (NY Presbyterian Hospital), Mike Mirsky (NY Presbyterian Hospital), Jim Tolbert (University Medicine & Dentistry NJ - retired), Allan Young (NY VA Medical Center), Salvatore Tatta (Bronx VA Medical Center), Rick Elrose (Coler/Goldwater Memorial Hospital) Carlos Chung (NY Presbyterian Hospital), SamVashovsky, Michael Braff (NY Presbyterian Hospital), Victor Sarmiento, Brooklyn Hospital, Gaetano Scroco (New York Presbyterian Hospital).

For information, or manufacturers/vendors interested in making a presentation at our next meeting (Sept. 24 or Oct. 1, 2002) please contact:

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Downstate Medical Center
450 Clarkson Ave., SMIC Box 26
Brooklyn, NY 11203.
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ACCE News

Perspectives from ECRI

Jonathan A. Gaev, jgaevr@ecri.org

PATIENT SAFETY

Clinical engineers have been leaders in patient safety ever since the electrical safety scares of the 1970's. Now, the clinical community is getting more involved since the publication of the reports stating that up to 98,000 people are killed every year in hospitals due to caregiver error. Most of the errors had to do with medications such as transcription errors, drug allergies, drug interactions and mistakes regarding dosage, time of administration or route of administration.

We work with caregivers but don't directly deliver care. We already improve safety by maintaining equipment and checking for recalls. What else can we do to improve safety? Plenty! Here are some examples:

- Help with the purchase of sophisticated equipment and systems that directly reduce medication errors such as Computerized Provider Order Entry Systems, Clinical Laboratory Information Systems, and Drug Dispensing units.
- Falls often are the most frequently occurring accident within a hospital (after medication errors). This includes falls from the bed, which often happen when patients try to climb over full-length bedrails. We can review lighting, bed selection, and handrails and identify other engineering controls as part of the solution to this important problem.
- Sharps transmit many dangerous diseases including HIV and Hepatitis C. We can help our clinical departments to select devices that drastically reduce transmission risks.
- Train the clinicians and keep on training them. By reviewing our call reports regularly, we can keep an eye out for "could not duplicate" reports that may mean that it is time to give another in-service to the clinical department generating those reports.
- Promote careful purchasing and standardization of critical equipment such as infusion pumps, defibrillators and physiological monitors, which can help make training easier and greatly improves safety.

ECRI has collected scenarios regarding medical equipment and patient safety and put them on a free website "Medical Device Safety Reports-Lessons Learned" (<http://www.mdsr.ecri.org>). We focus on the steps that medical device users can take to prevent or reduce medical device risks to patient care and healthcare worker safety.

Safety is a process, not an event. We improve safety when we all work together and share ideas. Clinical engineering is one of the few professional groups within a hospital that interact with all departments. Good organization and communication skills help the CE department to play an important role in safety and other inter-departmental issues. The current challenges due to terrorism make this role even more important.

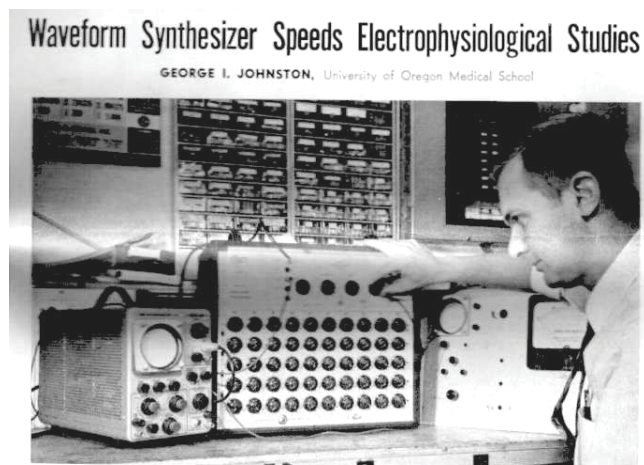
I'm sure that our skills as clinical engineers will enable us to meet this challenge and make our hospitals as safe as possible. ECRI appreciates any tips or suggestions that you would like to share. Members may want to use our Health Devices Web site discussion forum for suggestions. All are welcome to send e-mail to healthdevices@ecri.org or to me personally at jgaevr@ecri.org. Thanks in advance for your help and participation. ECRI has a wealth of patient safety information on our member website and several publications which can help to implement the suggestions described in this article.

Jonathan A. Gaev, M.S.E. is Director of International Programs at ECRI

Old Timer News

George Johnston, johnstog@att.net

I was cleaning out some old files the other day and ran across a 1961 issue of *Medical Electronic News*, which I thought I had long lost. It has a short article about my using an Exact Waveform Synthesizer to help design and test a fetal "tachometer" as we called it then, long before today's fetal monitors. This was a follow up to an earlier request from an OB guy to help him monitor the fetal R wave and determine when the baby was in distress. It seems that his patient was a diabetic and as he put it, "If I can only get her to the seventh month." She had had three previous miscarriages.



Johnston makes news

I rigged an old Sanborne with a couple of Microflex timers to allow periodic sampling for a settable strip length. Got her through! Then they wanted something to continuously monitor fetal heart rate (our tachometer). I used pulse height analysis

similar to that employed in Coulter counters and tested and calibrated it using the Exact unit. Again this was long before we had EKG simulators. Looking back I'm kind of proud of those early design activities. I just wanted to share and toot my horn a little.

Telemedicine and Clinical Engineering Track for the International Joint Conference of the EMBS & BMES 2002 in Houston, Texas scheduled for October 22-26, 2002. A great program engulfing the various aspects of engineer's roles in healthcare will be presented. The sessions are packed with about 7 papers.

News from the Pacific Islands

Stan Scahill

I have just completed 12 months in the Pacific Islands teaching biomedical engineering. It is a project run by the Australasian College of Surgeons on behalf of AusAID, the aid arm of the Australian government, Bruce Morrison from John Hunter Hospital, Newcastle is the Project Director.

I also had the opportunity to review a similar project in Papua New Guinea (PNG) where many of my Sydney colleagues do six monthly stints.

PNG is frightening with the boys in Moresby living in guarded compounds. They are doing a magnificent job and have developed the best BME

teaching material I have ever seen. Bruce Morrison has been one of the authors.

The project was very challenging. The tyranny of distance was soul destroying as it would take a month to receive parts. The locals are so poor and rely on aid for everything. In the Solomon Islands the BME technicians would often not be paid for several weeks. The project ran a workshop in Samoa and a Summer School in Fiji where we flew the guys in from the various Islands.

The project looks after Vanuatu, Samoa, Cook Islands, Tuvalu, Kiribatu and Solomons with Nauru added recently. Education is the key to the long term success of BME in the Pacific and I hope to organize the Fiji Institute of Technology to run a distance education course for the Pacific. I started a correspondence course while I was there which had about 30 students and which I will complete from Australia.

I came home after 12 months as I found it emotionally difficult with my family in Australia only coming over for holidays. I also started to function like they do where work is something you do when you feel like it. We call it "going tropo".

These people need all the help they can get to improve their health care which is very basic and heavily reliant on aid. If you can fit in a visit to these distant places, it is very rewarding and challenging.

Clinical Engineering Certification

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.

ACCE News

THE VIEW FROM THE PENALTY BOX

David Harrington, davesbt@kersur.net

I have never been one to step away from a problem or confrontation either on or off the ice. While I was playing, settling a confrontation was simple - hit or be hit and there was a satisfaction at the end that the problem was resolved. In our field we would get arrested if we hit someone and it is very difficult to solve our most pressing problem in healthcare, that of costs. So let's have a look at the problem.

In the last issue of the *ACCE News* I ranted about information gathering and not using the information that we gathered. With that as the starting point let's proceed into the foggy area of healthcare costs. If we believe what we read in the general press it is technology that is driving up healthcare costs along with lawyers and the drug companies. These are nice and easy targets but they are only part of the problem of costs. Other problem areas include poor planning by hospitals and outrageous salaries paid to administrators both at hospitals and healthcare insurance providers. Recently the local Blue Cross announced that their CEO was awarded a 3-million dollar bonus because they lost less than expected. A bonus for losing less? What is this - professional sports?

We don't even think about the overbuilding of hospitals that ended in the early 90's that we are still trying to recover from. One group of healthcare "planners" were building up the bed inventory while another group of "planners" were bringing in technology to reduce hospital stays and still another set of "planners" were changing the education requirements of care providers so they almost needed a master's degree to wipe a patient's bottom. Then they wonder why there are shortages of care providers.

We look at technology as a major force in healthcare costs, but is it fact or easy reporting? If it weren't for technology we would not have enough beds to care for the patients. Technology has reduced hospital stays in all surgical procedures, it has reduced the time needed to diagnose problems, it has provided better documentation, and it can do still more to reduce costs. But technology cannot solve all the problems caused by poor planning; greedy suppliers, lawyers, politicians, and people who are looking out more for themselves than the general population needing healthcare.

So what can we lowly clinical engineers do to get the problem solving process started? First and foremost

we have to determine the true cost of ownership on a device. By this we need to prevent the hospital from buying devices that we cannot service. Our federal laws say that a manufacturer must supply the user all the information needed to maintain a device in a safe manner. We need to push for that law to be enforced, even with the mega-companies that regularly lobby legislators. We need to refuse to pay \$500 per hour for service; a device that needs that level of service should not be purchased. We need to demand a seat at the planning table so we can prevent mistakes in acquisitions of major devices. To illustrate this point, a hospital purchased a multi-slice CT to reduce their "scan" times. A noble effort except that they did not make the changes in staffing needed to move the patients to and from the CT any quicker, did not increase the area where patients on stretchers could be held waiting for the scan, or increase staff to read the images any quicker. So here is a \$500,000 additional cost that has done nothing for the patients but added more costs to the hospital.

Hopefully this little rant will give you some thoughts and support for your next confrontation with costs. We can only be part of the solution if we get involved. So let us all get involved!



ACCE Board Meeting Highlights - June 2, 2002

President's Report (Elliot Sloane)

The concentration on patient safety is becoming more visible in the clinical engineering profession and has been displayed through several sessions presented at AAMI this year. Similarly, the relationship between IT and clinical engineering is expanding and this connection will strengthen in the forthcoming years.

President – Elect's Report (Ray Zambuto)

A response to Andre Issakov's recommended emendations to the *ACEW Syllabus* was formulated.

Vice President's Report (Ted Cohen)

ACCE continues to partner with a variety of healthcare technology-related organizations. Several sessions at AAMI were chaired by ACCE members and/or included presentations by ACCE members. During the past year, ACCE also sponsored and chaired seven sessions at the HealthTech conference in Baltimore and participated in the Healthcare Information and Management Systems Society (HIMSS) conference and at several international conferences.

ACCE is striving to improve and grow its relationships with other organizations by providing technical content and speakers, where in turn, the other organizations can provide publishing, conferences, and other avenues of information dissemination consistent with ACCE's mission.

Treasurer's Report (Elliot Sloane)

The 2001 Teleconference series was the most successful yet. Revenue was also generated through membership renewals and ORBIS's contribution of 50 International memberships. Robert Morris Memorial Fund donations have been received along with ACCE membership renewals.

CCE Committee Report (Frank Painter)

The clinical engineering certification program was officially announced and launched at the AAMI meeting. The program will be an activity of the newly formed ACCE Healthcare Technology Management Foundation, not part of USCC or ICC. ACCE will support and promote the newly established clinical engineering certification program. A task force will be created to promote the CE certification.

Membership Committee's Report (Steve Grimes)

Twenty-two clinical engineers joined ACCE in the last three months. The Committee created an Emeritus member level for senior, semi-retired members and revised the process for evaluating Fellow candidates.

HIPAA Task Force's Report (Steve Grimes)

The HIPAA Task Force formed in February 2002 educates the clinical engineering community regarding the implications of HIPAA. The Task Force has prepared a white paper on HIPAA.

Education Committee's Report (Elliot Sloane)

Under the leadership of Al Levenson the past year's teleconference series was a resounding financial and educational success. Twenty-seven sites participated in one or more of the nine teleconferences. Al has developed an exciting series of ten teleconferences for this year.

Advocacy Committee's Report (Tom O'Dea)

The Advocacy Committee is setting new objectives for the forthcoming year. These will include cooperation with local BMET societies, especially in the area of BMET/IT interaction and combined programs, foster support in the US from the Latin American efforts expended by ACCE, and recruitment of college students for clinical engineering

International Committee's Report (Tom Judd)

Advanced Clinical Engineering Workshops (ACEW) took place in Ecuador, Nepal, Havana, São Paulo in 2001 and Costa Rica and Peru in 2002. The committee provides international consulting and assistance opportunities, e.g., Essential Health Technology Package (EHTP), equipment donation projects, PAHO visiting facility opportunities, invited conference speakers, and short term consultants (1-3 months).

Newsletter Report (Jim Keller)

ACCE News served as a great source of information and news on issues such as the CE Certification, Fall 2001 Membership Survey and Body of Knowledge Survey, and ACCE Teleconference Series. The newsletter published workplace profiles on Shands University Hospital, Florida and Hartford Hospital, Hartford, Connecticut.

Future Projects/Announcements

The Board approved the motion to establish an honorary membership to all Robert L. Morris Humanitarian Award recipients from now on unless the recipient is already an ACCE member. Dr. Herman Weed, recipient of the Award in 2002, will receive the first lifetime honorary membership.

Jennifer Ott will coordinate the Award program. Elliot Sloane will direct attention to patient safety. ACCE would like to establish a collaboration relationship with ECRI in areas such as teleconferences and more.

ACCE members and other interested parties will be given the opportunity to post job opportunities on the ACCE website. The job postings will be submitted to the Secretariat for review prior to posting on the website.



CE Around the Globe

Bastiaan Remmelzwaal, brhssp@iafrica.com.na

The Development of Clinical Engineering Services in the Public Health Sector in Namibia

Namibia: a country of contrasts

Namibia, located in Southern Africa, bordering the South Atlantic Ocean, between Angola and South Africa, gained independence in 1990. It is a country of contrasts, both in an economic and geographic sense. It is said that there are effectively two Namibias: one modern and one traditional. While the country has an average per capita income of US\$ 2,050 (2000), this figure masks extreme inequalities in income distribution, essentially as a result of *apartheid*. With a total population of 1.83 million (2002), the life expectancy at birth is 43 years (2000). Total expenditure on health is currently around 7.5 percent of GDP.

The state of medical equipment

At the time of independence, the Namibian health authorities inherited a large and costly stock of medical equipment. By and large, this fleet of equipment is still being used, although the effective lifespan of a large proportion of the equipment has expired.

After independence, the Namibian health authorities largely focussed on the development of management systems for the effective use of scarce resources in an attempt to provide a cost-effective and affordable service delivery. As a result of an unavoidable process of prioritization, during which financial compromises had to be made, the physical replacement of equipment stock has, unfortunately, received an inadequate level of priority. Although part of the aging equipment stock was and is being replaced, this did not happen on a scale that is, from a technical and managerial viewpoint, required. As a result, the Ministry of Health and Social Services (MOHSS) is now faced with the untenable situation where the available funding from the operational and development budget is insufficient both for funding annual routine replacement of equipment, as well as removing the backlog of replacement, which has accumulated over the past decade.

The bottom line is that the MOHSS is now facing a critical situation where a large proportion of equipment is either in need of repair or else requiring replacement. Based on a recent survey, it is estimated that of the total stock value of medical equipment of 30 million Euros, no less than 55 percent is to be regarded as technically or clinically obsolete and therefore in need of replacement. Of the remainder, a significant proportion is defective, in need of calibration, or not safe for use. Given these circumstances, the issue of maintenance and repair of equipment is regarded to be of crucial importance.

Medical equipment management at the MOHSS

The MOHSS has recognised the need for an effective medical equipment management program. This program was launched at the beginning of the year 2000, with Technical Assistance through the Finnish Health and Social Services Support Programme (HSSSP II). The drafting and approval of a comprehensive technology policy is an important element of this program. The process of drafting a national technology policy was based on the available guidelines from the WHO (Healthcare Technology Policy Framework) and completed during 2001. Specific guidelines for policy implementation are currently being drawn up through a consultative process whereby end-users are fully involved.

The Sub-Division Medical Equipment Management (MEM) was established in May 2000 in the Division Clinical Support Services of the Directorate Tertiary Health Care and Clinical Support Services. The task of this Sub-Division includes the coordination of all aspects of healthcare technology management. This new Sub-Division effectively is the apex of a national network of technical service centres. The MEM Sub-Division ensures coordination and streamlining of all activities within the MOHSS related to technology acquisition and utilization and is responsible for liaising with other health service providers and maintenance organizations in order that healthcare technology use and maintenance can be properly coordinated.

The principle areas of activity of the Medical Equipment Management Programme are to develop:

- i. Health Technology Policy & Procedures
- ii. National Infrastructure
- iii. Human Resources
- iv. Financial resources

Maintenance and repair services

The objective of routine maintenance is to ensure that medical devices remain in good working order and that its life-span is maximized. The MOHSS in Namibia makes a clear distinction between curative and preventive maintenance. The aims of preventive maintenance are to (i) minimize the need for curative maintenance, (ii) minimize unplanned downtime, (iii) maximize cost-effectiveness, and (iv) maximize life-time of the equipment.

Depending on local circumstances and the complexity of the devices, maintenance is carried out through:

- i. In-house (Institutional) Maintenance Facilities
- ii. Regional Maintenance Facilities
- iii. Central Maintenance Facilities
- iv. Local Private Sector Firms
- v. Local Agent or Manufacturer
- vi. Overseas (Foreign) Agent or Manufacturer

Due to the technical sophistication of a large proportion of medical devices, contractual arrangements with manufacturer and agents are being made.

Based on an appropriate cost-benefit analysis, the MOHSS develops in-house service capacity for the maintenance of basic and robust devices. The proportion of equipment serviced in-house and externally varies according to the complexity of equipment and the availability and quality of external services.

The MOHSS has put in place a comprehensive infrastructure for the management of medical equipment. The backbone of this technical infrastructure is a referral system of Clinical Engineering Workshops; one at central level in Windhoek and four at key locations in the country. The Clinical Engineering Workshops in Oshana, Kavango and Karas Regions have been established and are fully operational, while a new Workshop in Otjiwarongo is scheduled to be constructed during 2002. The long term goal of the MOHSS is to establish Clinical Engineering Workshops in all 13 regions of the country, in order to ensure an appropriate organization, which guarantees high performance and longevity of medical equipment.

The MOHSS has developed the organization and infrastructure to provide a mix of private and in-house services to the users of medical equipment. While the maintenance and repair of equipment of low complexity is dealt with by in-house technical staff, complex and/or capital-intensive equipment are covered to maintenance contracts with respective suppliers.

Routine care of equipment

Expertise is currently being developed among the users of equipment at the level of the health facilities. Special attention is given to cleaning, basic trouble-shooting and reporting of equipment malfunction. User Planned Preventive Maintenance (PPM) schedules are being developed. Procedure guides are attached to the machines or at least made available to the users. Reference is also made to the recently launched Nurses Training Manual, named "Where There is no Technician", which forms the basis for routine training of nurses and equipment attendants.

Planned preventive maintenance

Scheduled maintenance plans for all plant and equipment are drawn up and budgeted for on an annual basis. Depending on the type of equipment, Planned Preventive Maintenance (PPM) will be implemented by suppliers or by in-house technical staff, depending on the level of complexity of the medical devices.

Maintenance personnel

Recently (2001) the staffing structure for maintenance and repair services has been reviewed and brought in line with the minimum requirements as recommended by international agencies, in particular the World Health Organization. In total, twenty new posts were created in

response to the revised staff structure for clinical engineering. The MOHSS is presently in the process of approving (through the Public Service Commission) and filling these new posts.

To overcome the problem of shortage of suitably qualified staff from the local market, the MOHSS has embarked on a program to recruit young professionals who, upon commencement of employment, are sent for specialized training in medical equipment management and maintenance. Funding for this training program is jointly provided by the MOHSS and the HSSSP Programme (Finland). Training courses for new recruits are located within the SADC region, namely at the Technicon in Pretoria (technical training courses, leading up to certificate, diploma and engineering level) and also at the University of Cape Town (for management staff, leading up to a degree level qualification).

In the interim period, the MOHSS seeks personnel assistance through the Cuban Embassy, VSO and other voluntary organizations, to compensate for the critical shortage of skilled engineering staff in the short term. An important part of the volunteers' job description is the training of local counterparts, especially those newly recruited.

Staff retraining

Heads of Facilities are held responsible for assessing the refresher training needs of their staff, in collaboration with their respective Regional Management Teams. They ensure that equipment user training is a regular agenda point in management meetings and that employees are encouraged to participate in equipment training programs.

The MOHSS is in the process of developing training resources and an annual training program, tailor-made to the identified needs, as part of the overall Training Plan. The MOHSS further develops collaboration with international training institutions, as well as with local equipment suppliers and service agencies.

Safety procedures

Safety procedures and guidelines are being incorporated into the equipment procedure manuals. In principle, Heads of Facilities are responsible for ensuring that equipment operators adhere to the safety protocols as they apply to medical devices. The rules and regulations issued by Radiation Protection Service, Occupational Health, Municipality and Local Government (on buildings and fire regulations), apply.

Budgeting for maintenance and repair

The MOHSS protects its investment in equipment by aiming to provide an adequate maintenance budget. The target is to adhere to international guidelines for budgeting for maintenance and repair, *i.e.* 6% of the equipment current stock value to be invested each year. Routine replacement requires 10% annually of total stock value (current –

continued on p. 15

ACCE News

American College of Clinical Engineering Nominations for Election of Officers 2002

President (1 year term)



Ray Zambuto has been a practicing clinical engineer since 1969. He is currently President and CEO of Technology in Medicine, Inc., an independent service organization providing technology management, equipment maintenance, and clinical engineering services to hospitals throughout New England. Ray is currently the President-Elect of ACCE, and a member of the Clinical Engineering Certification Committee. He has been an ACCE member for 4 years.

President-Elect (1 year term)

Izabella Gieras is currently working as a clinical engineer at Beaumont Services Company, L.L.C in Royal Oak, Michigan. She has completed her M.S. in Biomedical Engineering with a Clinical Engineering Internship from the University of Connecticut. She is presently involved with the evaluation of medical equipment, overall equipment and systems planning for new and existing facilities and ongoing technology management. She has been an ACCE member for the past 4 years and served as the ACCE secretary for the past year. Izabella is currently pursuing an MBA degree.



Vice President (1 year term)



Ted Cohen is currently the manager of Clinical Engineering at UC Davis Health System and has been a clinical engineer there for 23 years. In addition to clinical engineering management, Ted's active professional interests include computerized maintenance management systems, PACS and the integration/convergence of clinical engineering and information technology. He is currently a member of the AAMI and ACCE boards of directors serving as the ACCE Vice President and the AAMI board Vice President for Clinical Engineering.

Secretary (2 year term)

Ron Baumann has over 31 years of medical logistics and clinical engineering experience. Ron joined ServiceMaster (now ARAMARK ServiceMaster) in July 1990 and is the Director of Clinical Engineering at Cook County Hospital, Chicago. His expertise is in the areas of project management, biomedical maintenance, technology management, equipment planning, and facilities management. A native of Chicago, Ron holds an Associate Degree in Biomedical Equipment Repair from Regis University, Denver; a Bachelor of Liberal Arts in Pre-Medicine from the University of Illinois at Chicago; a Master of Science in Clinical Engineering from The Johns Hopkins University School of Medicine, Baltimore; and a Master of Public Health in Health Resources Management from the University of Illinois School of Public Health. Society memberships include ACCE,



AAMI, ASHE, AHRMM, SCAR and the Midwest Biomedical Society.

Treasurer (2 year term)



Henry Montenegro has been a practicing clinical engineer for 19 years. For the past 7 years he has been the Director of Clinical Engineering for Good Samaritan and St. Mary's Medical Centers in West Palm Beach, FL. Previously he worked at Waterbury Hospital and St. Francis Hospital in CT. He is currently the treasurer of ACCE and is seeking re-election. He is an ACCE charter member.

Member at Large (2 Year term)

Joseph Skochdopole is currently the Director of Finance for TriMedx, a large clinical engineering company affiliated with Ascension Health. Joe spent the first thirteen years of his career in service operations and management of clinical engineering with the Department of Veteran's Affairs and Saint Vincent's hospital in Indianapolis. Joe is an avid golfer, hunter and fisherman.



Jim Keller has been with ECRI since 1984 and been the director of ECRI's Health Devices program since 1996. He is also responsible for several other ECRI products and services, including the *Health Devices Inspection and Preventive Maintenance System*, *Health Devices Alerts*, the ISO 9000 Quality System for Medical Equipment Service, the Health Devices CD-ROM and Web pages, a quarterly series of interactive telephone seminars, and the International Medical Device Problem Reporting System. He has been a member of ACCE since 1997.

Member at Large (1 year left on a 2 year term)

Barbara Maguire is currently the Director of Biomedical Engineering at the Weill Cornell Center of New York Presbyterian Hospital and has worked in the field for the past 11 years. She has been involved in areas of equipment planning, technology assessment, computerized maintenance systems and management of asset management services at multiple sites.



Antonio Hernandez has been in the clinical engineering field for 30 years. He is the Pan American Health Organization/ World Health Organization (PAHO/WHO) Regional Advisor on Health Services Engineering and Maintenance for the Region of the Americas. Since his transfer to PAHO Headquarters in Washington D.C. in 1991, he has been promoting clinical engineering programs and Advance Clinical Engineering Workshops in Latin American and Caribbean countries. He is an active member of ACCE.

Continued from page 13 -- replacement value). The health authorities recognize that the initial increase in the equipment budgets will need to be greater than these long term targets, because of the state of the existing stock and the backlog in replacement. The MOHSS, in collaboration with the HSSSP Technical Assistance program, is actively seeking collaboration with international donor agencies to overcome this current financial dilemma.

Dr Remmelzwaal is Technical Advisor, HSSSP II (Finland)

Calendar of Events

- 7th International Conference on the Medical Aspects of Telemedicine, Sept. 22-25, 2002, Regensburg, Germany, congress.office@ict2002.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.musschl@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.

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2002 ACCE EDUCATIONAL TELECONFERENCE PROGRAM

The American College of Clinical Engineering brings an exciting and educational program to you this year. 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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