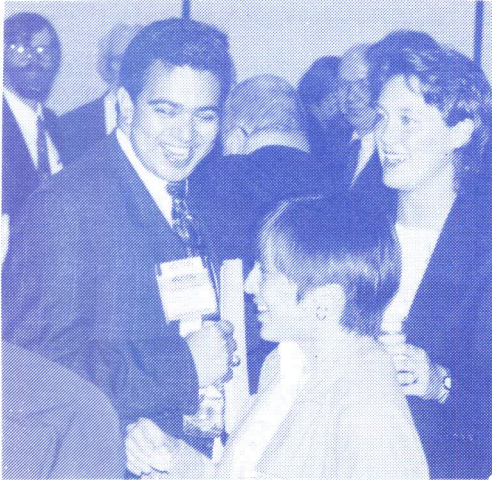


ACCE News

Vol. 9, No. 3 – May 1999



ACCE Annual Meeting

Our Annual Membership Meeting will be held on Tuesday, June 8 from 6:30 to 9pm in the Essex North ballroom at the Westin Copley Center, Boston, Massachusetts. The reception starts at 6:30 followed by the Meeting.

Hope to see you there!

The National Patient Safety Movement is Underway

Marvin Shepherd, world renowned expert in medical device systems safety issues a wake-up call to clinical engineers as he identifies what has suddenly emerged as the rapidly growing patient safety movement. He points to opportunities for clinical engineers to excel in patient safety by utilizing human factors and systems engineering along with medical device expertise. *See inside page 9.*

ACCE & AAMI in Brainstorming Effort

Several ACCE members met with AAMI staff and AAMI members to seek ways to enhance AAMI annual meetings. *See page 6 for details.*

INSIDE THIS ISSUE ⇨ International Brochure p. 19.
Teleconference: Clinical Engineering for the Millennium p. 14
Y2K Benchmarking p. 12 ACCE Library p. 11

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.

ACCE on the Web
[http:// accenet.org](http://accenet.org)

President's Message

Robert L. Morris, PE, CCE, morris@ohsu.edu

I'll be looking for you at the Annual ACCE Membership Meeting. We need your ideas and your support.



Bob Morris

ACCE News

ACCE News is the official newsletter of the American College of Clinical Engineering (ACCE).

ACCE News is a benefit of ACCE membership; nonmembers may subscribe for \$50. To subscribe call (516) 751-7244.

Copyright© 1999 by ACCE.

Permission to reprint will generally be granted with appropriate credit line. Contact the Editor.

Editor

Joseph F. Dyro, Ph.D., CCE
21 Bob's Lane, Setauket, NY 11733
jfdyro@aol.com; (516) 751-7244; -7802 Fax

Assistant Editors

Ted Cohen, ted.cohen@ucdmc.ucdavis.edu
Rachel Mercado, mercadr@gwpo.ynhh.com

Photography

Sam Miller, samiller@localnet.com

Advertising Manager

Caroline Campbell, cac1@mhg.edu; (202) 877-7151 (Rates and Deadlines)

Address corrections:

Jennifer C. Ott,
3635 Vista Ave at Grand Blvd.
St. Louis, MO 63110-2520
JCottSLU@aol.com; (314) 577-8018; (314) 268-5178 Fax

ACCE

5200 Butler Pike
Plymouth Meeting, PA 19462-1298
(610) 825-8067

The ACCE Board

President	Robert Morris
First Vice-President	Jeff Secunda
Second Vice-President	Brian Porras
Secretary	Jennifer C. Ott
Treasurer	Bryanne Patail
Member-at-Large	Joseph McClain
Member-at-Large	Caroline Campbell
Member-at-Large	Ken Taylor
Member-at-Large	Dennis Minsent
Past President	Frank R. Painter

Committee Chairmen

Advocacy	Thomas O'Dea
Membership	Kelly Galanopoulos
Public Affairs	Francine Reibman
ICC Liaison	Frank Painter
Nominations	Frank R. Painter
Education	James O. Wear
International	J. Sam Miller
AAMI Liaison	Yadin David

Letters

ACCE News, 21 Bob's Lane, Setauket, NY
11733

516-751-7802 fax; jfdyro@aol.com

TLC in technology – Is it there?

Sir--I'd like to comment on Ms. Danaher's keynote address at the recent HealthTech meeting. Her comments covered some exciting technological developments and application of those developments

by Hewlett Packard to the healthcare setting. I hope your readers will feel compelled to respond with their own input on this subject. I believe careful examination of the presentation brings up issues worthy of consideration by those involved in the application of medical technology.

Technological change is so pervasive and rapid it's become a cliché. In addition, our day-to-day environments are defined as much by opinions and fluid relationships as they are by the facts and the deterministic systems we all became adept at manipulating in school. In this environment, healthcare outcomes may be as much defined by intangibles like human contact and the state of mind of the patient as they are by machines and chemical equations. Of course engineers, technicians and high-tech companies should stick to what we know best; we should help with appropriate application of technology to healthcare problems and leave the "soft" issues to nurses, chaplains, counselors and others. But, part of this mandate is knowledge of when we're about to over-step our boundaries. Parts of Ms. Danaher's presentation left me wondering if we are beginning to put technology in the way of the human contact that's needed to deal with the "soft" issues.

Early in the HealthTech meeting one presenter talked about the virtues of overheads versus the software- and hardware-intensive presentations that have become popular as technology has advanced over the last few years. If the presentation is low-tech, the speaker asserted, the audience will focus on the message and not on the "gee-whiz" technology. The corollary in healthcare can be found in emphasizing the "soft" issues along with the technology issues - refusing to sacrifice the patient/care-giver interface for the patient/machine interface. Ms. Danaher, perhaps unknowingly, illustrated this point. Ms. Danaher and her thoughts about medical technology were all but lost behind the production assistants, teleprompters, computers, and video projectors. Hewlett Packard is a high-tech company so you might expect a high-tech presentation. But, the challenge for Hewlett Packard (and for the rest of us as well) may be finding a way for human contact and high technology to occupy the same space.

The web is a wonderful tool that allows us to do many things that we could not easily do before. But it also allows us to disconnect from each other. I don't have to go to the store anymore, I just log on. I can "visit" my mother by logging on. Of course the web releases me from mundane chores (like driving in city traffic, running all those Saturday errands and sifting through a library full of data to find what I want) so that I can spend time on activities I enjoy. However, Ms. Danaher's presentation prompted a vision of a healthcare marketplace in which I don't have to visit the doctor, I just log on; I don't have to visit a sick relative in the hospital, I just log on. My concern is that in the current climate of cost cutting efforts, it's a very short trip from "don't have to" to "am not allowed to."

An example can be found in the banking industry. Like healthcare, banking requires a high degree of trust between the customer and the business. In banking, the process used to be facilitated by face-to-face contact. When technology advanced to a point that the human teller was an expensive luxury and customers began to demand more access to the banking institution, ATM machines began to appear. They made our lives easier by allowing us to do things that were difficult before - like get cash at any hour of

the day or night. But many of us can now report having been charged extra fees for speaking to a human teller.

Technology can be used to make things possible and/or it can be used to cut cost - in this case by rationing human contact. I had mixed feelings as I watched Ms. Danaher's video of a 4-year-old kissing a video image of her hospitalized baby brother. I was impressed by the technology, but I wondered how close we've already come to Huxley's *Brave New World*. I'm not suggesting that we go back to some idealized vision of "the good old days" before technology invaded our lives, and I'm not suggesting that we attempt to stop the wheels of progress. However, I think we need to continue to ask ourselves a question that has been suggested many times by many people: "Is this going to improve patient care?" When applied to Ms. Danaher's presentation, the answer may be a resounding "Yes!" But we should recognize that answering the question might be complicated by the marriage of two competing factors in healthcare: (1) commercial viability of the organizations by which we are employed and (2) carefully guarded quality of patient care. The real answer to this situation may lie in somehow separating the two questions and/or standardizing ways of answering the questions.

David A. Smith, smithdav@ohsu.edu
Oregon Health Sciences University
Portland, OR 97201

The Editor encourages readers to express their views by way of letters that might be printed here for the benefit of the readership. He also likes to get mail.

Advanced Clinical Engineering Workshops in 1999

June

Hartford, CT
ACCE / BEACON (sponsors)
Chair: Frank Painter 203-261-3921

September

Moscow, Russia
ACCE / WHO / Association of
Medical Physicists of Russia
Chair: Yadin David 713-770-1817

November

Johannesburg, South Africa
ACCE / WHO
Chair: Tom Judd 404-364-7140

ACCE News

April 21, 1999

FOR IMMEDIATE RELEASE

VA Issues Guide for Medical Facilities' Year 2000 Preparations

Washington, D.C. -- The Department of Veterans Affairs (VA) has published a patient-focused contingency planning guide to help VA and other health-care facilities prepare for the Year 2000 date change.

One large health care-related organization said VA's Patient-Focused Year 2000 Contingency Planning Guidebook provides "information that will greatly help our members as they continue to refine their contingency plans for Year 2000."

"In fact, we've already posted it to our website for our membership to hyperlink to VA's comprehensive work," said Nancy Darr, vice president of planning and program development at Premier, Inc., which has more than 1,700 member hospitals.

The guidebook provides an easy to follow, nine-step approach to constructing a Year 2000 contingency plan, complete with sample contingency plans for each department in a typical health care facility as well as an overall plan for an entire facility. Suggestions to limit adverse impacts and risks also are provided with each sample.

The guidebook contains an extensive outline to assess, renovate, validate and prepare contingency plans for medical devices; a comprehensive assessment of potential external threats, such as utility, trash, and transportation systems failures or outages; and provides guidelines for Year 2000 emergency preparedness training and drills. The guidebook also has recommendations for exercising and testing critical utility systems such as emergency power and water.

As a public service, VA has made the guidebook available free of charge on the department's Internet Home Page at www.va.gov/year2000.



Painter Praises Wang

In a letter to Dr. Binseng Wang, Frank Painter writes the following on Wang's role in HealthTech 99 – Ed.

The whole thing was awesome! The individual chairs were gooooood, but the Magnanimous Master of Ceremonies, Auspicious Assembler of the Program and Superlative Supervisor of ACCE Activities at HealthTech, your smiling self was the real hero. Thank you for YOUR hard work. ACCE gladly accepts your reappointment as HealthTech ACCE Track Organizer. Nice Job!



Frank Painter



Binseng Wang

HealthTech'99

Binseng Wang, binseng@voicenet.com

On behalf of ACCE ad-hoc committee for HealthTech 99 (Jim Wear, Frank Painter, and me), I thank all of you that "volunteered" be to chairpersons for the ACCE sessions. Most of the sessions were well attended and seemed useful and interesting to the participants. The ACCE participation was clearly visible and significant throughout the whole event. I hope you also enjoyed the entire event.

ACCE would appreciate feedback in the form of comments, suggestions, and criticisms, as we will be planning for the ACCE Track in HealthTech'2000 in the near future. As usual, silence will most likely be interpreted as satisfaction and acquiescence to be re-nominated as chair for the next year's event.

Emerging CD Technology Applications

Alfred Jakniunas, ajakniunas@huhosp.org

CD technology continues to expand in the information storage market. The new CD-ROM technologies are gaining tremendous momentum as users begin to realize its benefits. The current storage capability on CD-ROM is 650 MB. The next generation optical standard is now available. Today almost

everything can be placed on CD-ROM, including video and sound. The delay in DVD development (acceptance of standards) has resulted in sales of CD-RW to jump from \$1 M in 1997 to \$5 M in 1998. The rewritable CD-RW opens many new applications from low cost service manuals, equipment in-service, electronic catalogs, and powerful marketing and sales tools.

Last year's opinion was to distribute instruction and service manuals using the CD as a carrier. Some of the developers who have looked into this approach felt that in the long run it might create problems. If the manufacturer had 50 different products and each product had 3 updates, then the manufacturer would have 150 manuals. Supplying the right manual to the owner of equipment could be logistically complex. One suggestion has been for the manufacturer to download manuals to the hospital computer direct. Strong support also exists for downloading from a manufacturer's web by way of the Internet. This later approach may not be acceptable by some manufacturers since it does not provide a high level of security even with a password.

For the next couple of years manufacturers will experiment with service manual development using direct download, CD, Internet, and the reliable three-ring binder printed manual. DVD with 3.9 GB applications will emerge in year 2003, the DVD-R recorder will be available for \$5000, and the multi-track reading high-speed CD-ROM will appear in 1999. R&D efforts underway will bring us a disc, the size of CD, carrying 165 GB. If you know a good application, this is the time to get in.

What is your opinion? Please send your comments and recommendations to me at ajakniunas@huhosp.org. You may also send a letter to the editor who was good enough to print the above.

Editor's Note: The above is a summary of a paper presented at HealthTech 99, Baltimore, Maryland, an event sponsored by ACCE.

New York City Metropolitan Area Clinical Engineering Directors Group

Ira Soller

The New York City Metropolitan Area Clinical Engineering Directors Group met on February 9 at St. Luke's – Roosevelt Hospital in New York City. ACCE member Mike Mirsky hosted the meeting. Mr. Frank Merne and Mr. Jim Yoder of Drager presented a lecture on *Principals & Operation of Vaporizers*. Subsequent member discussion included sharing of information relating to Y2K including SIIM and the FDA public health message dealing with use of "protected" patient cables.

The group met again on March 23, 1999. Mr. Mike Mitton and Mr. Sean Howe of Datex-Ohmeda lectured on *Principles of Volume and Pressure Ventilation including Pathology*. Those requesting information or manufacturers interested in making presentations should contact Ira Soller, Director of Biomedical Engineering, State University of New York, Downstate Medical Center, 450 Clarkson Ave., SMIC Box 26, Brooklyn, NY. 11203. 718-270-3192, 718-270-3194 fax.

ACCE News

AAMI Brainstorming Meeting

Thomas J. Bauld, Ph.D.,
bauldt@mercyhealth.com

Kathy Warye on behalf of the Association for the Advancement of Medical Instrumentation (AAMI) invited a group of experienced professionals to participate in a one day, 5/11/1999, brainstorming meeting to develop ideas on improving future AAMI Annual Meetings. The group identified four key audiences: product vendors; service vendors; service and technology managers; and equipment servicers. AAMI is avoiding the terms clinical engineer and biomedical equipment technician to minimize polarization. Service and technology managers, equipment servicers, and AAMI staff outnumbered product and service vendors at the meeting.

The discussion focused on the management of technology, as opposed to its development and use. The group agreed that the Annual Meeting does not target other audiences, such as nurses, physicians, and administrators. If the AAMI membership has information to impart to the other audiences, it would best be done by attending meetings of their societies or through focus symposia in conjunction with their meetings. A symposium on user error was cited as an example. The meeting elements which attract each member segment were identified. Reasons for vendors to

exhibit rather than attend the sessions and other meeting activities were explored.

The following meeting elements were identified as those that instilled enthusiasm for the Annual Meetin: higher quality and fewer sessions; more in depth sessions; strong emphasis on imaging systems and vendors; daily keynote speakers each with a theme that was followed later by sessions; a motivational and/or fun speaker; interaction with manufacturers' design engineers; participation in some of the sessions via the internet; a preview of the meeting sessions, with sample slides on the AAMI web site to allow attendees to decide their schedule more intelligently; more interactions between the attendees and the speakers as well as more interactions in general; ad hoc chat rooms with topics determined by the attendees as they register or as the meeting progresses; more events in a debate format; and on-site social event registration. Debates could be enhanced using trained facilitators, and AAMI could offer a facilitator course designed for future meeting attendees.

Most agreed that on site AAMI staff should be more visible perhaps by wearing distinctive clothing and more interactive with attendees, especially first-timer, by meeting and greeting.

The group noted that the recent HealthTech 99 excelled in the area of imaging technologies, long a distinctive feature of that meeting. In the last two years, HealthTech has broadened its scope to include

more traditional clinical engineering topics. This year, for example, a strong and comprehensive clinical engineering track was organized by ACCE. Many ACCE members attended HealthTech 99.

Attendees and AAMI staff strongly supported partnering, realizing that major benefits to attendees lie in incorporating the strengths of present competitors or major imaging vendors. The recent improvement in relations between AAMI and ACCE was cited as an example of better collaboration. Linking more effectively with the American Society of Hospital Engineering (ASHE) was felt to be important for the large body of equipment servicers and managers reporting to facilities managers.

I mentioned that ACCE and MSCE were willing to co-sponsor the Year 2000 Regional Meeting in the Detroit area, although no details have been developed.

This brainstorming session dealing with future Annual Meetings was the first of its kind. At the 1999 Annual Meeting, persons will be invited to participate on next year's Planning Committee. Mary Frye Coker and ACCE's John Hughes are AAMI 99 Program Co-Chairs.



Profiles in Clinical Engineering Jennifer Ott

Rachel Mercado, mercadrc@gwpo.ynhh.com

Hailing from Marquette, Michigan, Jennifer Ott grew up under the guidance of an engineer and a nurse. It was no great surprise, then, that Ms. Ott developed an interest in the combination of the two fields — Clinical Engineering. After obtaining a Bachelor's degree in Biomedical Engineering from Marquette University, Ms. Ott completed a clinical engineering internship at St. Francis Hospital in Hartford, Connecticut. She also obtained a Master of Science in Biomedical Engineering from the Hartford Graduate Center.



Spencer Ott

After graduation, Ms. Ott followed her heart--to St. Louis, Missouri. In December 1993, she obtained the position of Supervisor of Clinical Engineering, a position she holds today. In addition to supervising eight technicians, Ms. Ott is involved in many hospital-wide committees, including the capital equipment committee, the safety committee, and the Diagnostic Imaging safety committee.

On a more global scale, Ms. Ott is very committed to furthering the field of clinical engineering. She is an active member of ACCE, and is presently serving as secretary. Ms. Ott feels that in order to ensure the success of clinical engineering in the future, a healthy balance must be kept between the in-house programs and the ISO's.

Finally, despite the responsibilities brought on by her career, Ms. Ott does find time to relax. She enjoys playing golf, riding her bicycle, and traveling. Most importantly, she is the proud mother of Spencer, her ten-month old son.

THE VIEW FROM THE PENALTY BOX *David Harrington, davesbt@kersur.net*

I was trying to do some research on a medical device that had been in service for some years and the physician knew it was time to replace it as it was not as reliable as it had been. The physician indicated that he liked how it functioned, when working, and would like to get the same brand. His thinking was prompted by loyalty to the brand and comfort. He also felt that the staff would have an easy time learning the new device. Simple enough project, a few hours work and a nice bill for consulting services.

I took the information from the device's nameplate and went to the Biomed shop to look up its history and review the manual for addresses and phone numbers. Two hours of looking produced no results except that the device was over 20 years old, was inspected yearly, and recently had a lot of "no problem found" work orders. No manuals were in the department, so I went back to the physician hoping that he had a manual. Again nothing.

Next stop was the ECRI directory; no such company listed. OK, now call the phone number that was on the ID plate. Result: the area code has changed, try new area code, and get a House of Pizza, which has had that number for about 8 years. Now the chase is getting interesting, what happened to this company?

After calling several chronically challenged colleagues, old farts to you young guns, I got several promising leads including the name of a person who used to sell the device. Going through the same area code problems, I finally found the person and got some of the questions answered.

The company went bankrupt in the mid-seventies with the inventory and intellectual property sold off to various companies. Five other companies made the device before production halted in 1984. The last company to make it was bought by a bigger company in the same field and they discontinued to product line. That company was bought out in 1991 and its product line discontinued. Another buy out and discontinuation of their product lines followed that.

I found an old *Health Devices* issue from 1974 where the unit in question was tested along with others. There were 17 companies making that type of a device in 1974 and now there are three. So much for competition keeping prices down.

Well, I got quotes and literature from all three; all would do the job. The strange part about the quotes is that in 1999 the selling price is \$1,700 less than what the physician paid in 1975 and the device is smaller, lighter, uses much less power, and has three controls versus the nine on the old unit.

Several things were learned in this quest: (1) The high number of manufacturers supplying a product does not always mean that the prices will be low; (2) equipment has gotten better over the years; (3) area codes are impossible to keep straight; (4) the "young guns" have it much easier than the chronologically challenged did, we had to track 17 companies for a product and now there are only three; and (5) with all the mergers and buyouts going on there may be just a few companies and a few hospital systems when the "young guns" get to be chronically challenged.

The only sure truth in our profession is that it is always changing and that keeps us involved. Remember! Communicate with your colleagues in the profession; it is everyone's best source of information.

Dale

Products Rated No. 1 In Customer Satisfaction



Safety Analyzers

These Low Cost self-contained Safety Analyzers measure Ground Resistance, Earth or Chassis Leakage Current and Line Voltage. The DALE600 can also measure Patient Leakage in Lead-to-Ground, Lead-to-Lead, and Lead Isolation Current Modes. Unique to this Safety Analyzer is its capability to make a broad range of external measurements, such as point-to-point resistance, leakage current between any two devices, voltage gradients and isolation current of probes, transducers, etc.

Special features:

- Small, hand-held, fully portable
- Simple, easy to use, very reliable
- Warrantied for one full year
- 30 day return policy if not fully satisfied



Medical Grade Isolation Transformers

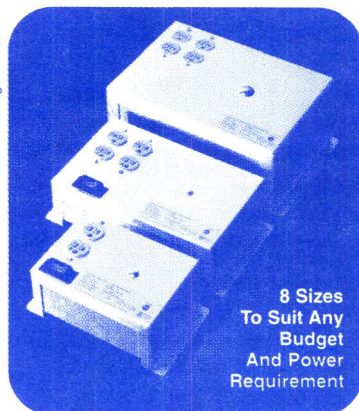
Dale Medical Grade Isolation Transformers greatly reduce the dangerous Leakage Current present in many of today's highly sophisticated electronic devices. Up to several milliamps of Chassis Leakage Current can be reduced to as low as 25 microamps. These transformers are especially useful for equipment such as computers, video cameras, monitors and similar devices.

Simply plug your equipment into one of these Medical Grade Isolation Transformers and relax - knowing you've acquired the best in electrical isolation and patient safety.

Special features:

- Toroidal Transformer with very low magnetic field
- Hospital-Grade components, thermal fuse
- Assemblies are UL and CSA listed or CE listed

web: www.daletech.com • e-mail: dale600@aol.com



8 Sizes To Suit Any Budget And Power Requirement



Dale Technology, Inc.

401 Claremont Ave., P.O. Box 196, Thornwood, NY 10594
1-800-544-3253 • FAX 914-741-5005

A-144



National Patient Safety Movement Clinical engineers need to get involved

Marvin Shepherd, P.E., marvins523@aol.com

The national Patient Safety movement is gaining momentum. Clinical engineers need to get involved. The decision of the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) to require the analysis and reporting of sentinel events is only one of the many indications that patient safety is ascending to a new priority in healthcare. This portends a national movement in which clinical engineers need to get involved.

What Patient Safety Movement?

This movement slowly began in late 1989 to 1990 and is only now becoming quite visible. As mentioned previously, sentinel event reporting is only one of its manifestations. Although the JCAHO Sentinel Event requirement became effective in April 1998, the topic of performance improvements began with the JCAHO's Agenda for Change in 1989 and discussions of sentinel events in 1995. However, other forces, pushing patient safety to the center stage, began emerging in 1989-90.

Another signal came with the introduction of managed care about 1990. The goals expressed for these changes--as well as the mantra were-- *improved patient outcomes and increased patient comfort*. Certainly patient safety had to be a significant part of those two goals. As managed care efforts began, a significant study of adverse events was in progress in New York and was published in 1991. It was called the Harvard Study⁽¹⁾. Part of the basis for the study was that "...over the past decade there has been a steady increase in the number of malpractice claims brought against healthcare providers and in the monetary damages awarded to plaintiffs..." In this retrospective study, the investigators reviewed over 30,000 patient records and found that 3.7% of the patients had iatrogenic injuries and that negligent care was responsible for many of them. Most of these adverse events were associated with human error. Subsequent to the Harvard study, the same Harvard investigators published articles that promoted the elimination of the traditional "culture of blame" approach and search for the real causes within healthcare, including, for example, processes, systems, organizational structure, and societal and legal pressures.

About the same time that the Harvard Study was published, so were books on advances made in human factors and human error. James Reason's book, *Human Error*⁽²⁾ (1990) and Senders & Moray's book, *Human Error: Cause, Prediction and Reduction*⁽³⁾ (1991) emerged. Although neither book was directed specifically at patient care both explain the complexities of human error and the need to look more carefully at systems and processes for the root causes. In 1994, Marilyn Sue Bogner, of the FDA, edited a book, which was a compendium of work by several authors, addressing adverse events in healthcare. The title of the book was *Human Errors in Medicine*⁽⁴⁾. The authors looked at all types of medical errors, including many related to medical devices, and suggested some new methods of preventing adverse

events. Their suggestions were generally consistent with the recommendations of Reason, Senders, and Moray.

The Safe Medical Device Act was passed in 1990⁽⁵⁾ and was the first to require healthcare facilities to report serious device-related events including operator errors. This law led to a national discussion of device-related adverse events and numerous conferences such as the AAMI/FDA conference *Human Factors in Medical Devices*⁽⁶⁾ (1996) were produced. However, the immediate interests of the law were limited to the identification of the direct causes of adverse events as they might relate to the design and manufacturing of devices.

The Harvard Study and subsequent publications of their authors was so provoking that the American Medical Association (AMA) co-sponsored a patient safety conference⁽⁷⁾ with the Annenberg Foundation in 1996. The purpose of the conference was to examine human errors in healthcare and to develop prevention, education and research strategies for preventing them. This conference led the AMA to establish the non-profit, National Patient Safety Foundation (NPSF) in June 1997 (see <http://www.npsf.org>). The NPSF has become a clearing house for information related to patient safety, has established funding for basic studies on patient safety, and is taking the lead in forging and strengthening working relationships among all stakeholders in healthcare. In November of 1998 the NPSF and other stakeholders held a second conference⁽⁸⁾. Both conferences were intended to define the patient safety issues, and to suggest strategies for solving them. In an attempt to promote their agenda, enhance patient safety, and encourage grass-roots support and action, the NPSF has co-sponsored five regional meetings. These regional conferences will continue into the next year.

In 1998, the NPSF, the Veteran's Administration (VA), and the Agency for Health Care Policy Research (AHCPR) provided support funds for a Chicago workshop. Its purpose was to assemble a scientific basis for progress on patient safety. An 80-page report on the results of this meeting is available at the NPSF website⁽⁹⁾.

In February of 1999, the VA announced the establishment of four Patient Safety Centers of Inquiry⁽¹⁰⁾. The VA has committed \$6 million to these centers for research to increase knowledge in patient safety and to assist in the transfer of knowledge from other areas such as aviation safety. The centers will work with local universities and both public and private partners to achieve their goals.

Is the Movement Real or Fanciful?

The prime movers, the American Medical Association, the US Veteran's Administration, and HEW (through AHCPR), have tremendous influence over priorities set for healthcare delivery. Other partners in this movement include the American Hospital Association, the Joint Commission on Accreditation of Healthcare Organizations, the American Association for the Advancement of Science, and many others. The organizations involved in the movement along with their influence are one reason for believing the movement is real. Another is the fact that two of the organizations, the National Patient Safety Foundation of the AMA and the US Veteran's Administration are making monies available

ACCE News

to perform research and to implement strategies for enhancing patient safety. Money, and not just “jaw-boning,” is included in the movement.

Are Medical Technologies Included in the Movement?

The Harvard Study identified the overall adverse event rate at 3.7%. Drug complications were most common (19%) followed by wound infections (14%) and technical complications (13%). Technical complications referred to errors that occurred in technical procedures. “*Defective equipment and supplies*” was one of the failure categories but appeared to be related to the direct failure of a device while those involving human error were placed in other categories. It is important for clinical engineers to be able to identify and to quantify the types of technology-related adverse events. This should include clinical devices as well as technologies that assist in the delivery of healthcare such as hospital drug delivery systems and telemedicine.

The only recent information that relates clinical device failures appears on the JCAHO website (<http://www.jcaho.org>). Of 374 sentinel events accumulated by JCAHO between 1995 and 1998, 2.1% were device failures. However, their categories are not mutually exclusive and, in my opinion, the number may be as high as about 15%. This small sample, questionable categorization, and lack of supporting information do not provide much hard evidence. Other recent studies, such as the Australian Incident Monitoring Study⁽¹¹⁾, provide better information on the various types of failure but focus on adverse events occurring only in surgery.

How Does This Affect Clinical Engineers?

It is clear that *patient safety* includes the use of general healthcare technologies as well as medical devices. These are areas of specific interest to clinical engineers. Indeed, they frequently manage the risks of patient injuries associated with the use of medical devices through medical equipment management programs (MEMP) and in healthcare technologies during the purchase and installation process. In addition, when device-related accidents have occurred, they have exercised their considerable education and skills to investigate device-related accidents and have recommended changes to prevent future failures. In both arenas they have made recommendations regarding human errors but only infrequently have they had direct responsibility for correction of human error (except for maintainer error). As patient safety increases in priority, clinical engineers will need to exert additional effort toward reducing patient care risks.

What Should Clinical Engineers Do?

We must begin by recognizing that a national movement to raise patient safety to a new level is in progress, and has some very strong advocates. This is not a passing fancy! In addition, it is important for clinical engineers to get involved in the movement by linking with the forces within the movement. They must clearly define their present role and consider assuming an expanded role in this patient-centered activity. The ACCE should explore a partnership with the NPSF and actively participate in forming, supporting and directing the movement.

A new look at the roots of clinical engineering may be appropriate. How many and what types of adverse events occur in the technologies we manage? What proportion is this of all adverse events? Are there strategies we could develop to minimize these events even further than we have?

On a practical level CEs should learn more about root cause analysis, human error, and systems processes. Not only will this enhance patient safety but also it will develop additional knowledge and skills that will be helpful in technology and asset management. The ACCE and other professional organizations can be of great assistance by providing workshops and conferences in these relatively new areas.

What If The Clinical Engineers Plate Is Already Full?

Like all healthcare managers, the clinical engineer’s activity plate is already full. However, this makes little difference in the rapid-paced, healthcare environment. Clinical engineers and the clinical engineering profession through ACCE must plan, decide, and prioritize activities. For all involved, patient safety has always held a high priority. However, change is constant and patient safety is ascending to a higher level of importance. One management style may wait until absolutely necessary before adjusting priorities and then scramble to catch up. Another may maintain their present priorities while planning what they might do through education or training to prepare for an impending change. Whatever the management style, a new emphasis on patient safety is coming.

Some Conclusions.

After reading the above, it seems clear that the JCAHO intention to establish a national database of sentinel events is not an isolated event but an outcome of numerous forces that all appear to be moving together to enhance patient safety. Clinical engineers and the ACCE have a considerable stake in this patient safety movement. They need to become directly involved in the movement and possibly expand the interests of clinical engineering into new areas such as human error, root cause analysis and systems processes. As with all aspects of healthcare, this is not a slow *movement!* If clinical engineers would like to ensure input and an impact, they must begin to act.

Bibliography

1. Leape, L., Brennan, TA, Laird, N., et al. (1991). The nature of adverse events in hospitalized patients; results of the Harvard medical practice. Study II. *N Eng J Med*, 324:377-84.
2. Reason, J. (1990). *Human error*. Univ. Cambridge Press, Melbourne, Australia.
3. Senders, J.W., Moray, N.P. (1991). *Human error: Cause, prediction and reduction*, Lawrence Erlbaum Associates, Hillsdale, New Jersey.
4. Bogner, M.S. (1994). *Human error in medicine*. Lawrence Erlbaum Associates, Hillsdale, New Jersey.
5. FDA (1990) *Safe Medical Devices Act of 1990*.
6. AAMI (1996). *Human factors in Medical devices: design, regulation and patient safety*. AAMI, Arlington, VA.

ACCE News

7. NPSF (1996). Examining errors in healthcare; developing a prevention, education and research agenda. Multi-sponsored conference, at Annenberg Center for Health Sciences, Rancho Mirage, CA. October 13-16.
8. NPSF (1998). Enhancing patient safety and reducing errors in health care. Multi-sponsor conference, at Annenberg Center for Health Sciences, Rancho Mirage, CA. November 8-10.
9. Cook, R.I., Woods, D.D., Miller, C. (1997). A tale of two stories: contrasting views of patient safety. Workshop on assembling the scientific basis for progress. National Health Care Safety Council of the National Patient Safety Foundation at the AMA, December.
10. PRNewswire (1998). Nation's first patient safety centers will benefit millions. Press release, March 4.
11. Williamson, J.A., Webb, R.K., Sellen, A., et al. (1993). Human failure: an analysis of 2000 incident reports. *Anaesth Intens Care*, 21:678-683

Marvin Shepherd, P.E.
DEVTEQ
P.O. Box 3504
Walnut Creek, CA 94598

Information Exchange Through INFRATECH LISTSERV

Alfred Jakniunas, ajakniunas@huhosp.org

In December 1998 in Geneva, Switzerland, the World Health Organization (WHO) organized an informal meeting on Physical Infrastructure, Technology and Sustainable Health Systems. Experts discussed effective management of health systems and identified opportunities and challenges for future health systems in light of rapid technological development. The document containing the recommendations emerging from the meeting will be the WHO position paper on Physical Infrastructure, Sustainable Health Systems in the 21st Century. The paper should aid WHO, other international organizations and individual countries in making healthcare decisions at the national and international level.

The ACCE has agreed to support and chair the project utilizing the LISTSERV concept for information consolidation. The regional office of WHO for the Americas, the Pan-American Health Organization (PAHO) has agreed to provide computer based LISTSERVE INFRATECH as a networking tool for this exchange. This is a good opportunity for ACCE members to interact with experts on an international level. Those interested in additional information or joining the LISTSERVE group please contact Alfred Jakniunas (ajakniunas@huhosp.org) Coordinator for LISTSERV INFRATECH or Antonio Hernandez (Ihernana@paho.org) Owner of LISTSERV INFRATECH.

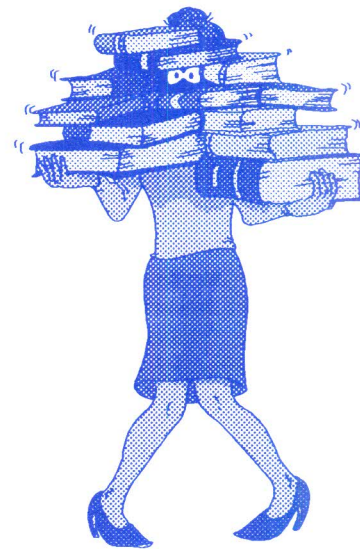
ACCE LIBRARY

Alfred Jakniunas, ajakniunas@huhosp.org

Since the Library of Congress has turned down the request to set up an ACCE Library, the library will be housed in the basement of one of ACCE's members and in a PC as ACCE LIB files. Two projects are active at this time: developing an inventory of old service manuals, which can be sent to other countries and developing a data base for ACCE member publications. The list will consist of published material by ACCE members, such as books, presentations at special events or magazine and journal publications. ACCE members interested in submitting information for the ACCE LIBRARY MEMBER PUBLICATIONS (MEMPUB) should forward the list to Alfred Jakniunas, ajakniunas@huhosp.org, or send mail to the address below. Indicate the number of pages for each item and how the publication can be obtained.

The current plan is to charge \$50 for each book or publication borrowed from ACCE LIBRARY and returning \$45 after it is returned. We feel that \$5 should cover the shipping. We need recommendations from ACCE members concerning their needs and any suggestions on proposed charges, copyright issues, length of borrowing, and insurance of shipments.

Alfred Jakniunas
ACCE LIB
15708 Evesham Place
Silver Spring, MD 20905



ACCE News

Year 2000 Benchmarking

Joseph F. Dyro, jfdyro@aol.com

On May 21, 1999, Y2K teams from Beaumont Services Company (BSC) and Mercy Health Services (MHS) met to benchmark and review each other's progress. The two organizations combined are comprised of some 50 hospitals and clinics. One was immediately struck with the high level of professionalism and warm collegiality exhibited by the 30 people sitting about the round table. The hearty Middle America breakfast spoke well of Beaumont's food services and Patail's organizational efforts. The meeting was co-chaired by BSC's Bryanne Patail and MHS's Tom Bauld. Participants hailed from biomedical engineering, information services, internal audit, administration, facilities, data communications, procurement, legal affairs, corporate finance, networks, and telecommunications.

Four issues were addressed in the first hour: the changing nature of the Y2K projects; maintaining adequate resources in the face of competing business projects; project status; and project reporting. Leading off, Patail, BSC Y2K Committee Chair, sounded a somber note as he recounted tales of insurgents from his native Burma (now, Myanmar), who were quite adept at exploding pipelines to cause havoc amongst the populace. Thus, he underscored the human factors issue and the need for heightened police awareness. Patail felt communications would play a vital role in dealing with exigencies. Next, Tom Bauld, Manager for Premier, Inc. and Y2K coordinator for the 13 MHS communities in Michigan and Iowa including 19 major hospitals, reported that only a few problems have been identified. Y2K programs are feeling the general cost cutting sweeping the healthcare industry as teams begin to shrink. He reminded the group that Y2K is one of many drivers in an organization. The biggest Y2K problem is the continuous bombardment with new projects, which pulls resources away from Y2K.

Patail remarked that 5% of the capital budget had been allocated for remediation and replacement of affected devices and systems. Current estimates are running at the 2% level. While dollars spent on Y2K efforts are hard to measure, about 60% of an allocated \$180,000 has been expended. About \$70 M will likely be expended by the MHS over the seven years of the project. BSC will incur about \$16 M in capital costs.

BSC's Larry Smith, Information Services, noted the opportunity to upgrade using the example of dictation/transcription equipment. This and other effects of Y2K work prove that the effort is not wasted even if there is no disaster or if no significant remediation efforts are required. BSC's Joe Power, providing another example, said the contingency effort would result in the development of the ultimate emergency plan. BSC's upgrading of 4000 PCs to state-of-the-art systems was cited as another positive effect of the Y2K effort. MHS's Pam Allen, Information Systems, has seized the opportunity to establish standardization of desktop PCs. Standardization and Y2K are driving the replacement of approximately 7,000 of 14,000 desktop PCs. Bauld saw improvement of communications among member hospitals and the development of a top ten

suppliers list as immediate benefits of Y2K efforts. BSC's Chris Kuhl, Procurement, noted that most hospitals use JIT methods and that these hospitals agreed to hoard supplies and pharmaceuticals. Brian Beer (MHS, telecommunications) is tackling the pager and cellular phone area assessing the impact of these vital communications systems.

Hands-on testing is in full progress at MHS with the operative phrase being, test until we drop. Estimated work yet to be done is 20 hrs/month/person X 20 people. Tom Bauld sends out color-coded report cards on device testing and resolution progress. Report formatting efforts are rewarded as communities maintain adherence to recommended testing schedules. Nevertheless, documentation, a source of frustration, while necessary is difficult to maintain. Consider the problem of dealing with a system-wide inventory of some 46,000 devices where planning and remediation is done locally. MHS database programmer, Craig Barton, lead a discussion on the psychology of report presentation. Bar charts have proven effective. Tom distributed sample reports including a remediation and testing monthly progress report showing scheduled completions, monthly completions and cumulative completions in a month-by-month stacked-bar format. He noted that he is not scheduling testing for October, November, and December.

Pam Allen cautioned the group to guard against complacency and to keep the momentum going. That light at the end of the tunnel might be the locomotive.

Breakout sessions followed a coffee break. Four groups formed to discuss (1) biomedical areas of concern; (2) PC hardware and software testing; (3) information services integration testing; and (4) communications with stakeholders. The biomedical session looked at inventory additions, in-house test results, Catholic Health Initiatives test results, implementation of remediations, and assisting doctor offices.

In the biomedical engineering breakout session, Bauld said that of some 200,000 devices for which Premier is responsible, only 1% have been found to be affected in any way. Legal imperative for testing was discussed. Some hospitals and hospital systems not represented at this meeting have received advice from counsel that they must test all devices for due diligence. The group roundly criticized this approach as wasteful, unnecessary and excessively diligent. Hospital attorneys do not wonder if the hospital will be sued, they know they will be sued. The MHS legal department feels comfortable in defending any claims against MHS because it has confidence in the work the Y2K team is performing. One attorney advised, "Don't document in anticipation of a legal case. Just do the work diligently".

A benefit of Y2K work is the generation of an accurate inventory. Bauld found several hospitals in which existing inventories were 50% inaccurate. This figure agreed with that found by Dyro in a Y2K project he managed at a large, teaching hospital in the Greater New York City area. Not only did half the devices on the inventory no longer exist, the hospital unwittingly contracted with an outside vendor to maintain these non-existing devices.

Hysteria, inaccurate reporting, and exaggeration can be found at the lowest and at the highest levels of healthcare and government. Internet information from some websites,

Vol. 9, No. 2, 1999

particularly RX2000, that sparked a 12/30/98 FDA alert and fueled Senate Hearings rhetoric proved inaccurate. To wit, seven manufacturers allegedly manufactured devices whose safety and efficacy would be compromised by the Y2K problem. Sorting out fact from fiction revealed that only two manufacturers were implicated. One had developed an easy fix. The other learned that the only problems with its device became manifest when the device was tested. Not testing the device would assure that the device was safe and effective. Clearly this case gave credence to the adage, "don't just do something; stand there."

The groups reassembled for presentations of summaries of the breakout groups. Dyro presented the summary of the biomedical engineering breakout group. Among the comments heard in the course of summations were the following: hospitals have been assured by major communications companies that phones and pagers are compliant. The communications group reported that there has not been a great deal of external contact at the William Beaumont Hospitals. There may be an expectation among the neighboring communities that the hospitals will be a safe haven in the event of Y2K disasters. This notion needs to be dispelled and efforts must continue with state and local authorities to identify schools that can serve this purpose. Employees are being told that the hospital is working diligently to avert any disruption in services on account of the calendar change to 2000. A wide variation in response to Y2K initiatives and programs was noted from some 70 different nursing areas.

Contingency planning and utilities readiness followed for the next hour. The group conceded that contingency plans would not be perfect. BSC held a meeting at which all nurse managers were invited to react to utility disruption scenarios. Even though the facility has emergency power, variations exist from one nursing unit to the next. Facilities managers will meet with each individual nursing unit separately to address concerns and assess needs. In the event of electrical, water, or gas power failure, hospital staff must be familiar and competent in manual systems and techniques. Training needs must be identified and addressed. Anticipated staffing must be addressed. Special order items, those items typically held on the floor, must be in house by December. Both MHS and BSC have utilized a wealth of information provided by the US Veteran's Administration. As a public service, the VA has made a Y2K guidebook available free of charge on the department's Internet Home Page at www.va.gov/year2000. Contingency planning efforts ought to include referral to the information contained in this guidebook.

A disaster committee, control center and control manual has been developed at BSC. Much reliance is placed upon ancillary services to determine planning needs. Alternate housing and transportation, for example, were issues raised by staff. Standard evacuation procedures for fire mandate the movement of staff and patients to another area of the hospital. Water supply interruption leading to sanitation and cross contamination would require evacuation from the hospital. For two days, southeastern Michigan can get along with a mere 31 million gallons of water. Concerns were voiced over such disparate items as laundry delivery and isotope supply. One participant said that all isotopes used are produced in Canada thus broadening the geographic

scope to the problem. Many organizations have published contingency planning guidelines. These should be used as a shell and tailored to the specific needs of the organization. All planning must hold the environment of care as the central consideration.

Within MHS, risk management has become increasing more involved with Y2K issues. MHS has appointed a chief of contingency planning. The name and number of key individuals to contact in the event of a problem will be made available. Contacts for all outside providers are being assembled. MHS plans to have problem solvers on the job during the transition from 1999 to 2000. BSC will hold an alcohol-free New Year's Eve party for its staff thus assuring that essential people will be happily under the roof and not under the weather. BSC will staff a situation room but the level of staffing in the room and hospital wide is yet to be determined. Some advocate staffing by all hospital administrators. Others don't want administrators at all.

Expectations for completing the remaining work on schedule were discussed. The MHS central administration is urging the communities to keep the Y2K priority high, this in the face of often conflicting priorities. The overriding question is how will patient care be given if systems go down. Such systems include electricity, water, gas, communications, transportation, security and sanitation. No standard scheme has been devised which will address all hospitals. All departments ought to be asked to assess staffing levels. Some flexibility is needed in the area of human resources. Staff ought to be alerted to the possibility that vacations could get cancelled. One scheme put in place to assure that critical personnel appear when needed entails having the personnel call a particular number. Failure to establish contact by way of that number would be the criterion for going to the hospital. Staff would be given lists of employees to carry with them to facilitate communication. A list of essential items will be distributed to staff. The list would include such items as extra clothing, sleeping bag, flashlights, pillow, hard candies, cell phone, sandwich, candles, and personal hygiene items. Check with back-packers, Girl Scouts and Boy Scouts, and survivalist groups to delve further into the subject of necessary items. At Beaumont, directors, administrators and the chief financial officer will distribute Y2K flashlight gifts to staff called in to weather the storm.

The meeting concluded with a meeting evaluation, each participant giving his or her assessment of the morning. Approval of the organization and conduct of the meeting was unanimous. Benchmarking meetings are helpful. Their importance in the present case was underscored by the attendance at the meeting by top administration officials from William Beaumont Hospital in Royal Oak and William Beaumont Hospital in Troy, Michigan. The next meeting, scheduled for September, will focus on the most important issue at the moment, contingency planning.



ACCE Educational Program 1999 Audio-Teleconferences

Clinical Engineering for the Millennium

Founded in 1991, the American College of Clinical Engineering (ACCE) is committed to enhancing the profession of clinical engineering. With members in the United States and abroad, the ACCE is the only professional society for clinical engineers.

For 1999, ACCE will offer an exciting educational program at a low cost. By participating in an audio-teleconference, you will be able to obtain up-to-date materials without incurring any travel expense or time away from the office. There will be a 1-hour class once a month and a different topic will be covered each class.

Recognized experts in the field are selected to make up the faculty and the topics are the ones requested by our members. In a class the lecture will last for 45 minutes followed by a 15-minute question and answer period.

Classes will be conducted on the third Thursday of each month at 12:00 noon, EST. Continuing education units will be issued by the University of Arkansas for Medical Sciences. For participating in the audio-teleconference you are required to use a phone with a mute button.

The ACCE audio-teleconference is an opportunity to get the clinical/biomedical engineering people in your area together. The teleconference can be a way to start a discussion with your colleagues. The cost can be shared by different institutions paying for each course or they can pool their funds for the series. A larger site might sponsor the course and charge single attendees from other sites.

Course Fees

Each course fee and the series fee are as follows. Four attendees are included in the base cost of each site.

Per course	\$125
Series of 7	\$875
Additional attendees	\$10

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

Payment

Make course registration check payable to **American College of Clinical Engineering**.

Purchase orders and credit cards will also be accepted. VISA and MasterCard will be accepted by providing the account name, account number and expiration date.

Mail Registration to ACCE Course Registration
5104 Randolph Road
North Little Rock, AR 72116

or FAX to 501-771-1775

Information: Call James O. Wear at 501-257-4175

Clinical Engineering for the Millennium

June 17, 1999

Steve Wexler
Chief Biomedical Engineer
Chief Network Office (10NB)
VA Headquarters
810 Vermont Avenue NW
Washington, DC 20420

Y2K Contingency Planning

July 15, 1999

Mike B. Severns, SASHE
Director of Healthcare Technology
Sparling
720 Olive Way, Suite 1100
Seattle, WA 98101-1853

An Integrated Approach to Managing Technology

August 19, 1999

Tim Adams
Clinical Engineer
Bloomington Hospital
P.O. Box 1149
Bloomington, IN 47402-1149

Development of a Customer-Focused Clinical Engineering Team

September 16, 1999

Joseph P. McClain, Ph.D., FASHE
Director Clinical Engineering
Walter Reed Army Medical Center
P.O. Box 59215
Washington, DC 20012-0215

Electromagnetic Interference

October 21, 1999

Yadin David
Director, Biomedical Engineering
Texas Children's Hospital
6621 Fannin Street
Houston, TX 77030-2303

Telemedicine

November 18, 1999

John D. Hughes, MS
Assistant Vice President
Washington Hospital Center
110 Irving Street, NW
Washington, DC 20010-2931

**Critical Skills for the Successful Practice of
Clinical Engineering and Technology Management**

December 16, 1999

Ode R. Keil
Vice President of Safety Management Services
3800 North Wilke Road, Suite 125
Arlington Heights, IL 60004

JCAHO Update

ALASKA OPPORTUNITY!

Come join the largest and fastest growing Clinical Engineering services program in the State of Alaska! With our rapid growth and broad focus on provision of comprehensive health technology management and 24-hour / 7-day support service, if you join our team you're bound for a real Alaska adventure! Our program supports cutting edge technology and provides systems administration for telehealth, telemedicine, and teleradiology networked devices in over 100 rural and Arctic health facilities throughout Alaska.

The Alaska Clinical Engineering Services (ACES) program of the Alaska Native Tribal Health Consortium (ANTHC) is seeking qualified applicants for the following positions:

Clinical Engineer/Manager

Required: M.S. or Ph.D. in Electrical, Biomedical, or Clinical Engineering or ICC Board Certification as a CCE; and 2 years experience in the management of healthcare technology. 1 position.

Biomedical Equipment Technician - Specialists

Required: A.S. or B.S. in Biomedical Equipment technology or ICC Board Certification as a CBET, CRES, or CLES; and proof of specialized training plus 2 years experience in the maintenance, troubleshooting and repair of state-of-the-art diagnostic imaging equipment (ultrasonic or radiographic) in healthcare facilities. 3 positions.

Salary DOE. Position will be direct hire through ANTHC. Alaska Native/Indian Preference will be given in accordance with PL 93-638. For further information contact: Maria Nanouk (907) 729-1302 or Ron Jeanotte (907) 729-1304.

A-143

ADVANCED CLINICAL ENGINEERING WORKSHOP

The American College of Clinical Engineering (ACCE)
The Biomedical Engineering Alliance for Connecticut (BEACON)

Hartford, Connecticut

June 10-12

Trinity College

A workshop providing detailed presentations on management and business practices needed by all clinical engineering managers in today's healthcare environment.

For information regarding registration contact:
Laurie Macfarlane, Program Coordinator, BEACON
Dept. of Engineering, Trinity College
300 Summit St., Hartford, CT 06106

(860) 297-5364, (860) 297-5300 fax, laurie.macfarlane@mail.trincoll.edu



TWO-TIME WINNERS
24X7 Readers' Choice "Best Training Programs"
Imaging Fundamentals Levels I-III

Today's
 Multivendor environment
 demands highly trained
 service professionals.

We make sure
 yours are the
BEST!

- Clinical Laboratory** 
- International Certification**
- CT, MRI, US, Nuclear**
- Specific Product Courses**
- Applied Engineering Diploma**

Call us:
 (440) 519-1555

Fax us:
 (440) 519-1556

E-Mail us:
 ditec@usa.net

Visit us:
 www.ditecnet.com

- Advanced Cath Lab and Special Procedures Maintenance - Level V**
 - Advanced Concepts of Digital Imaging Maintenance - Level IV**
 - Advanced Concepts of Fluoroscopic Imaging Maintenance - Level III**
 - Advanced Concepts of Radiographic Imaging Maintenance - Level II**
 - Fundamentals of Servicing Diagnostic Imaging Systems - Level I**
- DITEC**

State of Ohio Board of Proprietary Schools Registration 94-05-1398T

A-126



ENDOCARESM

137 S. Walnut Circle • Greensboro, NC 27409

Always At Your Best.



For All Your
 Endoscopic Repair Needs.

1.800.477.2673

www.endocare.com

A-142



I've had it up to here with those ACCE members
 who don't send Dyro articles for the ACCE News!

ACCE News

CONCERNED ABOUT BEING OUTSOURCED ?
ARE YOU READY TO EXPAND AND GROW ?

Fisher Consulting Services, Inc.

can assist you in reducing costs while growing your in-house program. Consolidating all outside vendor service contracts (Lab, CT, MRI, Ultrasound, Gamma Camera, facilities, etc.) into one managed program is one sure, proven way to reduce costs, increase your managerial responsibility and pave the way for departmental expansion. Other features include:

Guaranteed cost savings for three years
Reimbursement for in-house labor
Funding of in-house service training/conference expenses
Technical Consultant will provide benchmarking services
Receive discounted OEM labor and parts

Compare our program to all others and see why **Fisher Consulting Services, Inc.** is again one of *Detroit's Top 50 Growth Companies for 1997!*

For further information, call Linda Green
Fisher Consulting Services, Inc., (800) 877-2202.

A-141

Calendar of Events

- DITEC '99, June 2-4, 1999, Cleveland, OH. 440-519-1555.
- 2nd ACCE Symposium The Future of Clinical Engineering, June 5, 1999, Boston, MA. Brian Porras 704-679-5056, 704-527-5223 fax.
- ACCE Annual Meeting, June 8, 1999, Boston, MA. Frank Painter 203-261-3921.
- AAMI Annual Meeting, June 5-9, 1999, Boston, MA.
- ACCE Teleconference, Y2K Contingency Planning, Steve Wexler, June 17, 1999. (see page 14, this issue)
- Eighth Annual National Expert Witness and Litigation Seminar, June 17-18, 1999, Hyannis, MA. SEAK, Inc. 508-457-1111; 508-540-8304 fax; www.seak.com.
- ACCE Teleconference, An Integrated Approach to Managing Technology, Mike B. Stevens, July 15, 1999.
- ACCE Teleconference, Development of a Customer-Focused Clinical Engineering Team, Tim Adams, August 19, 1999.
- 4th Asia-Pacific Conference on Medical and Biological Engineering, Sept. 12-15, 1999, Seoul, Korea, <http://bme.hanyang.ac.kr/APCMBE99>
- ACCE Teleconference, Electromagnetic Interference, Joseph P. McClain, September 16, 1999.
- BUDAMED '99, Sept. 13-15, 1999, Budapest, Hungary. <http://www.fsz.bme.hu>; arato@fsz.bme.hu; (+361) 463 2699; 2204 fax.
- 5th International Conference on Biomedical Engineering, October 17-20, Tianjing, China, yxgch@homeway.com.cn
- ACCE Teleconference, Telemedicine, Yadin David, October 21, 1999.
- EMBEC '99, Nov. 4-7, 1999, Vienna. +43 1 588 04-0, +43 1 586 91 85 fax.
- 19th Annual Northeastern Biomedical Symposium, Nov. 8-10, 1999 Manchester, NH. Info: www.nnesbt.org.
- ACCE Teleconference, Critical Skills for the Successful Practice of Clinical Engineering and Technology Management, John D. Hughes, November 18, 1999.
- ACCE Teleconference, JCAHO Update, Ode R. Keil, December 16, 1999.
- World Congress on Medical Physics and Biomedical Engineering, July 23-28, 2000, Chicago, IL. <http://www.wc2000.org>.

ACCE News

INTERNATIONAL COMMITTEE NEWS

Sam Miller, Chairman, samiller@localnet.com

The ACCE International Committee is wrapping up it's work for this past year, and I wish to personally thank all the core committee members: George Johnston, Tom Judd, Al Levenson and Frank Painter for faithfully attending all the committee meetings and working on the projects undertaken. I hope that they can continue for the coming 1999-00 year. And also thanks to the committee Advisors for their contributions of ideas and help.

Our last committee meeting was held face-to-face at the HealthTech99 Exposition in Baltimore, rather than the usual telephone conference call meeting. All members were able to attend except for Tom Judd, who participated via telephone. Guests in attendance were Robert Morris, Antonio Hernandez, Andrei Issakov, Peter Heimann, Yadin David, Binseng Wang, Elliot Sloane and Alfred Jakniunas.

Al Levenson reported that the ACCE International Brochure project is now complete, and a copy is enclosed with this Newsletter. We wish to thank ECRI for the artwork layout and printing of these brochures, and Al Levenson for working with them to get the job done in time for HealthTech99. Copies will be distributed at the Advanced Clinical Engineering Workshops (ACEW) and other ACCE meetings. Anyone needing copies for distribution can contact Al or myself.

Sam Miller reported that the membership financial aid project and the technical library project were both introduced to the ACCE Board last month, and will soon be presented in detail for Board approval. Watch for the next *ACCE News* for more information on these two projects.

In July 2000, the World Congress on Biomedical Engineering and Medical Physics will be held in Chicago. Thousands of international biomedical engineers and scientists will be attending, and the ACCE is beginning to prepare for this important event. This will be an excellent opportunity for

ACCE members to participate on the international scene with papers, panels, and workshops, Please contact Frank Painter or George Johnston with ideas and abstracts now.

Please excuse me for getting up on my soapbox now, but I couldn't resist taking this opportunity to add some emphasis to the need for us to participate in this World Congress. As our world shrinks and our international circles expand, we here in the U.S. need to take a leadership position and devote more effort into sharing the wealth of information that is out there about medical equipment and clinical engineering. We really have an obligation to work with our counterparts in developed and technologically advanced countries on compatibility standards and information sharing, and more importantly, to work with our counterparts in the developing countries to let them know how to use and care for our more modern equipment as it invades their health care settings. Now is the time!

WEB TRAPPINGS

Bruce Morgan, jmorgan@ibm.net

The following addresses can be used to send e-mail to ACCE Officers and Board Members:

President -----> president@accenet.org
First Vice President ----> vicepresident1@accenet.org
Second Vice President ---> vicepresident2@accenet.org
Secretary -----> secretary@accenet.org
Treasurer -----> treasurer@accenet.org
Past President -----> pastpresident@accenet.org
Advocacy Chair -----> advocacychair@accenet.org
Education Chair -----> educationchair@accenet.org
International Chair -----> internationalchair@accenet.org
Membership Chair -----> membershipchair@accenet.org
Nominations Chair -----> nominationschair@accenet.org
Public Affairs Chair ---> publicaffairschair@accenet.org
Board Member at Large --> memberatlarge1@accenet.org
Board Member at Large --> memberatlarge2@accenet.org
Board Member at Large --> memberatlarge3@accenet.org
Board Member at Large --> memberatlarge4@accenet.org
AAMI Liaison -----> aamiliason@accenet.org
ASHE/AIMBE Liaison ----->
ashe/aimbeliaison@accenet.org
ICC Liaison -----> iccliason@accenet.org
IFMBE Liaison -----> ifmbeliason@accenet.org
Newsletter Editor -----> editor@accenet.org
Webmaster -----> webmaster@accenet.org

If you experience any difficulty in using any of these e-mail addresses, please notify the webmaster.



ACCE News



ACCE products

- Guidelines for Medical Equipment Donations.....\$25
- 1997-98 Membership Directory\$25
- CE Study Guide:
 - Book.....\$70
 - Disk\$90
 - Book & Disk.....\$150
- CE Definition Plaque.....\$40
- Code of Ethics Plaque\$40
- Lapel Pin\$8

- Teleconference Audio Tapes (incl. handouts)\$30
 - Business Planning Simplified, Tom Zdon
 - Implementing CQI in a Cost-Conscious Environment - Lana Berry
 - Perspectives from a CE in Managed Care: Where is our Role in Healthcare Headed? - Tom Judd
 - Breakthrough Management - Gailord Gordon
 - Incident and Accident Investigations - Marvin Shepard
 - Benchmarking - Robert Stiefel
 - Cost of Ownership/Cost Effectiveness of Service Support - Denise M. Axelrod-Kahn
 - Tools for Technology Managers: Strategic Technology Planning - Yadin David, Ph.D.
 - Medical Equipment Service Contract Management - David Simmons

To order, contact us directly...

(206) 232-3766

url: morsemed.com

em: info@morsemed.com

9311 S.E. 36th St. #209

Mercer Island, WA 98040



ACCE Monogram Clothing

- Your Clothing Item.....\$20
- Polo Shirt (sm, m, l, xl: white)\$40
- Sweatshirt (sm, m, l, xl: white)\$40
- Hat\$25