Our new mission statement on the NEHES Website reads: "To optimize NEHES members’ professional development in providing the safest, efficient, and most welcoming healthcare environment possible.”

In the scope of today’s healthcare, a network that can be complicated to the consumer and to providers alike, we create the healing environment.

For everything from the way the building looks to the signage that directs patients to our facilities, we are at the forefront. The comfort and safety of patients while visiting our facility falls at our doorstep. As the old saying goes, “The Buck Stops Here!”

The sounds, sights, smells, comfort, tastes and touch in our facilities all become a part of the healthcare experience for patients and guests. In fact, we are vigorously evaluated on these items. How many of you have seen patient experience surveys with concerns about food, sounds in the hallway, the level of light in common areas and rooms, and the extremes of temperature control? Oftentimes, these experiences get more scrutiny from patients than do the medical and clinical treatments provided.

And while we could not function without our medical and nursing staffs, our specialties of clinical expertise, and our array of professions that support the healthcare system, we are leaders for “Engineering the Healing Environment.” It is a mighty task and one that challenges us every day.

- 7:00 AM Registration, Continental Breakfast, and Technical Exhibits
- 8:00 AM – 8:30 AM Welcome and Past President Recognition by Paul Cantrell, NEHES President 2015.
- 8:30 AM – 9:45 AM How Proper Fire Protection System Design Can Improve Patient Experience and HCAHPS.
- 9:45 AM – 11:00 AM Technical Exhibits
- 11:00 AM – 12:00 PM Operating Room Humidity and Smoke Purge, NFPA 99 And Code Development
- 12:00 PM – 1:15 PM Lunch, Technical Exhibits, and Raffle Drawings
- 1:15 PM – 2:15 PM Supporting Member Town Hall Meeting
- 2:15 PM – 3:45 PM Ventilation Controls and Life Safety Interface

The Healing Environment in a room at Concord (NH) Hospital. Paul Cantrell, NEHES President, is Director of Facility Operations.
How Proper Fire Protection System Design Can Improve Patient Experience and HCAHPS

HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Suppliers survey) measures a patient’s perception of their inpatient hospital stay. The results of the survey are publicly available on the hospital website and impact hospital reimbursement rates as well as a facility’s reputation.

Noise in the hospital scores the lowest on the HCAHPS surveys, according to data from Press Ganey® (2014).

How can the proper design of fire alarm systems, which are intentionally loud but also necessary as a life safety system, impact noise reduction in hospitals?

Design standards require a minimum level of audibility and systems are required by NFPA® 72 to be tested at least annually, and in most cases the fire alarm system is to be activated during fire drills. However, proper design and installation can reduce nuisance alarms and can minimize the noise associated with system activation, mandatory testing, and drills.

- **William E. Koffel**, PE, FSFPE, President of Koffel Associates in Quincy, MA
- **Lynn Kenney**, Senior Analyst, Advocacy Team, ASHE, Chicago, IL

Operating Room Humidity and Smoke Purger, NFPA 99 and Code Development

The 2012 edition of NFPA 99 revised the requirement to maintain a 35 percent minimum relative humidity (RH) level in operating rooms. Based in part on research from the National Institutes of Health and a change to ANSI/ASHRAE/ASHE Standard 170, Ventilation of Health Care Facilities, the value was lowered to allow a 20 percent minimum RH.

Concerns over this lower level have been raised by the Association for the Advancement of Medical Instrumentation (AAMI) about the lower RH levels. The 2012 edition of NFPA 99 also removed a longstanding requirement that ventilation systems for operating rooms be capable of automatically venting smoke and other products of combustion.

Despite this, CMS has proposed to retain this smoke venting requirement when they adopt the 2012 edition of NFPA 99.

The NFPA code revision process will also be reviewed and will cover how Healthcare Engineers can contribute to changes in the NFPA codes, including 90A, 99, and 101, that you must work with on a daily basis.

- **Jon Hart**, PE-NFPA, Quincy, MA

Facilities Preparation—A Non-Ebola Designated Hospital

A case study of the preparation and response of facilities management administration to patient presentation with Ebola like symptoms.

Presentation includes discussion of issues and locations where patients can present and what response to consider when developing protocol for response.

Areas addressed to include Employee Health and Personnel Protective Equipment, impact on EBS staffing, Logistics and the administration of Diagnostic Services.

- **Gary Valcourt**, Associate Vice President of Capital Planning & Facilities, UMass Memorial Healthcare
- **Kenneth Lebetken**, Manager of Environmental Health & Safety, UMass Memorial Healthcare
- **John Jepsen**, Director of Housekeeping Services, UMass Memorial Healthcare

Ventilation Controls and Life Safety Interface

Will fire alarm system activation ruin HVAC infection control efforts and if so are there Code allowed options to avoid that?

We will provide a summary of how fire protection and alarm systems interface with HVAC and ventilation rates.

Information will be presented relating to smoke control, fume hoods, operating suites, and the impact of system interface.

The requirements of NFPA 90A will be highlighted along with recommendations as to how Facility Managers can effectively manage controls and fire alarm system programming for better system performance.

- **Gene Cable**, PE, MSFPE, Life Safety Consultant, Albany, NY
- **Randy Hussey**, CHFM, CFPS Fire Protection Engineer Eastern Maine Medical Center Bangor, ME

***Spring Seminar Bonus***

As part of the conference registration, every attendee will receive a complimentary copy of Standard 170-2013 -- Ventilation of Health Care Facilities (ANSI/ASHRAE/ASHE Approved) This is a $58 value! ANSI/ASHRAE/ASHE Standard 170 offers guidance, regulation, and mandates to designers of health care facilities. This revised 2013 edition incorporates 24 addenda issued since 2008. It reflects current trends in health care facility design and has been updated to reflect changes to health care design references such as the Guidelines for Design and Construction of Health Care Facilities, published by the Facility Guidelines Institute.

Ventilation design for health care spaces is a combination of tasks that leads to a set of documents used in construction. One such task requires medical planners to develop departmental programs of spaces. These programs include space names that suggest the use for which the space is intended, and health care ventilation designers depend upon these names to determine the ventilation parameters for their designs. This standard provides these ventilation parameters.
Winter has finally shown its ugly head and we have all been battling the forces of nature and the backlash the storms offer. I have heard from some of our members, that they had to go into incident command for four days to deal with one of the storms. This is one of the main reasons why we prepare and why we practice.

It wasn’t too long ago that some facility engineers were to the sidelines and would say “We live in New England, deal with it!” Instead, we are more prepared and are no longer reactionary to an event like this. We now have the capabilities to withstand long events and are able to do this, in part, because CMS, via The Joint Commission, and DNV, mandated healthcare institutions to produce “plans” to deal with long term interruptions in service (i.e. natural and man-made disasters). They made us practice these plans, made sure we looked for breaking points in our planning, and made sure we identified opportunities for improvements.

If we look back at when the real initiatives for preparedness started, there were many that said it was too hard, or ridiculous to have to put something in writing.

We complained that we couldn’t operate like that. We claimed that we knew what to do and who to call when faced with emergencies.

Today, we look back and say how grateful we are for the hard work that has been done to prepare us for these times of need. We know that it isn’t just about relying on one person’s experience or memory when disaster strikes. Today, we are prepared and ready!

All of the standards that we are held to have been in place in one form or another for a long time. Too often, we easily forget about them or we panic when the regulatory agencies ask us to document our compliance with them. We have all felt the pressure when a surveyor pushes for more documentation. It is not good enough that we say we did something, we have to document it and show that we did it.

It is at these times, when I’m most thankful that my NEHES membership has paid for itself many times over. We need to know what the pulse of the surveyors is for a particular year. We need to know about the codes and how they should be interpreted. We need to know how to document that we have complied with the codes. This is the time when NEHES has always come through for me.

We need to keep our staff engaged, educated, and aligned with the numerous codes and regulations that mandate the work that we do. It is a complex system that changes, almost daily. Remember that your staff has skills and knowledge that can improve your organization. They deserve to have the best education and current information available to give them the tools to excel. That is where I recommend NEHES membership.

I have personally seen to it that the appropriate staff have become members of NEHES because there is so much to learn from its educational sessions and networking at events.

For only $35 a year, your staff has access to skilled experts in our profession. The information is timely and geared to solving problems that they encounter every day. I would conclude that a NEHES membership is the best $35 you can spend in 2015. Look around at your staff. See who would benefit most from NEHES. Take the time to identify and empower them with a NEHES membership today. I guarantee they will thank you for the opportunity.

Paul Cantrell, CE, CPE, CHFM
Director of Facility Operations
Concord Hospital
Concord, NH
2015 NEHES President

52nd ASHE Annual Conference – July 12-15, 2015—Boston

The New England Healthcare Engineers’ Society will take center stage as it takes on the role of host chapter to the ASHE Annual Conference in Boston. More than 3,000 professionals gather on-site to get vital information on health care compliance, codes and standards updates, emerging trends, and best practices for efficiency, sustainability, emergency preparedness, and other pressing topics in the field.

If you’ve ever wanted to attend a national conference, this might be your best opportunity as the conference will take place at the John B. Hynes Veterans Memorial Convention Center, only minutes away from the finish line for the time honored Boston Marathon.

There will be plenty of opportunities for education, networking, socializing and taking a moment or two to honor the healthcare engineering profession. Education credits are also available through ASHE with the awarding of continuing education units and contact hours.

The vendor display area usually has an average of 320 exhibitors with information about products and services of interest to healthcare engineers and facility managers. As the host chapter, NEHES will be heading up a few events and booths:

• Community Service Project on Saturday before the conference - Project will include working with Habitat for Humanity.
• Chapter Leadership Forum will be led by Ron Vachon, Randy Hussey, Paul Cantrell and others.
• NEHES Information Booth and Hospitality Suite— We will need volunteers to help staff these locations. If you are interested in volunteering, contact Paul Cantrell at pcantrell@crhc.org. Watch for ASHE Annual Conference updates on the NEHES website.

The ASHE Annual Conference and Technical Exhibition is the trusted national conference and trade show for healthcare facility management and engineering professionals. This year’s event is slated for July 12-15 here in New England in Boston.
ASHE Advocacy highway remains a two-way communication street between ASHE and Chapter advocacy liaisons. The goal is to support communication, and improve advocacy efforts at the national, state and local level. ASHE provides many practical tools and resources to empower chapter advocacy liaisons.

Last year was busy and ASHE actively pursued the following:

- A Barrier Management Symposium
- Re-locatable power tap waiver from CMS
- Commented on the CMS proposed rules for emergency preparedness and adoption of the 2012 editions of NFPA 101, AND 99. FGI adoption efforts, proposals by the ICC to unify code requirements and ASHRAE Addenda.
- ASHE was represented at AAMI, Power for Patients, NFPA, ASHRAE, and the ICC.

Items on the docket for 2015 include:

- Working with TJC to clarify Utility Management Inventory requirements,
- Collecting data from 12 hospitals on utility equipment repair to produce a monograph with valuable data for Facility Managers.
- Working with local chapters to adopt the 2014 edition of the FGI to avoid different states working with different revisions of the FGI.
- An NFPA 99 Risk Assessment tool has been created by ASHE for the 2012 edition of NFPA 99 (Health Care Facilities Code).

There will be a PDC summit March 15-18, 2015 in San Antonio, Texas focused on innovation that will be key for preparing hospitals for the future. The Keynote Speaker will be Tom Kelley, author of Creative Confidence, The Art of Innovation and The Ten Faces of Innovation will be first on the agenda along with regulatory Issues covering topics such as Cost Effective Life Safety Compliance Tracks.

On January 29, 2015 there was a tragic explosion at a hospital in Mexico. It is a reminder for all hospitals to remain vigilant about issues related to flammable materials.

ASHE suggests that members revisit their policies and procedures regarding flammable gas delivery and storage, conduct a self-assessment of potential dangers, and mitigate appropriately. As a reminder, U.S. hospitals are bound by several regulations:

- NFPA 50: Standard for Bulk Oxygen Systems at Consumer Sites
- NFPA 54: National Fuel Gas Code
- NFPA 58: Liquefied Petroleum Gas Code
- NFPA 99: Health Care Facilities Code, including Chapter 5: Gas and Vacuum Systems

You can expect more information on Advocacy in the next quarterly NEHES newsletter. We expect to participate in a teleconference with ASHE on March 24, 2015. George Mills from The Joint Commission will clarify Utility Systems Inventory Requirements for Hospitals.

Do you have an advocacy question or comment? To reach Randy Hussey, call 207-973-7037 or email rhussey@emh.org.

New and Renewing NEHES Members— Join or Renew Today

Massachusetts

Marie Burnham, Director of Engineering Mount Auburn Hospital Cambridge, MA

Scott Curran, Security Manager Beverly Hospital Beverly, MA

Matthew Davy, Senior Engineer, Arup Cambridge, MA

Brian Glennon, Manufacturers Representative Wyllie Marketing Weymouth, MA

Jonathan Gyory, Principal Levi + Wong Design Associates, Inc. Concord, MA

Greg Heppner, Senior Associate TRO/JB Boston, MA


Scott LeClair, Principal Fitzemeyer & Tocci Associates, Inc. Woburn, MA

Mark Robinson, Carpentry & Paint Supervisor

Tufts Medical Center Boston, MA

Eric Russo, Water Treatment Engineer DuBois Chemicals, Medford, MA

Maine

Randall B. Charpentier, Principal Consultant HealthSafe New England Topsham, ME

Bob Davis, Manager Mech/Elect Maine Medical Center, Portland, ME

Leslie Gammon, Director of Plant Operations/Security Stephens Memorial Hospital Norway, ME

Joshua Hazelton, Regulatory & Compliance Maine Medical Center, Portland, ME

Chris MacKenzie, EVP Sales and Marketing STARC Systems LLC Brunswick, ME

Terry Robbins, Director, Facilities Development & Engineering Maine Medical Center, Portland, ME

New Hampshire

Ron Bourgoin, Maintenance Mechanic Concord Hospital Concord, NH

Paul Jappe,Technical Manager Viega LLC Atkinson, NH

Richard Saunders, Electrician Concord Hospital Concord, NH

Anthony Giglio, Sr. Project Executive Gilbane Building Company Bedford, NH

Connecticut

Tom Morisette, After Market Sales Manager The Kinsley Group East Granby, CT

Dean Petow, Commercial Industrial Sales Manager Santa Buckley Energy, Inc. Bridgeport, CT
While we all appreciate the recognition we receive at our individual facilities, one of the highest honors comes from the New England Healthcare Engineers’ Society when they designate a member as Engineer of the Year.

Nominations are now being accepted with a final deadline on May 31, 2015. The 20th NEHES Engineer of the Year award will be presented to a NEHES Active member who has distinguished himself/herself in service to the Society and the healthcare engineering profession.

Distinguishing qualities may include service to their institution, their chapter, fellow engineers, and the Society as a whole.

The successful candidate will be announced during the NEHES Fall Conference to be held in Newport, Rhode Island from September 27 to 30. Please take a moment to review and download the nomination forms>> and nominate a deserving candidate for acknowledgement as the next NEHES Engineer of the Year.

Completed nominations and supporting documents can be mailed or emailed to:

Jona Roberts
Dartmouth-Hitchcock Medical Center
1 Medical Center Drive
Lebanon, NH 03756
jona.roberts@hitchcock.org

Past Engineers of the Year are:

1996 - Mark Cappello
1997 - Tom O’Sullivan
1998 - Jack Gosselin, SASHE, CHFM
1999 - Steve Cutter, SASHE, CHFM, MBA, HFDP
2000 - Joe Mona
2001 - Mark English, CCE, SASHE, CHFM
2002 - Don Garrison, SASHE, CHFM
2003 - Gene Cable, P.E., MSFPE
2004 - Ron Vachon, SASHE, CHFM, CHEC
2005 - Joe Mona
2006 - Bob Lord
2007 - Steve Jalowiec, P.E., CHFM
2008 - Fred Leffingwell, CHFM
2009 - Dave Dagenais, SASHE, CHFM, CHSP
2010 - Ed Lydon, SASHE, CHFM
2011 - Jona Roberts, SASHE, CHFM
2012 - Mitt Dudley, CPE, CHFM, CHEC
2013—Ron Vachon, SASHE, CHFM, CHEC

Ron Vachon
Engineer of the Year

Ron Vachon CHFM, SASHE, CHEC, Director of Plant Operations at St. Mary’s Health System in Lewiston, Maine was honored at the 2014 NEHES Fall Conference as the Engineer of the Year. The award honors exceptional service to the healthcare engineering profession.

In making the award, NEHES President Ed Lydon, SASHE, CHFM, said, “Healthcare institutions throughout New England see the fine work of our members every day. Today, we honor key individuals for their contributions.” Vachon serves on the NEHES Board as Chair of the NEHES Newsletter and Website.

NEHES Receives Platinum Affiliation—ASHE Introducing Elite Status

NEHES has once again attained the highest level of chapter affiliation awarded by ASHE—the Platinum Level for 2013.

ASHE is introducing a new option for chapters that participate in the Chapter Levels of Affiliation Award program. Elite status will be granted to chapters that are actively involved with Energy to Care, ASHE’s energy benchmarking and awards program that encourages facilities to reduce operational costs through energy savings.

The original chapter awards program remains unchanged. This bonus elite program encourages energy awareness and urges facilities to monitor their energy use to save money that can be used to improve patient care.

Elite status is not an additional level of affiliation award, but rather a bonus to each of the platinum, gold, silver, and bronze awards. For example, a gold level chapter could earn a “gold elite” chapter award by meeting the Energy to Care requirements. A bronze chapter that meets the elite criteria would earn a “bronze elite” chapter award.

This new elite option requires baseline information that must be gathered before the status can be awarded. Therefore, the elite status will not be available to chapters until 2016.

Chapters aiming for elite status in 2016—the first year the award will be granted—must provide the following information during 2015 to meet preliminary requirements for the 2016 award cycle.

• The chapter must report to ASHE the total number of chapter hospitals and the number that are participating in the Energy to Care program. This will give ASHE the baseline information required to measure a chapter’s participation improvement in 2016.
• The chapter’s board must vote to become an Ally of the Sustainability Roadmap.
• The chapter must appoint a sustainability liaison, who must participate in four quarterly conference calls over the course of the year.

Elite award winners will receive a special plaque acknowledging the chapter’s accomplishment and will be recognized nationally as outstanding leaders in sustainability.

When asked if NEHES will be seeking out the Elite designation, Administrative Director, Jack Gosselin would only say, “Of course. It was “built” for NEHES,” pointing out the chapter’s long history of excellence and achievement.
2015 Meeting Schedule (tentative):
Meeting place: NHHA – New Hampshire Hospital Association, Airport Road, in Concord, NH

- January -LED for General Illumination by Howard Weinberg. NHHA, Concord, NH
- February 20th -Mark Fournier BMOCS Building Maintenance Operations Coordinate Systems. NHHA, Concord, NH
- March 20th – Spring Seminar Leominster, MA
- April 17th – Healthier Hospital Initiatives-Eتخراج Sustainability into our Culture. NHHA Concord, NH
- May 15th- SMRT-Joe Bean-Energy Conservation. Venue open
- June 19th- American Plant Maintenance, Steam Trap Program. NHHA Concord, NH
- August 6th- Twin-State Seminar. DHMC Lebanon, NH
- August 21st – NHSHFM Summer Ousting
- September 27th – 30th Fall Conference in Newport RI at the Newport Marriott
- October 16th – Lean Thinking with Nick Massey. NHHA Concord, NH
- November 20th – ASHRAE 188 and Water Management by Steve Cutter.
- December 12 – NHSHFM annual planning meeting

President: Tim Bishop, Director of Facilities, Riverwoods at Exeter – tbishop@riverwoodsrc.org
Vice President: Greg Heilly, Maintenance Operations Supervisor, Dartmouth Hitchcock Manchester Gregory.E.DHeilly@Hitchcock.org
Secretary: Marc Tetreau mtetreau@crotail.com
Treasurer: Marcel Alix, Supervisor of Engineering, Monadnock Community Hospital –marcel.alix@mchmail.org
NEHES Rep: Peter Girard, Director of Maintenance, Granite Ledges – peter.girard@genesishcc.com
NEHES Alt Rep: Scott Lever, Utilities Manager, Southern New Hampshire Medical Center- Scott.lever@snhhs.org

2015 Meeting Schedule in MA

- January 2015
  New Bedford Rehabilitation Hospital Energy Markets 101, Options and Opportunities
- Friday, March 20, 2015 Working Lunch at the Spring Seminar at Leominster
- Thursday, April 16, 2015 Educational Session and Business Meeting

TSIG will be presenting an educational component at Spaulding Hospital, Cambridge, Mass.

- July 12 – July 15, 2015 ASHE Conference – No Chapter Meeting
- September 27 – September 30, 2015 NEHES Fall Conference
  Newport, RI
  A business meeting will be conducted, venue to be determined later
- November, Venue: TBD Election of Officers

President: Rod Maxwell, Facilities Manager, Engineering Dept., Spaulding Hospital RDmaxwell@partners.org
Secretary: Corey McNulty, Director of Plant Operations, New Bedford Rehabilitation Hospital CMcnulty@newbedfordrehab.com
Treasurer: Dave Fowler, Senior Director- Support Services, Anna Jacques Hospital, DFowler@ajh.org
Chapter Representative: William Smith, Director of Plant Operations/Telecommunications-Winchester Hospital- bsmith@winhosp.org

Maine Healthcare Engineer’s Society

Maine Healthcare Engineer’s Society
January 2015
SMRT Portland, Maine

- Engineer’s meeting – 16 engineers present
- Presentation – CHP Concept – How it applies to different size facilities and how Efficiency Maine can help fund these projects. By Michael Chonko and Bill Heil – SMRT & Ian Burns from Efficiency Maine.
- Maine will host the 2016 NEHES Spring Conference.
- Chris Henderson will send 2015 presentation topics out so the group can vote on what will be presented.
- Milt Dudley suggested providing a MEHES shirt to all active members.
- Steve Jones from Building Envelope Specialties in South Portland, ME announced that his company had purchased a drone for building inspections.
- Next Meeting at WBRC – Bangor, ME

President: Chris Henderson, Facilities Operations Manager, Acadia Hospital, Bangor, ME chenderson@emh.org
Chapter Representative: Dan Bickford, Director of Engineering, Central Maine Medical Center, Lewiston, ME bickfoda@cmhc.org
Snow Loads on Roofs—Tips from Gale Associates, Inc—Weymouth, MA

With the considerable snowfall that New England has been experiencing these past few weeks, it is important that building owners and managers pay close attention to their roofs to avoid collapse. Roof snow loads are based upon various factors including the regional ground snow load, exposure factor of the building, and whether the building is heated, insulated, and/or occupied. Additional factors, such as geometry of the roof, pitch, roof covering, and unbalanced loading, also affect the design snow loads. Drifting can occur on roofs adjacent to rising walls, at roof projections or adjacent buildings, including those created by building additions or modifications.

To monitor and help safeguard against excessive snow overload of roof structures, building owners and managers may wish to consider performing the following steps:

- Check the original design documents to determine if the roof was properly designed.
- Review subsequent renovation/ modification drawings for conditions that could result in additional loading as a result of ponded water and drifting snow.
- Verify roof drainage capacity and the existing drains/scuppers are not frozen, which can impede the drainage from the roof. If necessary, snake out the drains.
- Observe the interior of the roof structure for potential deflections.
- Determine a safe depth of snow for the roof in general and some specific drifting areas. Monitor the roof during heavy snowstorms to check that these depths are not exceeded.
- Develop a snow removal plan.
- Free-standing canopies, attached canopies, and overhangs are especially susceptible to excessive loading of snow; keep the areas beneath clear.

Insulated Concrete Forms Create Costs Savings —Tips from MorrisSwitzer–Environments for Health and Consigli Construction Co.

The newly opened medical office building for St. Joseph Healthcare in Bangor, ME is one of the largest commercial buildings in the state to use Insulated Concrete Forms (ICF) in construction. To support their sustainability goals, this high performance exterior wall system was integrated into the building design offering energy reduction and cost savings. The building was designed for patient convenience, confidentiality, and for clinical efficiency. Integrating ICF into the construction increased sound dampening; adding to patient privacy. Exterior cladding was also attached directly to the walls saving construction time and creating flexibility in the exterior design.

These sandwich-like forms made of polystyrene foam and concrete, create a tight seal against extreme temperatures. Use of the ICF and translucent window glazing allowed this building to incorporate large skylights and picture windows, while still realizing a savings of over $10,000 a year in energy costs. ICF also allowed for significant reduction in the capacity of the heating/cooling systems which saved about $70,000 in construction costs.
Dann Boyer—There’s Healthcare Engineering in his DNA
Third Generation Healthcare Engineer

By Dan Marois, NEHES Newsletter Editor, Mainely Communications

You might say that NEHES member, Dann Boyer has healthcare engineering in his DNA. He is a third generation family member working in the profession.

His grandfather, Joe Boyer aka “Blackie” was the Buildings and Grounds Superintendent at Truesdale Hospital in Fall River, Mass.

His uncle, Ed Boyer, enjoyed a 45 year career in healthcare engineering that began at Truesdale Hospital, then Union-Truesdale after a merger, then it became Charlton Memorial where he was Director of Buildings and Grounds. Ed was active in NEHES and served as President of the organization in 1989.

Dann’s father, Kenneth Boyer started his career at Truesdale Hospital and was with them in the merger as Union-Truesdale. He went on to Women & Infants Hospital as Director of Building and Grounds, was later Clerk of the Works at Sturdy Hospital in Attleboro, Boyer is already accomplished in his profession.

He’s been a NEHES and ASHE member and earned his CHFM certification last year. He’s worked his way up the ladder starting as a Watch Engineer in the Boiler Room to his current position as Director.

The 44 year old has already enjoyed a 22 year career in the profession. He earned his associate degree in Mechanical Engineering Technology last year from Bristol Community College. He is currently enrolled in the healthcare studies program offered through NEHES at Champlain College in Burlington, VT.

Boyer explains that his grandfather’s invention caught the attention of the US Government and he was asked to go to the Newport Ship Yard. That’s how his career took him to the hospital locations where he eventually worked.

“Being part of NEHES and ASHE is vital to staying current in the regulatory environment,” said Dann, noting that he thought it important to earn his CHFM to help in his personal development.

Boyer has been married for 22 years and has three daughters, one age 20 and twins age 11. Does he think there will be another generation of healthcare engineers with the Boyer name?

“I don’t know!” said Boyer. “One of the twins likes math and science.”

Nominations for ASHE Emerging Leader

It’s time once again to be thinking about nominating someone that is making a difference, through their leadership, within the New England Healthcare Engineers’ Society or an affiliated state chapter.

The Emerging Regional Leader Award recognizes one individual from each of the ten regional areas in the US. The award recognizes individuals for their demonstrated leadership skills, exemplary commitment to their local chapter, as well and their contributions to ASHE and/or the healthcare profession.

It is important that candidates be nominated in time to complete all the submission requirements before the ASHE deadline of March 2, 2015.

To get the ball rolling for your deserving candidate, take a look at the ASHE application materials, and then contact Jona Roberts at jona.roberts@hitchcock.org before February 25, 2015 with your nomination.

All nominations submitted to NEHES will be evaluated and a finalist will be selected as the NEHES endorsed candidate from ASHE Region 1.

Nominations should include individuals who are new and future leaders in the field of healthcare engineering and/or facility management, who have demonstrated leadership ability either through work with ASHE, their local chapter or within their healthcare facility.

Previous winners of the Emerging Leader Award have included:

2012 Jona Roberts, SASHE, CHFM
2011 Ed Lydon, SASHE, CHFM, MSHCM
2009 Steve Jalowiec, P.E., CHFM
2008 Dawn LeBaron
2007 Dave Dagenais, SASHE, CHFM, CHSP
2006 Joseph C Mona
2005 Kevin J. Keating
2003 Dawn LeBaron
2002 Ron Vachon, CHFM, SASHE
2001 Steve Jalowiec, P.E., CHFM
Milt Dudley, CPE, CHFM, CHEC
Director of Engineering
Inland Hospital
2015 NEHES Education Chair

One of the best benefits of NEHES membership is the opportunity to advance your education in the healthcare engineering field. Whether it is attending our annual education conferences, networking with your peers, or registering for special opportunities, there is education and potential advancement at ever turn. Here are just a few of the opportunities I’d like to highlight.

- **Active Member Scholarship Application**
  NEHES can help cover the cost of college courses through its Active Member Scholarship Program.
  Active Member is defined as those individuals who are directly employed in or by healthcare-related facilities (those that provide patient care), and who have responsibility in healthcare facility operations (e.g. facilities management, plant engineering, planning/design/construction, security, safety, clinical engineering, and telecommunications.
  Applications are now being accepted and can be completed throughout the year. Scholarships shall be awarded on a rolling basis until all funds have been allocated. The maximum that may be awarded each year for an active member scholarship is $2,000.
  Applications begin by providing the following information:
  - Name, Title, Current Employer, Employer Address, Tenure with Current Employer, Years worked in Healthcare, Current level of education, Degree / Educational Program (enrolled or planned)
  More detailed info can be found at [Scholarship Application](#).

- **Intern Scholarship Application**
  The Intern Scholarship shall be awarded to an intern working for an Active Member’s institution. The goal of the program is to introduce an intern to the field of healthcare engineering in hopes of recruiting them into the profession.
  Applications are accepted anytime between January 1 and April 15 for consideration this year.
  The proposals will include detailed information about the Active Member’s institution and the scope and range of the work to be completed and the qualifications for a student intern.
  Intern Scholarships shall be awarded on a rolling basis until all funds have been allocated. Intern Scholarship awards are up to $5000.
  More detailed info can be found at [Intern Scholarship](#).

- **Partnership with Champlain College—Burlington, VT**
  If you are looking for an online educational program that’s affordable and can meet your educational goals, you might want to consider the partnership that NEHES has with Champlain College in Burlington, VT.
  The program is called truED® and it offers both Bachelors and Masters degrees as well as undergraduate and graduate certificate programs.
  truED® is the innovative solution Champlain College has developed to provide high-quality, in-demand online education at a fraction of the cost of traditional college tuition; creating a pathway to access debt-free bachelor’s degrees, master’s degrees, and certificates.
  The Champlain Approach includes:
  - Coursework entirely online. (Some programs have residency requirements.)
  - Competency-based learning: maximize credits and experience
  - Practitioner-taught courses relevant to current practices
  - Emphasis on technical knowledge and in-demand soft skills including problem solving & critical thinking, communication & collaboration, and adaptability & creativity.
  Degree programs have various payment options and offer degrees at substantial discounts.
  For more information, go to [Champlain College/ NEHES Program](#).

- **Owensboro Community and Technical College**
  Offering an Associate Degree specific to Healthcare Facilities Leadership, this program is available entirely online and in-state tuition is charged regardless of where the student resides.
  This program was developed in collaboration with the American Society for Healthcare Engineering (ASHE) and the Kentucky Society of Healthcare Engineers (KSHE).
  [Mark Robinson, from Tufts Medical Center, is enrolled in the Owensboro Program.](#)
  If you are working in healthcare facilities management or you’d like to be part of this exciting and rewarding field, OCTC’s Healthcare Facilities Leadership Program could be for you. The program is convenient and affordable.
  This program can help you take the next step in your career by preparing you to take the American Hospital Association’s Certified Healthcare Facilities Management exam. Graduates may transfer credits to work toward bachelor’s degrees.
  For information, go to [Owensboro Program](#).
Memorial Hospital in North Conway, New Hampshire

A Case Study on Renewable Fuel Oil

Greg Gosselin
Northeast Regional Sales Manager
Ensyn Fuels, Inc.
Woodstock, VT

Burning fuel oil in heating applications can be problematic due to Sox, NOx and particulate emissions. In addition, the carbon footprint from burning fossil fuels is high. Memorial Hospital, a critical access, acute care hospital located in North Conway, NH faced the challenge of finding an alternative to #4 fuel oil. After investigating options ranging from solid biomass to compressed natural gas, Memorial Hospital turned to Ensyn Fuels as the fuel that met their goals of reducing costs while improving their carbon footprint.

RFO—A Renewable Solution

Renewable Fuel Oil (RFO)

RFO is manufactured using Ensyn’s RTP process. RTP is a thermal conversion process known as fast pyrolysis, which is the rapid heating of biomass in the absence of oxygen. The process utilizes a circulating transported bed reactor system in which sized and dried biomass is contacted with circulating hot sand in the reactor. The pyrolytic vapor is rapidly quenched to produce a high yield of liquid fuel.

Conversion Process

In most cases, RFO can utilize the existing equipment post combustion. However, due to the slightly acidic nature of RFO, the pre-combustion fuel train must be constructed of stainless steel.

At Memorial Hospital, a 15,000 gallon above ground storage tank was installed for fuel storage. A separate stainless steel fuel circulation system was installed for the circulation and delivery of RFO to the burners. Due to space limitations at Memorial Hospital, the pump system was built on-site.

For future installations, it is intended for the pump systems to be delivered skid mounted for quick and easy installation. In most cases, a boiler that burns fuel oil, natural gas or propane can be converted to burn RFO. For the installation at Memorial Hospital, Cleaver Brooks designed a drop-in burner that fit seamlessly with the boiler. This burner is capable of burning both RFO and #4 fuel oil giving Memorial Hospital a fuel redundancy that did not exist prior to the conversion to RFO.

Emissions From the Combustion of RFO

RFO is a truly renewable fuel that is produced on a sustainable basis. It is produced from biomass that grows in the short-term so when it is burned it is considered CO2 neutral. This has a positive impact in reducing net greenhouse gases in our atmosphere. Specifically, as a substitute for fossil fuel oil in burner applications, RFO reduces total greenhouse gases by over 85%. At Memorial Hospital, the gross measured emissions will be reduced by 68% which also means that the emissions taxes paid to the State of NH will also be reduced by 68%. The majority of the reduction in emissions comes from the reduction in SO2. Soot blowers were installed at Memorial Hospital to address concerns about ash buildup in the boiler tubes. Because of this, the PM number at Memorial is higher than it would be in the absence of soot blowers.

Memorial Hospital Cost Savings

During calendar year 2013, Memorial Hospital burned approximately 140,000 gallons of #4 oil. Memorial is saving approximately 37% over the cost of oil during the 2013-14 heating season. The entire conversion cost is included in the price of RFO, so the savings are realized immediately because there was no capital required from Memorial Hospital.

For more info, ggosselin@ensyn.com.
New healthcare campuses spread ever outward as needs for space arise, but administrators of most older buildings don’t have that luxury. Often, subsequent additions of hospital wings, parking garages and the like have left older facilities hemmed in to the point where adding on — or up — becomes cost-prohibitive. An added difficulty is the need for most healthcare facilities to remain operational throughout a construction and renovation.

As a design firm that has helped a number of healthcare facilities overcome these issues, we know how much advanced planning is necessary. We’ve also found that a lot of cooperation from hospital administrators and staff is vital — and a little luck helps, too.

The new joint replacement center at Lawrence and Memorial Hospital in New London, Conn., is the result of a complex project in which an existing 12,000-square-foot unit was renovated and 4,500 square feet was added onto the adjacent roof of the Ambulatory Care building over three phases that each lasted between two and three months long. Because this project could not have proceeded efficiently without complete buy-in by the hospital staff who would keep the unit operating throughout the renovation, we opted to utilize integrated project delivery (IPD), bringing all stakeholders together contractually and laying the foundation for a successful, lean process.

The joint center started as a fourth-floor 30-bed unit, but the rooms were primarily double occupancy, a situation that the hospital’s surgeons in particular argued was inconsistent with modern standards. A key goal therefore became to create more private rooms rather than add beds, and attention quickly turned to the adjoining three-story Ambulatory Care building. Originally designed to accommodate three additional floors — just our luck — the building underwent a structural analysis that determined the building could safely handle an additional 4,500 square feet without requiring any expensive structural upgrades. Although the scope of the addition was now capped for budgetary reasons, the added space allowed for a shift from 12 private rooms to 22.

The addition includes five private rooms arrayed around a nurses station; rooms for meds, soiled garments, equipment and staff rest rooms; and an attractive family lounge/waiting area that is advantageously placed to soak up southwest-facing sunlight. There was concern by some of the nurses that the addition might seem isolated from the rest of the unit, but the built environment’s open plan has allayed those fears. The addition links to the main corridor of the existing unit, and it can also be accessed from Ambulatory Care below, using a staircase that had terminated at the former roof in anticipation of a future addition. Meanwhile, the five private rooms’ doorways are all visible from the nurses station, allowing for reduced staffing.

The renovation of the existing joint center was tricky in and of itself, requiring the establishment of a construction perimeter and negative air pressure in adjacent spaces for each phase, as well as the coordination of sanitary piping connections with other floors. During the renovation, we were required to keep our floor and the floors above and below operational and the number of available beds in each phase at about two-thirds the existing total. The renovations to private rooms occurred sector by sector, along with additions of ancillary facilities including a rehab gym, a central bath, a nurses station and support spaces.

Certain aspects of the renovation were even more complicated — for example, the conversion of the nurses station into a new decentralized nurses station and enclosed charting room. This took place over the first two phases, necessitating construction of a temporary wall that bisected the existing nurses station while the other half temporarily remained in operation as before. With phase one scheduled to wrap up at the end of the year, hospital administrators agreed to shut down the entire unit between Dec. 21 and 31, allowing us to complete certain overlapping areas such as the main access corridor. This was possible because few patients elect to schedule joint surgeries during the holidays, and the hospital was able to accommodate a small number of joint patients in other areas of the building while the main corridor was demolished and rebuilt, receiving new ceilings, lights, millwork and flooring.

The bulk of the addition took place during phase three, although the complexity of the addition meant that much of the new construction occurred concurrent to the initial two phases.

We’re very familiar with the coordination difficulties inherent in hospital renovations, but few projects have been as intricate as the staging of construction on the addition was here. As is true on most hospital campuses, the building site was not easy to get to — a spectacular understatement, in this case.

On the roof above the Ambulatory Care entrance, the site of the addition is hemmed in by two taller structures on one side and a narrow alleyway separating the main building from a parking garage. Getting materials and pieces of equipment up to the roof required a crane and a temporary shutdown of direct access to the Emergency department over several weekends, which for the staff meant setting up tents in the nearby parking lot, hiring valets to handle parking, and using staff people to bring patients into the building using alternative routes. Obviously, communication was vitally important in these circumstances, and the continued presence at the table of all stakeholders, throughout the process, aided immensely in the project’s successful completion.

It is hard to overstate what IPD brought to this challenging environment — the need for pinpoint timing and cooperation in a phased project makes it particularly beneficial for the various professionals on site, as well as for the hospital’s patients.

(To reach Jim Bell, jbell@mpn-arch.com)
Building your career in health care facility management is akin a journey: There are plans to be developed, directions to be derived, provisions to be acquired, and milestones to reach. Regardless of the road you took to arrive at your job, appropriate career planning will help create a satisfying trip.

**Choose A Destination**

Determining the ultimate role for you as an individual can be the most challenging task in planning a career roadmap. We speak frequently about “arriving in the C-suite” or “becoming a VP” as the culmination of a successful career in health care facilities administration. Although appropriate for many, we often see folks overshoot their niche. There exists a different dynamic in leading trades and leading board members, a fact you should be cognizant of. Before determining your ultimate career rank, it is helpful to conduct informational interviews with professionals who already have attained the roles you may aspire to reach.

In a general sense, organizational size does not necessarily dictate specific facilities roles but there are some generalizations that can be made. Smaller, community-based providers offer a multi-hat leadership environment with less fiscal resources, staff depth, and system redundancy compared to their larger metropolitan counterparts. These institutions offer increased visibility with a smaller management team and broader range of influence.

Large organizations can offer the challenges of complex properties, politically driven decisions, and cutting edge technology. And of course, there is every hospital in between!

We often speak of horizontal and vertical career paths in our field. As an example, a role focused specifically on engineering operations or planning, design, and construction management beginning in a community based institution evolving up through a large teaching hospital or system would be considered vertical growth. In other words, vertical growth relates to a defined area of accountability with growth into progressively larger organizations. Conversely, a horizontal strategy involves growth in a broader range of administrative involvement in support areas such as facilities management including environmental services, biomed, real estate, safety, security; as well as oversight of dietary, purchasing, etc.

Develop a career destination and adjust accordingly as you travel.

**Program the GPS**

Whether you are starting your career, are in the middle, or are a seasoned professional, you owe it to yourself to ask what components of your work you enjoy and which you do not. In most cases you may find the tasks you like are the ones you excel at most and conversely, the duties you enjoy less are the ones you struggle with the most.

Program your career path to steer towards a position that will use your strengths and skills for success. You will find more personal satisfaction when you are professionally involved in the areas you enjoy most.

**Forks in the Road**

Many of us end up where we are professionally by departing from the planned route of career travel and seizing unexpected opportunities that present themselves. Take advantage of the forks in the road!

Never pass on the assessment of a new opportunity and the effects it might have on your career objectives.

**Watch for Road Conditions**

Every institution, large or small, system and independent, rural or metropolitan, has a persona that provides a working environment as unique as the building structure itself. The old adage “if you’ve seen one hospital, you’ve seen one hospital” is truly accurate. Whether acquired or inherited, this working culture will define the way the organization operates in everything from communication to accountability.

Seek a smooth travel surface. If your current institution’s culture is not compatible with your approach, progress can be slow and lead to frustration. Acknowledge the shortcomings of an institution’s chemistry and learning from it can be helpful as you evaluate potential compatible employers moving forward. Strive to align with an organization that understands your role as you understand it and appreciates the value of your efforts.

**Ask for Directions**

Seek feedback regarding your performance from subordinates, peers, and supervisors alike. You will find this dialogue to be productive and helpful in honing your individual management style from a frontline perspective.

Consistently strive to improve yourself and the value you bring to your role and organization. While in route, give yourself the opportunity to see and learn about career paths others have taken.

**Provisioning**

What we prepare for and take along on our career road-trip is important, but it’s also important not to pack items we don’t need—there is a cost to over provisioning.

Once you have determined your career destination, develop and acquire the skills and attributes, or competencies, that will help you gain the profile needed to arrive at the role you have targeted.

Competencies can be categorized into hard skills and soft skills sets. In the case of facility engineering, examples of hard skills would be the technical knowledge we use to perform our jobs as defined. Soft competencies are defined as the style and form by which we manage.

Once you map out your career goals, find the gaps in your skill set and seek out training or education to learn the skills needed.

Technical skills vary in depth and application and are dynamic in the sense they change and evolve with new technology.

Soft skills are important to our field and critical for career progression. These skills include communication, including listening, writing and speaking; negotiation; self advocacy; and team dynamics. Effective networking, leading change, delegation, and problem solving are critical soft skills as well.

**Are We There Yet?**

Only you will know when you have arrived at the career destination you seek, but you can always continue to advance yourself and your skills. Health care delivery changes at a rapid pace, and we need to provide the most current management practices we can. Continue to learn and grow professionally; the journey is never over.

This article originally ran in the Winter 2014 edition of Inside ASHE magazine, copyright ASHE 2014. Full article for ASHE Members only>
NEHES member, Ed Browne, MS, CHFM, CHC, SASHE, FACHE, Corporate Director Real Estate & Facilities at Cape Cod Healthcare in Hyannis agreed to share highlights from his article on the subject of e-cigarettes.

**So what is an e-cigarette? I don’t know anything about them.**

**Browne:** An electronic cigarette, commonly called an e-cigarette, generally consists of three main parts:

- **Atomizer** which contains the heating element and a wicking device
- **Storage tank** to contain the nicotine-infused liquid “juice”
- **Battery**

To use an e-cigarette, a smoker turns the e-cigarette on and a tiny heater vaporizes the juice. The smoker inhales the vapor into their lungs, exhaling what the e-cigarette industry calls “vapor” – which is why using e-cigarettes is commonly called “vaping.”

Most e-cigarettes are made to look like and act like a regular cigarette – even mimicking the glowing tip

**Does “vaping” pose risks like smoking real cigarettes?**

**Browne:** Since there are no regulations on what is put into the “juice” no one can predict the dangers to vapers or air quality issues. A study published in the New England Journal of Medicine (Jan. 22, 2015 Vol. 372 No. 4) described dangerously high levels of formaldehyde produced by e-cigarettes. They found formaldehyde levels five to ten times the amount found in regular cigarettes. For people exposed to second-hand vapor, it is not the harmless water vapor that the e-cigarette industry reports. In fact, a German study in 2012, determined that the exhaled vapor contains “acid, acetone, isoprene, formaldehyde and acetaldehyde, averaging around 20% of what the conventional cigarette put into the air.”

These risks are health related. What should NEHES members be concerned about?

**E-Cigarettes in Healthcare Settings**

**Factors to Consider**

**Browne:** Besides air-quality issues, the biggest risk to your facility is fire. There are numerous instances where an e-cigarette battery has burst into flame including a patient who severely burned while vaping at a hospital in New York. The FAA issued a warning to airlines because e-cigarettes are suspected in two separate fire incidents. The culprit? Most e-cigarettes use a lithium ion (Li-ion) battery. But the batteries are subject to damage or overheating, and if left unattended while charging or using a faulty charger you have an unacceptable fire risk. The devices are completely unregulated in both content and manufacturing.

**Has The Joint Commission issued any policies regarding e-cigarettes?**

**Browne:** The Joint Commission (TJC) prohibits the use of e-cigarettes (EC.02-01-03 EP 1) and requires hospitals to have a written policy prohibiting smoking in buildings. While TJC recognizes that there may be some patient-specific exceptions, TJC takes the position that e-cigarettes fall into the same category as cigarettes and hospitals must have policies in place to ban usage.

**Are there an issues with its effects on air quality?**

**Browne:** Well, there are no FDA approvals so there is no way of knowing exactly what a patient is inhaling – or exhaling. Researchers are beginning to study the chemicals to find what is being ingested and what impact the expelled “vapor” has on both people and air.

**Can an E-cigarette be part of a smoking cessation program?**

**Browne:** You may encounter patients, visitors, or staff member who claim that their doctor prescribed e-cigarettes to help with a smoking-cessation program. The truth is that doctors cannot prescribe a non-FDA-approved device or treatment. Patients on a smoking-cessation plan can only be prescribed medically approved products such as nicotine patches.

**I really don’t think that e-cigarettes are a problem in my facility. Why should I be concerned?**

**Browne:** Visitors, patients, and staff may not understand that e-cigarettes are a risk for second-hand vapor or are a fire hazard, and will vape in places where they would not consider lighting a real cigarette. E-cigarettes are probably already in your facility.

**So what do you recommend from a healthcare engineering view?**

**Browne:** Here are few items:

- Review your smoke-free policy. Add e-cigarettes to the list of banned items and substances.
- Review local and state health and safety department policies on these devices.
- Train personnel to be aware of what e-cigarettes look like – especially when plugged in and charging. A patient, visitor, or staff member may decide to charge up their e-cigarette and not see any harm since they are not actually using it to vape.
- Create a policy about how and where devices may be charged. Consider eliminating unattended charging, charging any devices in areas where oxygen is in use, and number of devices that can be charged at any one time. This policy should extend to everyone – patients, visitors, and staff.
- Educate about the dangers of Li-ion batteries. Charging in a hot place such as a car, overcharging, damage to the battery, and unattended charging can all lead to fires.

**Any final thoughts on the subject?**

**Browne:** While the medical community and Federal regulators are still wrestling with e-cigarettes, you can be proactive.

View Ed’s Complete Article & Sources
edwardmbrowne.com/e-cigarettes-danger-facility
NEHES News Nuggets

- **Testimonials Wanted**

  There’s no doubt that social media dominates the Internet and NEHES is proud to be represented with a website as well as pages on Facebook, LinkedIn, Twitter, Flickr, Google+, and YouTube.

  One way to direct traffic to websites is to post testimonials about your organization. These show up on search engines and prove to be a nice way to compliment your organization.

  NEHES is looking for your testimonials. Take a moment and go to the Testimonial Page and write a review on your experience with NEHES.

  After submitting your testimonial, it will be posted on the website for everyone to see. Take a moment and show your pride in NEHES.

  Take a look at the testimonials and add your own online.

- **Apply for FASHE/SASHE Now**

  Applications for senior and fellow status (SASHE and FASHE) are due on March 1. Submit your application now to be recognized for your contribution to the health care facilities management field. Enhance your professional portfolio and gain the recognition of your peers and colleagues. Click here for more info.

  
  
- **Supporting Member Forums in 2015**

  Mike Walsh, Supporting Member Liaison for the NEHES Board of Directors and NEHES President, Paul Cantrell are going to conduct a New England wide road show visiting state chapter meetings. Last year, we conducted a series of forums in every state just for Supporting Members,” said Walsh. “This year, we are going to host a luncheon as part of a regular state chapter meeting and invite all members to an open forum.”

  The purpose of the forums is to seek feedback from Supporting Members on ways to improve the NEHES organization. “Many of the suggestions for improvement were implemented last year and we look forward to keeping the communication channels open this year,” said Walsh.

  The schedule of meetings is still being compiled. Stand by for more info.

- **NEHES Dues Are Due**

  Here’s a reminder that all NEHES memberships run from January 1 to December 31, regardless of the anniversary date of membership acceptance or past payments.

  There are five types of NEHES Memberships, each with varying annual dues.

  - Active memberships
  - Associate Memberships
  - Educator and Student Memberships
  - Honorary Memberships
  - Supporting Memberships

  The NEHES website has more information on each of the membership categories including links to join or renew memberships. Go to Membership Application.

- **Leadership Series Booked Solid**

  The NEHES Leadership Series being launched in 2015 needed at least 13 registered participants to be held as planned.

  When the registration deadline arrived, there were not only 13 registered participants—in fact, there were 30 participants; the maximum number allowed in the class.

  The program will consist of five one-day classroom sessions and four webinars facilitated by Ken Blanchard Companies senior consultant, S. Chris Edmonds over the next 13 months.

  Courses slated for the program include:

   - Situational Leadership® II
   - DISCovering Self and Others®
   - Conflict Management
   - Leading People Through Change
   - Servant Leadership

  “The cost to participants is only $500,” said Jona Roberts, CHFM, SASHE, a NEHES Board Member who helped launch the series. “The value of the class is $5000, which will be an amazing value for NEHES members enrolled in the sessions.”

- **Michele Deane-Behind the Scenes**

  If you ever need to call the NEHES Administrative Office, there is a 50% chance that you will reach Jack Gosselin.

  The other 50% chance is that you will reach Michele Deane who also supports the NEHES Administrative Office.

  From the office in Mystic, CT, Deane covers just about every administrative task that keeps NEHES running as the premier association serving the healthcare engineering profession in New England.

  Deane lives in southeastern Connecticut and holds a Master of Arts in Integrated Communications from the University of Hartford and a Bachelor of Arts in English with a Minor in Communications from Eastern Connecticut State University.

  In addition to maintaining the member database and the portals for registrations and sponsorships on the NEHES website, Deane is involved in meeting and conference planning, email communications, telephone and email inquiries from members as well as administrative details for board meetings and retreats, and information gathering for ASHE.

  Deane is also highly visible at NEHES Seminars and Conferences registering attendees and problem solving for the smooth operations of multiple educational sessions, meeting rooms and vendor exhibits.

  Deane can be reached at michele@nehes.org.
The latest healthcare technologies and care process innovations are pounding on hospital doors and looking through windows—and they want in. Will they actually improve patient care, or inflate hospital budgets for infrastructure, capital equipment, and physician preference items?

ECRI Institute’s 2015 Top 10 Hospital C-Suite Watch List, available as a free public service, answers key questions on new and emerging health technologies that potentially provide new ways to treat patients, improve care, and reduce costs.

“C-suite leaders need a concise way of seeing where new and emerging health technologies fit, if at all, in their health systems,” says Diane Robertson, director, health technology assessment, ECRI Institute. “Backed by our unbiased, evidence-based research, our annual Watch List helps hospital leaders make technology and infrastructure decisions based on clinical evidence and cost.”

In its 2015 list, ECRI Institute, an independent nonprofit that researches the best approaches to improving patient care, examines 10 topics that hospital leaders should keep their eyes on over the next 12-18 months. This year’s list includes:

- Disinfection Robots: Do They Help Prevent Hospital-acquired Infections?
- Three-dimensional (3-D) Printing Buzz: How Many 3-D Printers Should You Plan on in 2015?
- Middleware Is Everywhere: Can It Help You Meet the National Patient Safety Goal on Clinical Alarms?
- Post Discharge Clinics: Do They Prevent Readmissions and Save You Money?
- Google Glass—Dead for Consumers but Maybe Not for Healthcare: Will Your Clinicians and Patients See Any Benefits?
- New Anti-obesity Devices: Should You Plan to Add Them to Your Bariatric Armamentarium?
- Caring for Millennials with Cancer: Should You Create Adolescent and Young Adult Cancer Centers to Improve Outcomes?
- Fecal Microbiota Therapy: New Hope for Other Serious GI Disorders?
- Artificial Pancreas Device Systems: What’s Coming after the First-generation System?
- Telehealth: Have We Passed the Tipping Point in Clinical Use?
- “Hospital leaders must carefully examine their strategic and operational plans, and assess the relevance of these new technologies or infrastructure initiatives for their organizations. Our list shows them what’s coming around the bend so they don’t miss out on the newest innovations or get caught up in hype that can lead to a costly mistake,” says Robert Maliff, director, applied solutions, ECRI Institute.

The ECRI Institute’s 2015 Top 10 Hospital C-Suite Watch List, plus actionable recommendations on “What to Do” about these issues, is available for download at www.ecri.org/2015watchlist

Contact-Free Patient Sensor Reduces Alarm Fatigue


Avner Halperin and three colleagues were frustrated that their asthmatic children had to repeatedly go to the hospital. They were told early detection through algorithms interpreting data on respiratory rate and patterns would lead to earlier intervention and better outcomes.

So they invented a sensor that monitors heart rate, respiratory rate and patient movement and does not require direct contact with the patient. It could sense wheezing or coughing. It can be placed beneath a mattress or chair pad. Signals from the sensor are interpreted by algorithms whose predictions are informed by aggregated outcomes data.

Designing the sensor so it does not have to be in contact with the patient’s body eliminates a lot of staff work in setting up the monitors and gives patients greater comfort and freedom of movement, he said. And unlike with sensors that attach to the patient, hospital staffers don’t have to worry about the monitor falling off. That means fewer false alarms and hence less alarm fatigue, a major concern for safety experts. The Joint Commission named alarm fatigue as one of its top issues for 2014.

The EarlySense system allows for personalization of detection and prediction of patient-safety and medical problems. It can be tailored for each patient based on movement history, allowing staff to get to patients’ bedside before they try to get up from their bed.

The system has shown some impressive early results. A March 2014 article in the American Journal of Medicine comparing results for 7,643 patients using the monitors in the California Hospital Medical Center’s medical-surgical unit in Los Angeles with a control group of 5,329 patients found significant reductions in days spent in the ICU following a transfer, as well as in overall length of stay and code blue rates.

For complete article>>> Combined Heat and Power Partnership Offers State and Federal Resources

The EPA provides a great online database that allows users to search for CHP policies and incentives by state or at the federal level. The site has two primary purposes:

- Policy makers and policy advocates can find useful information on significant state/federal policies and financial incentives affecting CHP.
- CHP project developers and others can easily find information about financial incentives and state/federal policies that influence project development.

See what assistance you can find for your own heat and power projects. Check out the complete website>>>

Ebola Focus May Have Hurt Preparedness for Other Outbreaks


Improvements in the way hospitals address potential infectious disease

Got a story idea for the NEHES Newsletter?

Send your story idea to neheseditor@gmail.com
threats that arose from the Ebola epidemic highlight the importance of a sustained approach toward preparedness, a new survey finds.

In a January survey of more than 1,300 healthcare workers, there was an increase in the number of respondents who felt their healthcare facility was prepared to receive a patient with the Ebola virus compared with a previous survey conducted in October.

"While those working in infection prevention and control departments spent a significant amount of time on Ebola-related activities, it has taken them away from the other critical daily infection control activities," said Mary Lou Manning, president of the Association for Professionals in Infection Control.

"If you pick up a newspaper, the national reality and the conversation has really shifted from not just Ebola preparedness but to this broader issue of emergency preparedness in general, and as it relates to infectious diseases," said Manning. "Other infectious diseases such as influenza and, more recently, a multistate measles outbreak has kept a spotlight on hospital preparedness and control efforts." [For complete article>>]

**Ebola Preparedness: Infection Control, Protecting Staff, and Safely and Effectively Managing Contagious Patients**

This special episode from the Joint Commission Resources Quality and Safety Network (JCRQSN) features experts from The Joint Commission and case study organizations who share their experiences treating patients who are suspected as having Ebola Virus Disease (EVD), including preparations for safely transferring confirmed or suspected patients with EVD, recommended use and removal of personal protective equipment (PPE), and training materials. [View complete video>>>

**Enhancing Healthcare for a Changing Climate**

Declaring climate change to be a public health hazard, the Obama administration recently issued suggestions to help hospitals and other health care facilities cope with multiple threats of extreme weather.

The White House has issued a new report Primary Protection: Enhancing Health Care Resilience for a Changing Climate with a pledge to follow the guidelines that are proposed.

The "guide and tool kit" is designed to help healthcare providers and others assure "the continuity of quality health and human care before, during and after extreme weather events," the report said. The suggestions range from placing emergency rooms away from flood-prone areas to backup plans for the generation of electricity and water supplies. The report encourages all health care officials to work with local governments on road plans, to make sure that doctors, nurses and patients can get to health care facilities in an emergency.

The report also proposes building or rebuilding hospitals and other facilities so that they can withstand extreme weather events. It did not provide cost estimates for these kinds of projects.

The administration's National Climate Assessment, released in May, found that changes in climate are creating more extreme weather, including hurricanes, tornadoes, wildfires, heat waves, droughts and worsening air quality, the report said. That, in turn, is increasing risks to health.

The Department of Health and Human Services has declared climate change "one of the top public health challenges of our time."

The report said, too many health care facilities are vulnerable to future extreme weather events.

"While the weather itself and its direct effect on the health care system are uncontrollable," the report says, "some elements of the system's vulnerability can readily be improved."

[View the Complete Report>>>

**New Tool Measures Corporate Progress Towards Safer Chemicals**

A group of corporate and NGO leaders have released a new tool for assessing leadership in corporate chemicals management. The Chemical Footprint Project (CFP) provides the first-ever common metric of its kind for publicly benchmarking corporate chemicals management and profiling leadership companies.

Business leaders are moving ahead of regulations to avoid chemicals of high concern to human health or the environment in their products and supply chains. They are meeting the needs of customers large and small who are concerned with toxic chemicals in products.

From health care to retail, purchasers are seeking products made with inherently safer chemicals. Now these purchasers will have a tool to quickly compare and benchmark suppliers. In addition, socially responsible investment firms can use this new tool to evaluate companies on their chemical management and select companies for investment.

The Chemical Footprint Project was founded by the environmental non-profit Clean Production Action, The Lowell Center for Sustainable Production at the University of Massachusetts Lowell, and the sustainability consultancy Pure Strategies. Its mission is to transform global chemical use by measuring and disclosing data on business progress to safer chemicals. [Go to full website>>>]

Patient Safety Goals.....

**Easy to Read**

[Check out these ones from The Joint Commission, and the EPA.]
Most people agree that a healthy environment is a necessary foundation for human health. And yet, our society faces an interesting paradox in health care: as hospitals deliver care to individuals, their environmental footprints—pollution, energy use, waste production, unsustainable food services—can be harmful to our health.

**Greening health care, the benefits**

The health care sector can have a significant impact in improving the environment in a number of crucial areas, but a key question remains: can environmental stewardship strategies in health care coexist with today’s constant pressure to cut costs? In short, the answer is yes—and it can help reduce health care costs for everyone.

There is a preponderance of evidence that a greener health care enterprise is not only affordable but often results in an improved cost structure. With little or no investment, significant operating savings can be realized. A recent study published by the Commonwealth Fund found that if the health care industry conserved energy, reduced waste and more efficiently purchased operating supplies, it could save more than $15 billion over 10 years. While these numbers are impressive, the importance of sustainability in health care cannot be boiled down to just the bottom line. We have to remember that greening the health care industry does not just save money; it also saves lives and makes care more affordable for everyone.

Take for example the Fable Hospital, a 300-bed, 600,000 square-foot regional medical center built at a cost of $350 million in 2011. Fable was designed and constructed to meet the US Green Building Council’s Leadership in Energy and Environmental Design (LEED) gold-certification level for green building design, construction, operations and maintenance. To do so, it included the best innovations for which there was strong evidence in the scientific literature that they would improve patient and employee safety and health care quality while also reducing operating costs, even if initial construction costs are higher.

Fable Hospital’s features include:

- Larger single-patient, acuity-adaptable rooms to reduce incidents of health care-associated infections and patient transfers
- Use of nontoxic building materials to reduce the effects of indoor air pollution
- High-efficiency particulate air (HEPA) filtration systems
- Larger windows to increase the beneficial effects of natural light and nature views
- Single-use air circulation systems to minimize the spread of infections
- Heat recovery systems, high-efficiency mechanical equipment, and external building glazing to reduce fossil fuel consumption
- Healing gardens accessible by patients and staff
- Low-flow water fixtures and rainwater re capture systems to reduce water consumption; among dozens of other features.

The Fable Hospital is, in fact, a fable, illustrated in an essay by Blair Sadler and other health care quality experts with assistance from the Center for Health Design. But the economic value of the improved clinical quality and environmental impacts of the added features, based on evidence from actual hospitals, is real.

The economic and environmental value totaled more than $10 million a year, which resulted in a payback period of just three years. Among the significant cost benefits were savings from a 20 percent reduction in hospital-associated infections, a 10 percent reduction in patient length of stay, a 50 percent reduction nursing turnover due to increased safety and job satisfaction, an 18 percent reduction in energy demand, and a 30 percent reduction in water demand, totaling almost 10 million gallons.

As this example shows, when weighing issues of environmental impact in health care, we have to look at the triple bottom line of social impact, environmental impact and economic performance.

While the three are frequently intertwined, in our industry, we are frequently guilty of focusing so intensely on cutting costs that we overlook these two other critical areas and the impact they can have on those exact areas we are focusing on.

**Taking action – how we can make a difference**

What will it take to turn the hospital leaders into environmental champions motivated by environmental and human health benefits in addition to bottom-line calculations?

- **New level of commitment by senior leaders:** Move the work from the mostly isolated, grassroots-inspired efforts to a commitment to be models of health, including environmental health, in their communities. One excellent first step is to sign up with the Healthier Hospitals Initiative (www.healthierhospitals.org) and accept their leadership challenge.

- **Strategy:** Put effort into assessing the organization’s environmental footprint and the costs of that to the community in terms of health effects. Then explore opportunities to reduce or eliminate those impacts and document this in a strategy.

- **Engage with staff and the community:** Hospitals are mission-driven institutions that improve community health. Engaging with staff and local residents about environmental health is an extension of that mission. Their engagement informs priorities and makes success much more likely.

Changing an industry isn’t easy, but the greening health care revolution is already underway and the patients will benefit as much as we will from a business side. We’re making great progress. I hope you’ll join us!
Active Shooter Incidents at Two New England Hospitals

In the span of one month, two New England hospitals experienced active shooter incidents on their premises.

Incident #1—Wentworth-Douglass Hospital, Dover, NH

The first incident took place at Wentworth-Douglass Hospital in Dover, NH on December 30th when an apparent murder-suicide took place in the critical care unit.

According to officials, police responded to a report of gunshots fired inside the hospital’s critical care unit shortly after 6 AM. A man and a woman were found dead inside a private room when police arrived at the scene.

The two had been identified as husband and wife based on the husband’s posting on Facebook where he placed a suicide note just moments before the incident.

“I want to start off by saying this is going to be officially ruled a murder-suicide, when in all actuality, it is a double suicide,” wrote the husband.

He posted that his wife had been suffering from mental illness since childhood and “trying to escape the bipolar demons that have been swirling around in her brain.” He went on to say that she was now “experiencing the only thing she feared more than her illness; life support on a respirator.”

Hospital President Gregory Walker said he was saddened when he learned about the incident. Walker emphasized that no other patients were affected and the hospital’s services were never disrupted during the course of the day.

Asked about the hospital’s policy on firearms, Walker said they are not allowed into the facility.

All the hospitals in New Hampshire receive ongoing training in emergency preparedness, said Kathy Bizarro-Thunberg, vice president of the New Hampshire Hospital Association. “This is for all hazards, natural or man-made like what happened (at Wentworth-Douglass),” she said. “We try to take into account lots of situations that could happen. For training around an incident of an active shooter, we work on security issues.”

Bizarro-Thunberg said the incident at Wentworth-Douglass was “very rare.” “But it could certainly happen,” she said. “People can go into hospitals anytime and they are open 24/7.”

In a letter to patients and family members Tuesday afternoon, Wentworth-Douglass CEO Greg Walker said, “the incident was isolated to the patient room and no other patients, family members or employees were harmed.”

“The hospital is safe,” Walker wrote. “This was a tragic event. Our staff responded and performed exceptionally under extreme circumstances. Our priorities now are to continue to deliver care to our patients and support our staff.”

Other hospitals along the Seacoast expressed their sadness at the shooting incident and want to reassure the public that safety is a top priority.

While many said that they have security practices in place and have regular drills, many were reluctant to jeopardize their safety by sharing what measures are in place.

Incident #2—Brigham and Women’s Hospital, Boston, MA

A male doctor who was shot at a Boston hospital on Tuesday morning died later that day from two gunshot wounds, according to hospital officials.

A suspect, who died from apparent self-inflicted gunshot wounds, had entered the hospital and asked for the doctor by name.

Just after 11 AM local time, Boston police received emergency calls about a shooting inside the hospital. When officials arrived on the scene, they found the suspect and a gun inside an examination room. It appeared the suspect had died from self-inflicted wounds.

A senior Boston law enforcement official noted that Brigham and Women’s had just gone through an active-shooter training in the last six months, and that the hospital’s response to the shooting was “textbook.”

The doctor’s colleagues transported him immediately to the emergency room, and hospital workers secured themselves in their offices.

The Boston doctor who was fatally shot at Brigham and Women’s Hospital had treated the mother of the gunman, according to law enforcement sources and the shooter’s sister.

Resources for Active Shooter & Workplace Violence

Workplace violence is a safety issue in health care facilities, and several resources are available:

- A Department of Health and Human Services (HHS) guide discusses how to incorporate active shooter incident planning into health care facility emergency operation plans. The report states that most health care facilities practice drills for fires or tornadoes, but far fewer facilities drill for active shooter situations. Get Free HHS Guide>>
- The American Organization of Nurse Executives (AONE) has published guiding principles on mitigating violence in the workplace. The report also outlines five priority focus areas. Get Free AONE Report>>
- ASHE members can access a free recording of a 2013 Annual Conference session on practical preparedness for workplace violence in health care facilities. The session details the response of the University of Colorado Hospital to the theater shootings in Aurora, Colorado, as an example to help guide preparedness efforts. For ASHE Members Only>>
Mechanical systems in health care facilities tend to be more complex than systems in most other buildings and need more rigid maintenance to meet the special needs and functions of the facility.

In a hospital, the HVAC system does far more than keep occupants comfortable. It also serves a critical function in patient health and therapy and in occupant safety. In addition, mechanical systems must adhere to the many codes and standards that govern health care facilities.

For these and other reasons, proper design, operation, and maintenance of mechanical systems is crucial.

The ASHE Mechanical Systems Handbook for Health Care Facilities provides detailed information to support the design, operation, and maintenance of a facility’s systems.

Along with chapters on powerhouse equipment, HVAC and air-handling systems, and energy management, the handbook presents information on code compliance, alternative energy-saving strategies, and testing HVAC systems.

The publication is $95 for ASHE members and $125 for non-members Purchase at the AHA store>

Everything You Ever Wanted To Know About Relocatable Power Taps!

ASHE has created several new resources for members regarding relocatable power taps in light of new Centers for Medicare & Medicaid Services waivers allowing power strip use in patient care areas.

New resources for ASHE members include a comparison of guidance from various organizations on RPTs, a chart explaining the differences between RPTs and special purpose RPTs, and a sample RPT policy that can be adjusted to fit your facility’s needs. For info, visit the RPT resource page>

Continuing Education Units Available Through Magazine

Did you know ASHE members can earn continuing education units (CEUs) by reading articles in Inside ASHE magazine and passing an online quiz?

This new member benefit was launched last year with the publication of the winter 2014 edition of Inside ASHE. To earn CEUs through this particular edition of the magazine, you must have been an ASHE member as of Dec. 1, 2014.

The quiz related to the winter 2014 edition will expire on March 1, so if you’d like to earn a CEU through the magazine, be sure to earn your CEUs before then. The spring 2015 edition of Inside ASHE will be published in March and will also contain CEU opportunities.

To earn CEUs through the winter 2014 edition:

- Access Inside ASHE (winter 2014 edition) and read the magazine
- Download detailed instructions for using the online quiz system
- Go online to take the quiz

Receive the Most Current Information from The Joint Commission

Want to know where to get the most current information about healthcare codes and standards? Consider signing up for Joint Commission Online.

Here is the list of all online items that you can pick and choose from.>>>>

- Joint Commission Online: Weekly publication with news about Joint Commission standards and survey process, patient safety and more
- Quick Safety: Monthly publication that outlines an incident, topic or trend in health care that could compromise patient safety
- Sentinel Event Alert: Periodic alert about current health care quality and safety issues
- R3 Report: Periodic publication that provides the rationale and references that The Joint Commission employs in the development of new requirements
- BHC News: News about the Behavioral Health Care Accreditation program
- Certification Matters: News about the Disease-Specific Care, Palliative Care, and Health Care Staffing Services Certification programs
- Home Care Bulletin: News for the Home Care Accreditation program
- In Touch: News about the Nursing Care Center Accreditation program
- Lab Focus: News about the Laboratory Services Accreditation

Blogs Available:

- The View From The Joint Commission: News for hospitals
- Leadership Blog: Articles on current issues written by Joint Commission leaders
- JC Physician Blog: Articles on current issues written by Joint Commission physicians
- @ Home with The Joint Commission: News for home care providers
- AmBuzz: News for ambulatory care facilities
New England Healthcare Engineers’ Society:
Founded in 1958;
Affiliated with the American Society for Healthcare Engineering (ASHE)
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NEHES Newsletter/Web Co-Chair
Anand Seth, PE, CEM, CPE
recommends:
Most NE states follow FGI guidelines. The Massachusetts Dept of Public Health has a check list which may be useful in other states as well. http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/healthcare-quality/health-care-facilities/plan-review/forms/

Paula Buick, RN, MBA, LEED Green Associate, Director
Healthcare and Health Sciences Planning—PAYETTE – Boston, MA recommends:
Mark Graban’s blog covers all things “lean” particularly in hospitals. He has papers, videos, webinars and podcasts. If you are tired of hearing about ‘lean’ I think Mark’s site has some real examples – Check out the Kaizen “I just want patients to stop vomiting on me”. Leanblog.org

GOOD READS AND WEBSITES

Good Reads and Websites is provided as a service to NEHES members and does not constitute an endorsement by NEHES. These are sources that members have found helpful in their work.

Events & Dates to Remember

- **March 15-18, 2015**
  ASHE Summit & Exhibition on Health Facility Planning, Design, & Construction
  San Antonio, Texas

- **March 20, 2015**
  NEHES Spring Seminar at the DoubleTree by Hilton in Leominster, MA
  Organizers: Massachusetts Healthcare Engineers’ Society—Chair: Larry Williams
  [For info and registration >>]

- **July 12-15, 2015**
  ASHE Annual Conference and Technical Exhibition
  Boston, MA

- **July 12, 2015**
  Certified Healthcare Facility Manager (CHFM) Exam
  [Review Course]
  Boston, MA

- **July 13-14, 2015**
  Health Care Construction (HCC) Certificate Workshop - Boston, MA

- **August 6, 2015**
  Twin State Seminar
  Summertime Education by NH & VT

- **September 27—30, 2015**
  NEHES Fall Conference
  Newport Marriott- Newport, Rhode Island
  Organizers: Connecticut Healthcare Engineers’ Society —Chair: Jim Carroll

- For full list of [ASHE Calendar of Events](#)

**NEHES Time Travel—Preventative Maintenance Rack –1968**

A workable, simple preventative maintenance system can be operated efficiently with only five factors.

1. A schedule
2. A machinery history system
3. Adequate manufacturers’ information
4. Proper supervision
5. Capable personnel

1) A visual card rack with 52 pockets which represents the weeks in the year can form the basis for the automatic scheduling. Manufacturers’ information, company policy, and the machine’s own peculiarities will dictate when the equipment requires preventative maintenance attention through the use of the cards in the rack. (See photograph.)