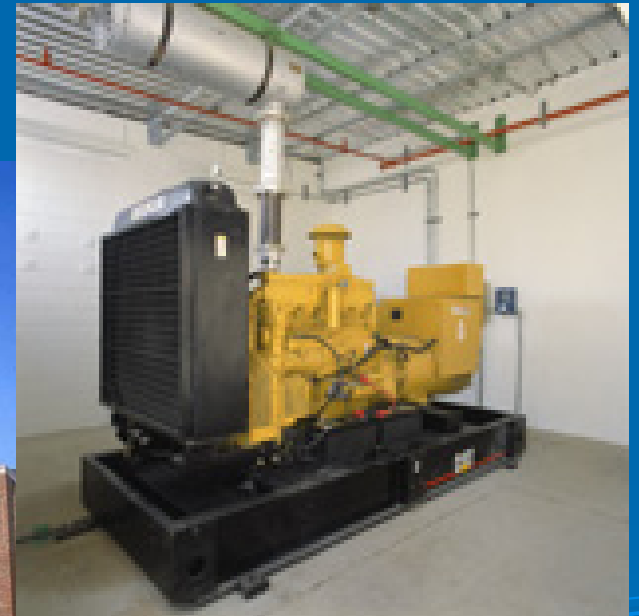


HEALTHCARE FACILITIES MANAGER

What It Take To Succeed In Today's
Environment!



York Chan, CHFM
Director of Facilities Engineering
Advocate Ill. Masonic Medical Center

TODAY'S TOPICS

- Industry Overview
- Regulatory Oversight
- Get Leadership On Your Side
- How Facilities Can Affect Clinical Outcomes
- Energy Management
- Effective People Management
- Challenges Faced by Facilities Managers

HEALTHCARE AS AN INDUSTRY

- There is no recession in the healthcare industry.
 - Baby Boomers are in their 60's and living longer, therefore requiring more healthcare services.
- In the last four years, \$130 billion has been spent on healthcare construction in this country.
 - Hospital have to build to stay competitive
 - Doctors are always looking for the latest and greatest technology.
- Healthcare employs 1 out of 8 people and is 15% of the GDP

HIGHLY REGULATED INDUSTRY

- CMS – Center for Medicaid and Medicare Services
 - Governs all hospitals that receive Federal funding
- IDPH – Illinois Department of Public Health
 - State of Illinois licensing
- The Joint Commission
 - Tri-annual unannounced accreditation inspections
- EPA – Environmental Protection Agency
 - Hospital emissions
- DOT – Department of Transportation
 - Hazardous materials and regulated medical wastes
- Local Municipality Jurisdictional Agencies
 - Building Depts., Fire & Police Depts.

THE FUTURE OF REIMBURSEMENTS

- Medicaid and Medicare (CMS) will compensate hospitals based on performance (quality).
- Beginning 10/1/2008, CMS will not pay for hospital acquired complications (problems that were not present on admission).
- Reimbursements will be based on how successful a hospital performs on its “core measures”.
- Hospital quality data is made available to the public.

HOW CAN FACILITIES INFLUENCE CLINICAL OUTCOMES?



OPERATING ROOM TEMPERATURES

- It is a myth that O.R.'s are kept cold for infection control reasons.
- Main reason O.R.'s are kept so cold is for the comfort of the surgeon.
- Clinical trials have shown that perioperative normothermia (36.5 degrees C) in patients undergoing surgery has been shown to reduce infection rates .
- Perioperative hypothermia (34.5 degrees C) may promote surgical wound infection by triggering thermoregulatory vasoconstriction, which decreases subcutaneous oxygen tension.
- Hypothermia also affects other body parts such as liver functions and blood coagulation.

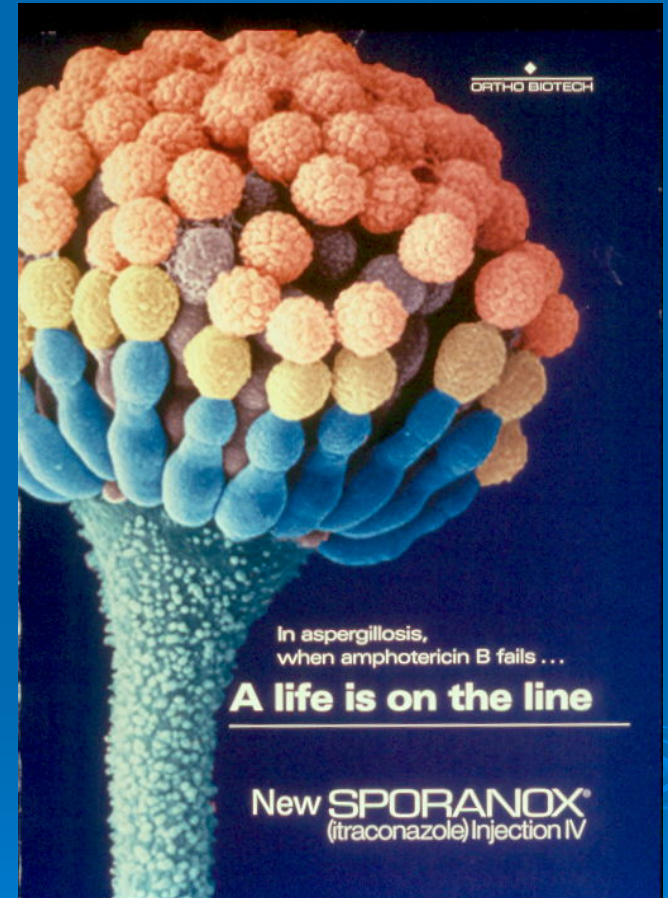
HOSPITAL ACQUIRED INFECTIONS

➤ Air Handling Systems

- Filtration
- Humidification
- Pressurization
 - Positive for O.R./Surgery, Immuno-compromised patients
 - Negative for infectious patients
 - Lab fume hoods, kitchen exhausts, toilet exhausts, pharmacy drug preparation hoods, isolation rooms all contribute to the negativity of hospitals
- Air Exchanges

INFECTION CONTROL

- Environmental contamination from fungi (Aspergillus)
 - Found in decaying cellulose
- Water contamination from water-associated microorganisms (Legionella)
 - Potential sources include cooling coils, cooling towers, domestic water system
- Patients can die from an infection caused by these organisms



GET LEADERSHIP ON YOUR SIDE

- Get to know your CEO, COO & CFO
 - Make sure that they know what you are doing
 - The more they know, the easier it is to get their buy in for your projects
 - Take them on a tour periodically
 - Ensure that they know how hospital facilities function
 - Explain to them how hospitals are built
- Make presentations at management meetings on projects you are working on
 - Get entire hospital involved

ENERGY EFFICIENCY

- Every \$1 a non-profit healthcare organization saves on energy is equivalent to \$20 in new revenues for the hospital.
- Hospitals consume lots of energy – 2.7 times more per square foot than a office building.
 - Hospitals run 24 / 7 / 365
 - Hard to load shed or duty cycle due to patient comfort
- Three factors that affect energy cost
 - Cost of fuel and energy – crap shoot
 - Weather – can't control
 - How effective we are at utilization – we can control

ENERGY EFFICIENCY

- You must know your facility and systems
 - Know what your air/water loads are and run your systems accordingly.
 - Convert to variable air volume and variable speed pumping whenever possible.
 - Systems installed prior to the 70's tend to be oversized.
 - Look at all systems – House Pumps, Elevators, Kitchen hoods
 - Utilize occupancy sensors, motion detector, timers, etc. to control lighting, HVAC systems, lab hoods.
 - Continuously retro-commission systems to verify performance to design and tweak for improvement.
- Know how much it costs to produce steam

ENERGY EFFICIENCY

- Verify and document existing conditions PRIOR to renovations or construction.
- Know the pressurization status of your buildings. Hospitals are notorious for always being negative.

ENERGY EFFICIENCY

➤ Building Automation Systems

- Use technology to augment human performance.
 - Hospital already use technology for patient care.
- Ensure that critical points are calibrated and accurate.
 - Review trend logs to identify potential problems
 - Review sequence of operations, reset schedules, set point, etc.
- DO NOT place systems on permanent overrides
 - Fix the problem, find a permanent solution

BUILDING AUTOMATION SYSTEMS

- Utilize BAS technician time effectively
 - Avoid “Spray & Wipe” service contracts
 - Set expectations for techs when they arrive at your hospital
 - Have hospital staff work along side the BAS Technician to get working knowledge

UTILIZE TECHNOLOGY

- Utilize technology, both hardware and software, to augment human performance
 - Use software to collect data for regulatory requirements
 - Environmental tours
 - Building Maintenance Programs
 - User generated work requests

“GREEN”

- Provide a healing environment that does no harm
- Healthcare lags behind other industries in the adoption of Green buildings
- Lower Emissions
 - Decrease energy consumption
 - Green House Gas Discharges
- Increase Recycling
- Mercury Free Environment (AHA and EPA Memorandum of Understanding)
 - Medical devices (Sphygmomanometers)
 - HVAC control devices (Thermostats, “Mercoïd” switches)
 - Gas and flow meters
 - Mercury containing Light Bulbs
 - Reduce total waste by 50% by 2010
- LEED Certification Construction
 - There are only 6 LEED Certified healthcare buildings and 132 projects that are registered with the USGBC

EFFECTIVE MANAGEMENT

- People management, along with technical expertise, is a critical component to succeeding in this field
- Get good, competent staff and support them
 - Every facilities staff MUST be computer literate
 - The days of an engineer shoving a 2 x 4 into a damper to keep it open are over
- Share Information
 - The more they know, the easier your job becomes
 - Review budget with entire staff
 - Create a “CAN DO” culture
- Listen to your staff
 - The days of “My way or the highway!” are over

CHALLENGES

- Fighting for the capital dollars
 - Facility Operations are always looked upon as non-revenue generating services.
 - Clinical services and equipment are considered “money makers”.
 - We have to convince hospital administrators the positives in energy related projects.
- Facilities should be no treated no differently than any other department in the organization

CHALLENGES

➤ Qualified Staffing and Succession

- Lack of qualified leaders in this field.
 - In the past, most Directors worked their way up through the ranks.
 - People management, along with technical expertise, is a critical component to succeeding in this field.
- No one goes to school to be a hospital facilities engineer.
 - Colleges are now offering programs for Healthcare Facilities Management (Purdue).

QUESTIONS?

YORK CHAN

president@hesni.org

york.chan@advocatehealth.com

(773) 296-7513