BECOMING FRIENDLY WITH HOSPITAL TECHNOLOGY

New technologies are entering medical practice at an astounding pace. However, the ‘side effects’ resulting from the introduction of new, often-complex technology in healthcare can be considerable - both for patients and health professionals.

ECRI (formerly the “Emergency Care Research Institute” in USA) estimates that approximately 70% of accidents involving a medical device can be attributed to user error or incorrect technique. Another US agency estimates its effect in certain areas as 90% in terms of deaths and injuries to patients.

Integrating new technologies within a hospital poses four main challenges. Two of these are related to the proper use of the technology and ensuring proper training and competence needed for that. Many of the incidents could possibly be avoided if users are better versed in using the various technologies.

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Training and continuing education are important components to ensure the safety of the patient and the users and to minimize the errors when new technologies are introduced or when new staff come on board.

In this respect, the Office of the Chief of Staff at AUBMC is working closely with the Department of Medical Engineering to introduce training on the use of medical technologies in the programs to standardize medical practices and credentialing. A policy and a program have been developed to this effect.

Implementing such measures will help reduce errors and improve patient care.
The Utilization and Case Management Review Committee’s main charge is to make recommendations on the use of clinical resources to best meet the needs of AUBMC patients within the broader health system.

Over the past two years, the Committee has successfully worked with different specialties to reduce the over-utilization of specific laboratory diagnostics. Multiple computer-based interventions were implemented to reduce the over-utilization of Vitamin D, cardiac markers (CK-MB and CPK), c-difficile PCR, and Hba1C. These have led to significant and sustained drops in the use of these diagnostics to fit evidence-based best practices.

Utilization of Resources

In addition, the Committee focused on optimizing the use of cardiology consults in the pre-operative medical clearance by working with the Departments of Anesthesiology and Surgery and the Division of Cardiology to endorse the American Heart Association (AHA) / American College of Cardiology (ACC) Guidelines and clarify the ownership of the pre-operative clearance process by the Department of Anesthesiology.

With the continued growth of clinical services, improving hospital bed utilization has been a key focus of the Committee. In addition to championing the improved allocation of critical care beds, the Committee worked on reducing delays in discharging National Social Security Fund (NSSF) patients because of securing required NSSF documents. Several interventions were introduced to streamline the discharge process with post-intervention data demonstrating reduced average length of stay of NSSF and CO-NSSF patients.

Finally, the Committee is exploring ways to improve the utilization of medications starting with a conjoint project with the Division of Gastroenterology by looking at improving the utilization of Proton Pump Inhibitors (PPI) based on evidence-based best practices.
Operating a modern clinical laboratory in a reference tertiary medical center, such as AUBMC, entails adherence to a number of basic principles of good laboratory practices. These include employing the most skilled and qualified laboratory workers (faculty and staff), acquiring state-of-the-art equipment, providing adequate space, offering diverse and specialized tests, adopting a strict quality management program, and securing accreditation of the clinical services. Receiving accreditation for a laboratory is key in applying international standards in the daily laboratory operations and at all levels. This ultimately ensures the accuracy and precision of the laboratory testing and its performance under the most optimal conditions in order to provide the best patient care possible. There are a few international organizations that offer accreditation certification to clinical laboratories; one of the most highly regarded programs globally is that of the College of American Pathologists (CAP). The clinical services of the Department of Pathology and Laboratory Medicine have been accredited by CAP since 2004.

The CAP accreditation program is very comprehensive, and it covers all aspects and laboratory services through detailed general guidelines and technical checklists that incorporate more than 2,000 standards for AUBMC clinical laboratories. For example, the Lab General Checklist focuses on many managerial aspects of the laboratory such as its Quality Management Program, human resources, space, equipment performance and maintenance, applied technologies and techniques, information system, safety measures in the laboratory, professional relationship with medical and non-academic staff, and others. Other checklists target individual specialty and subspecialty clinical laboratory units, such as pathology and cytology, clinical chemistry, clinical hematology, clinical microbiology, blood bank, molecular laboratory, and molecular genetics and cytogenetics.

To sustain the CAP accreditation, the laboratory is subjected to periodic follow up surveys, proficiency testing, and visitation every two years. During a two-day re-accreditation visit, a team of about ten external experts conducted a thorough inspection and reviewed all aspects of the laboratory. Preparing for such an inspection has been a daily effort, and the process entailed a coherent teamwork effort by all staff at all times, something we are fortunate to enjoy in the Department. Such a spirit has simplified the responsibility of Dr Ghazi Zaatari as the Laboratory Medical Director who is in charge, as per CAP requirements, of overseeing the accreditation program. This administrative task is facilitated by faculty members championing quality management such as Dr. Rose Daher and Quality and Safety Officers Mrs. Reine Karam and Mrs. Samantha Abi Saab who contribute tremendously to the coordination of the CAP requirements and their implementation with the committed directors, managers, and supervisors of the laboratory units. Since the first acquisition of the CAP accreditation, the AUBMC Clinical laboratory has been through six cycles of re-accreditation. All faculty and staff are getting ready for the next round in February 2018 to build on their stellar performance and contribute to the outstanding reputation and image of the medical services at AUBMC.
The AUBMC 2020 Vision aims to provide patients with the highest standards of patient-centered care. Our medical professionals and support teams have selected Epic as the best Electronic Health Record (EHR) system to enable us to fulfill this vision. Epic, known today as the AUBHealth project, was officially launched in August 2016 at AUBMC, and the Go Live date is Saturday, November 3, 2018. The purpose of this project is to deploy a set of Epic modules that shall replace the majority of the existing IT applications that were built over the last 20+ years to serve the Medical Center.

The AUBHealth project plan and our progress, so far, are proving to us that AUBHealth is not an IT project per se. It is a transformational journey that is galvanizing the AUBMC community to re-think its healthcare operations and services. The scale of interdisciplinary work is unprecedented. More than 600 Subject Matter Experts (SMEs) from different departments and units are engaged in identifying operational workflows for review and signing off changes to those workflows. Physicians, nurses, administrators, and other staff members will be joining the AUBHealth team to champion the project and, later on, to assist in training all AUBMC end users on implementing Epic. More than 140 physicians and administrators are currently being trained to become AUBHealth Champions. In addition, 250 Registered Nurses and 90 staff members will soon be recruited and trained to become AUBHealth Superusers.

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Our project plan is focused on investing in people as much as investing in our EHR implementation. On November 3, 2018, AUBMC will not only be going live with AUBHealth, but it will also have qualified and highly trained healthcare teams that have ownership of the project and are able to assess, design, and update our EHR to incorporate the Medical Center’s evolving needs.

**AUBHEALTH FACTS AND PHASES**

- 1 content design wave completed
- 1 direction wave completed
- Third-party applications finalized
- 95 Epic certificates earned
- Build Buckets 1 and 2 completed
- Training tracks for the physicians finalized
- Scoping for interfaces and data conversion completed
- Currently in Phase II: Adoption Phase
- Next is Phase III: Testing Phase