UTMB’s MakerHealth Space hosted the first Mini Maker Faire in a Texas hospital on June 26. The Mini Maker Faire took place in Jennie Sealy Hospital in Galveston and showcased medical devices made by UTMB nurses, doctors and staff that improve patient care.

From engineers to artists to scientists to crafters, the Maker Faire was a venue for “makers” from across the state to show off their hobbies, experiments and projects.

The MakerHealth Space at the University of Texas Medical Branch at Galveston is the first makerspace in the country for health care providers. It was launched by UTMB and MakerNurse, an initiative that provides tools and resources to enhance resourcefulness and innovation among nurses and other health care providers, in 2015. Stocked with materials from Velcro and sewing needles, to 3-D printers and laser cutters, the makerspace empowers nurses and other medical staff to bring their ideas for improving health care to life.

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Workshops included a Surgical + Nautical Knots Workshop with Dr. Ikenna Okereke & Sea Star Base Galveston Team and a Bone Conduction Workshop with Dr. Aisen C. Chacin, MakerHealth Fellow at UTMB.

The Maker Faire was open to the community and was part of a “Galveston Week of Making.” On June 27, a MakerHealth Series was held at the Osher Lifelong Learning Institute, and on June 28, a Pop-Up MakerHealth Space was held at St. Vincent’s Clinic.

UTMB Medical Student Ethan Hinds (pictured) co-presented a device developed in partnership with Pathology Resident Dr. Chris Zahner, “A Supplemental Device to Improve Workflow and Turnaround Time in Blood-borne Diseased and Septic Patients,” designed to reduce plate reading times through integrated photo analysis.

Galveston City Councilman Craig Brown attended the Maker Faire Welcome Ceremony where he presented a City of Galveston Proclamation to UTMB, received by Chief Nursing & Patient Care Services Executive David Marshall. The proclamation acknowledged June 26, 2018 “Maker Faire Day.”

Brothers Ernesto and Eduardo Holguin traveled from El Paso, Texas to present their prototype, a “Drying and Inspection Apparatus for Diabetics” Eduardo has cared for diabetic patients for more than 20 years. He recognized the need to create a device that would help patients properly dry wounds on their feet and monitor their wounds from home via telemedicine technology communication with their patient care team.
Early this fiscal year, UTMB expanded its Best Care journey to become a High Value Practicing Organization.

Five stewardship committees were launched to identify opportunities that will ensure patients receive only the tests and treatments that are necessary and appropriate based on patients’ preferences and that result in the best outcome for a given clinical situation:

- **Antimicrobial Stewardship** to reduce microbial resistance.
- **Laboratory Stewardship** to ensure appropriate testing.
- **Blood Management** to increase patient safety.
- **Imaging Stewardship** to ensure appropriate testing.
- **Opioids Stewardship** to ensure appropriate prescribing and prevent substance abuse.

Each of the five committees is interdisciplinary in nature, consisting of faculty members from the School of Medicine, residents, nurses and representatives from Information Services, Clinical Data Management, Revenue Cycle Operations and ancillary services such as the Pharmacy, Laboratory and Radiology.

Each committee initiated their stewardship efforts by engaging in in-depth conversations to identify interventions unique to UTMB, as well as broadly-recommended evidence-based interventions by initiatives such as Choosing Wisely, a United States-based health educational campaign led by the American Board of Internal Medicine. Dashboard applications were then created for each stewardship committee in UTMB Discover (UTMB’s enterprise-wide data warehouse) so the teams can monitor the effectiveness of each intervention.

Efforts to create high value care are not unique to UTMB – they are taking place at academic medical centers across the nation as reimbursements for care are declining and patients are bearing an increased out-of-pocket responsibility for the cost of their care. Hospitals everywhere are striving to reduce utilization of tests, procedures and treatments that increase cost without adding value. As high-value initiatives are safely piloted in one academic center, they are advanced nationally to efficiently lead large-scale improvements in health care value. That’s why as UTMB selected metrics for each stewardship pillar, it was important to select measures that align with national benchmarking among similar organizations and similar patient populations.

Many of the interventions across the five stewardship pillars focus on both patient-facing and clinician-facing education. Patient education helps individuals better understand when a certain test may not be recommended or required to diagnose their condition, or why a certain treatment would not bring additional benefit but increase cost. Meanwhile, because advances in both medicine and technology have significantly increased the array of tests available, ordering providers may benefit from evidence-based guidelines placed alongside order entry options to help them select the most appropriate test for an individual patient. Additionally, when a provider selects a test that has been recently ordered by another provider – within the past 24-72 hours, for example – it is possible to alert the provider of this so they may avoid repeat testing and/or view the recent test results. Such interventions not only promote high-quality and safe patient care, but increase efficiency and help reduce cost.

The progress to date for each UTMB stewardship committee is described below:

**Antimicrobial Stewardship**

The first stewardship committee that was enacted at UTMB was the Antimicrobial Stewardship Program. The overuse of antibiotic agents is a public health problem associated with increased health care costs and antibiotic resistance.
In many cases, it is clear that an antibiotic is not the appropriate course of treatment, such as when an illness is caused by a virus, not bacteria. However, in instances where antibiotics are required, it can sometimes be difficult to distinguish between appropriate and inappropriate antibiotic use and duration. Therefore, key interventions of antibiotic stewardship include public education on appropriate antibiotic use. In the healthcare setting, consultation by physicians with expertise in the use of antimicrobial drugs can prevent microbial resistance.

Using UTMB Discover, the Antimicrobial Stewardship Team monitors the number of various antibiotics in use in the hospital on any given day. They also conduct rounds regularly to provide feedback to providers on the use of antibiotics and are able to make recommendations on antibiotic de-escalation and narrowing coverage and duration. For example, one specific intervention involves transitioning patients from intravenous (IV) to oral (PO) antimicrobials in a timely manner because unnecessarily prolonged IV antibiotic therapy can increase the length of hospitalizations, increase the cost of care, result in IV-related adverse effects, and increase the risk of infections by multi-drug resistant organisms.

Another intervention the Antimicrobial Stewardship group is monitoring is appropriate C. difficile testing. C. difficile, which is commonly contracted in the hospital setting and causes inflammation of the colon and potentially deadly diarrhea, is often linked to antibiotic use, because antibiotics can destroy the natural bacterial balance in the colon. However, C. difficile is present in healthy individuals, so a simple test for the bacteria does not necessarily indicate whether or not targeted treatment of the condition is necessary (Choosing Wisely recommends that in the absence of diarrhea, C. difficile testing should not be conducted). To help reduce the likelihood a test for C. difficile is ordered when not clinically recommended, the stewardship group incorporated a brief set of guidelines into the medical record. The team has tracked the effectiveness of this intervention now for a full year and the results have been positive – since beginning the intervention, 30 fewer C. difficile tests are ordered each month. This intervention has not only prevented inappropriate testing and treatment of C. difficile, but also produced a significant cost savings.

Additionally, the Antibiotics Stewardship Team has implemented an algorithm in the medical record to guide in antibiotic management of suspected or confirmed respiratory infections and sepsis by measuring procalcitonin. Procalcitonin is a well-studied biomarker present in the body primarily during bacterial infections. However, procalcitonin should be ordered based on clinical pretest probability and the likelihood that certain thresholds will be used in clinical decision-making. To improve the appropriate use of procalcitonin and antimicrobial therapy, the Antimicrobial Stewardship Program has implemented a procalcitonin-guided algorithm in Epic for antibiotic management of suspected or confirmed infections.

**Blood Management**

The goal of UTMB’s Blood Management Team is to promote the appropriate use and management of blood and blood components while improving patient outcomes, reducing risks associated with blood transfusions and reducing the cost of patient care. Blood transfusions are considered 1 of the top 5 overused procedures in U.S. hospitals. Although blood transfusions continue to be lifesaving in carefully selected circumstances, they are re-emerging as a treatment with limited efficacy and substantial risk.

Balancing the harms, benefits, scarcity of blood products, and cost remains of red blood cell transfusion is complex. However, a series of landmark studies offer evidence that support the reduced use of transfusions. During the course of a five-year blood management effort conducted at Johns Hopkins Health System, a highly successful intervention called the “Why give 2 when 1 will do?” campaign was implemented to encourage single-unit transfusions. This resulted in a 49 percent decrease in multi-unit orders and an annual cost savings of more than $2 million. The number of red blood cell units transfused per 1,000 patients decreased by 19.8 percent, while plasma transfusions decreased by 38.9 percent and platelets by 15.6 percent.

In response, UTMB is exploring modifications to order sets that will help ensure they are defaulted to a single unit of product instead of two. The Blood Management Team is tracking overall data for ordering levels of red blood cells, plasma, platelets and cryoprecipitate and will benchmark against similar organizations with similar patient populations who have established blood management programs. Currently, the blood bank offers prospective feedback to discuss the appropriate blood and blood product needs for patients based on their clinical condition. UTMB’s Diagnostic Management Team is available for input on complex coagulation.

**Laboratory Stewardship**

On a national level, about 30 percent of inpatient laboratory testing is considered unnecessary; meanwhile, laboratory tests overall influence nearly 60 to 70 percent of all medical decisions. Therefore, the goal of UTMB’s Clinical Laboratory Stewardship program is to increase patient safety by emphasizing choosing the right tests, at the right time for each patient and ensuring they are interpreted correctly. Another objective is to, when appropriate, minimize repetitive and routine testing because this is associated with preventable harms such as hospital-acquired anemia, false positives, and
interruption of badly needed patient sleep and patient discomfort. Additionally, *Choosing Wisely* cautions that frequent blood draws contribute to anemia that may lead to unnecessary blood transfusions.

The Lab Stewardship Team has reviewed a long list of evidence-based recommendations for appropriate testing, as well as reviewed ordering patterns specific to UTMB, and they have identified several interventions. For example, the team recently observed there was a high volume of TSH (thyroid-stimulating hormone) tests being ordered, but discovered that often, this test was ordered for an individual patient more frequently than once in a 30-day period (this is not clinically recommended). To improve appropriate testing, a new “Repeat TSH” alert will appear in the Epic electronic medical record when a provider enters a repeat order. The alert will function as a soft-stop; when data is available, this alert will display previous test results within the 30-day period.

The team has also reviewed a number of high-cost tests that are frequently or always denied by all or most payors, and determined that many of these tests were either experimental or there were more appropriate tests that could be utilized instead. A feedback mechanism is set up to reach out to the providers ordering these tests to discuss appropriate use. Some recent examples have included the following tests: AmniSure ROM, Next Generation Sequencing for Mathematical Modelling of Natural Phenomena, JAK2 Gene, Methylenetetrahydrofolate Reductase (MTHFR) Mutation, and Fecal Calprotectin.

**Imaging Stewardship**

Medical-imaging technology plays an essential role in the timely diagnosis and management of many conditions. However, one major area of health care cost growth is the increased use of diagnostic testing to identify the cause of a patient’s symptoms.

An estimated 20 to 50 percent of imaging is unnecessary, particularly when it comes to diagnostic imaging. Imaging is also the single largest source of per capita radiation exposure.

*Choosing Wisely* and the American College of Radiology have established a number of recommendations on appropriate imaging, which UTMB will begin monitoring. These include imaging for low back pain, abdominal pain and chest pain (and unnecessary repeat imaging, such as re-imaging within a 48-hour timeframe and/or with 30 days). An alert will also be displayed for prior ultrasounds in past 24 hours. In the future, a clinical decision support tool developed by the American College of Radiology will be turned on in the Epic electronic medical record to help providers select the most appropriate form of imaging while limiting overutilization.

**Opioids Stewardship**

Opioid overdoses are considered a national epidemic. Roughly 21 to 29 percent of patients prescribed opioids for chronic pain misuse them. Unfortunately, many individuals with substance abuse problems aren’t identified as such in their medical records, and it is estimated that 40 percent of practicing primary care physicians report difficulty discussing the possibility of prescription medication abuse with patients. Although the rate of opioid overdoses in the State of Texas is not as severe as the national average, UTMB’s Opioid Stewardship Team is committed to promoting education on safe opioid use and prescribing.

To date, a flag was added to the patient header in Epic that identifies whether or not a patient has an active pain management contract, which is an acknowledgement that the patient and physician have discussed safe opioid use. Additional patient education interventions, particularly regarding medications that are available to patients to reverse an overdose (e.g., naloxone), have been added to the patient’s After Visit Summary. To monitor opioid prescribing across the Health System, a dashboard has been created in UTMB Discover to monitor our patient population who have received three or more opioid prescriptions within one year; it includes a metric to monitor the total levels of opioids to which a patient is exposed across their entire medication regimen (referred to as the morphine equivalency daily dose, or MEDD). This helps prescribing clinicians decrease the risk of patient adverse events. Work is also underway to display MEDD at the time of order entry. We are also reviewing opioid prescribing practices after routine elective surgeries and implementing best practices for our providers at the time of discharge.

**Best Care** continues to be a top priority at UTMB. We anticipate receiving our standing for the third period of the Vizient Quality and Accountability Study early in July 2018, so stay tuned!

At the close of the 2017 study, UTMB ranked No. 9 out of 107 academic health centers that participated in the survey and was recognized at a 5-star hospital with the 2017 Vizient Bernard A. Birnbaum, MD, Quality Leadership Award.
UTMB will soon implement a Modified Early Warning Score (MEWS) system. Every two hours, Epic will calculate and display a MEWS score on our inpatients. The documentation in Epic that contributes to the calculation of MEWS includes: (1) heart rate, (2) systolic blood pressure, (3) respiratory rate, (4) temperature and (5) level of consciousness. For adult medical-surgical patients in Jennie Sealy Hospital and TDCJ Hospital Galveston, patient scores will be further categorized as red, yellow, or green:

- **A score in the green zone** = a MEWS score of 0-2. These are the most stable patients.
- **A score in the yellow zone** = a MEWS score of 3-5. This is a caution zone; these patients have some vital signs and/or level of consciousness that are outside of normal.
- **A score in the red zone** = a MEWS score > 6. These patients definitely have vital signs and/or level of consciousness outside of normal range.

Expert resources from the Medical-Surgical Rapid Response Team will be automatically paged to the bedside (via the Epic electronic medical record) to assist with the evaluation of patients in red and yellow zones.
Update: Juvo Patient Experience and Event Reporting

UTMB successfully launched the new Juvo Patient Experience and Event Reporting system June 21. When reporting, please note there are two options in Remote Data Entry (RDE) – the new system tracks patient events (under the category of Risk Management) and patient compliments and complaints (under the category of Patient Experience). For additional information, please visit: http://intranet.utmb.edu/QHS/default.asp

Something to report?

Remote Data Entry (RDE)

Patient Safety Event (examples)
- Patient fall
- Lab issue
- Medication issue
- Complications of care
- Equipment and devices

Patient Compliment/Complaint (examples)
- Staff were very attentive
- Waited too long for an appointment
- Food was cold
- Dissatisfied with care
- Parking

Please note that any concerns regarding the assessment and management of liability, potentially compensable events, medical malpractice claims and lawsuits should be referred to Legal and Regulatory Affairs – more information at https://www.utmb.edu/LegRegAffairs.

Health Resource Center Caregiver "Time Out" Sessions

July Schedule

Every Wednesday at 2 p.m. in Jennie Sealy Hospital Conference Room 2.506A, UTMB’s Health Resource Center offers 30-minute “Time Out” sessions focused on caregiving, caregiver support, self-care and other health related topics. Sessions are open to all. For more information, contact Patient Resource Specialist Savannah Parks (409-266-7542 or sjparks@utmb.edu) or visit https://www.utmb.edu/health-resource-center.

July 4 – No session this week due to Fourth of July holiday

July 11 – Family Interventions to Improve Diabetes Outcomes
Join us as Diabetes Educator Kelly Wyntjes Ferguson, RN BSN CEN provides tips and tools that caregivers and families can implement to support someone with diabetes and promote their best possible health.

July 18 – Patient and Caregiver Zen Hour with Pet Therapy
Caregivers take on many responsibilities, and often their emotional self-care needs go unmet. Caregivers, family members and patients are invited to participate in the “Caregiver Zen Hour” which offers relaxing and comforting activities to decrease stress and provide a little quiet time.

July 25 – Supplemental Security Income (SSI) and Medicaid
Join us as Attorney at Law, Sandra Ard (Ard Law Firm), provides information and tips on the process of applying for Supplemental Security Income (SSI) and Medicaid and what to do if you or your loved one is denied.

Need to request a Process Improvement project? UTMB’s Performance Improvement team can help standardize processes, sustain the improvements and spread improvements to other applicable areas. To request a New Process Improvement Project for your area, please use the new Project Request Form at http://intranet.utmb.edu/pi/
David Marshall named 2018 American Academy of Nursing Fellow

Chief Nursing & Patient Care Services Executive David Marshall was named among 195 distinguished nurse leaders nationally to be names a 2018 American Academy of Nursing Fellow on June 28. The inductees will be honored at a ceremony to be held during the Academy’s annual policy conference, Transforming Health, Driving Policy, which will take place November 1-3, 2018, in Washington, D.C.

“I am delighted to recognize this outstanding class of nurse leaders as Academy fellows,” said Academy President Karen Cox, PhD, RN, FAAN. "Along with the rest of the fellowship, I look forward to celebrating their array of talents and impressive accomplishments at our policy conference, and then working with them to apply our collective knowledge to transforming health policy."

The Academy fellows, with the addition of this newest class, represent all 50 states, the District of Columbia, and 29 countries.

The Academy is currently comprised of more than 2,500 nurse leaders in education, management, practice, policy, and research. Academy fellows include hospital and government administrators, college deans, and renowned scientific researchers.

Fellow selection criteria include evidence of significant contributions to nursing and health care, and sponsorship by two current Academy fellows. Applicants are reviewed by a panel comprised of elected and appointed fellows, and selection is based, in part, on the extent the nominee’s nursing career has influenced health policies and the health and wellbeing of all. New fellows will be eligible to use the FAAN credential (fellow of the American Academy of Nursing) after the induction ceremony takes place in November.


SHOUT OUTS!

Dr. Stephen Busby and his team were outstanding. He was thorough and explained his thoughts in “layman’s” terms.

Dr. Gwyn Richardson is a wonderful, caring doctor. My family loved her and her explanation of things.

Dr. Adham Kamel was wonderful and a definite asset to the Department of Neurology and UTMB. The young lady who cleaned my room (Jennie Sealy 1124) was SO very friendly, polite and cleaned the room thoroughly!!

My entire experience was AMAZING! I was treated with great care and dignity. The staff and team of physicians were the epitome of Best Care. Dr. Lin Gao, Dr. Wissam Khalife and his team, and the nurses were all amazing in their care and kindness. I would recommend this hospital to everyone.

Everyone that helped me in the hospital went well above and beyond their task at hand. From the nurses to the cleaning crew to the food services as well as the transportation people were great. My nurses did a great job and everyone on 9D did a stand up job, treating not just me but my family as well. Truly a greatly run unit from top to bottom.

Dr. Pamela Lupo took time to explain everything in a manner we understood. She really spent a lot of time with me and gave me confidence in her ability. I was doing poorly and Dr. Emilio Gonzalez made sure that I was seen before my scheduled follow-up appointment with him in June so we could re-evaluate my treatments.

Dr. Angela Stickline is an incredible doctor. She is easy to speak with about personal issues and makes me feel comfortable. I drive an hour and half to see her!

Dr. Juan Sarria is the best! He is very caring, a good listener and always seems concerned about me.

I was in the Day Surgery Recovery area and having a hard time. I just want to thank [Flora Lofton] for your kindness and compassion. You are a wonderful person. I will never forget how sweet you were to me.