For over a year, WISER has been providing the Introduction to STEM Careers course to our local community. We have been fortunate to work with students from School 2 Career (http://s2c.opdc.org/) who come to WISER to participate in multiple hands-on sessions focusing on different topics in the STEM field. In collaboration with the University of Pittsburgh Biological Sciences Outreach program, the Introduction to STEM Careers course, focuses on patients that are victims of an outbreak. The students begin the program by participating in patient rounds. While wearing PPE, the students complete an assessment of 3 different patients with varying symptoms. They then take the patient data and samples to identify the causative agent using common basic research techniques, such as microscopy and PCR! As a bonus, all students learn and practice bystander CPR and AED use, all to the beat of “Staying Alive”. Lastly, another focus of the program is to provide the students an opportunity to learn about the career paths of each of the facilitators. The students are always full of great and interesting questions! A big thank you goes out to Dr. Becky Gonda (Pitt Bio Sci Outreach) and Ms. Lavel Claytor (S2C) for making this such a successful program!
Quick Tips:

Pivot Tables

The use of Pivot Tables in Excel or Google Sheets allow you to quickly compile summaries of large sets of data. We use them to generate utilization reports on rooms hours by course and/or department over time, as well as many other valuable pieces of information. See www.wiser.pitt.edu/imsh2016 for our presentation on this.

Expanding WISER Courses

The First 5 Minutes

Early this summer, WISER recently launched the updated version of the First 5 Minute Course (First 5 Minutes: Module 1. What To Do Until the Code Team Arrives (FIRST 5 MIN 1: CTA)). The course is designed to teach healthcare providers what to do in the critical first 5 minutes of a medical crisis before the code team arrives. The course content addresses how to recognize a medical crisis, how to activate the response team, and complete critical tasks prior to code team arrival. The online content consists of educational videos, references, and interactive modules. In the hands-on portion of the program, staff participate in simulation sessions where they practice the management of medical emergencies.

The updated content was a collaborative effort of more than 9 UPMC hospitals, educators and WISER staff. WISER is pleased to collaborate on a such a large scale to update a program that can assist staff with early recognition and management of a medical emergency.

OB Educators Network

WISER recently hosted the UPMC OB Educators Network meeting and workshop. As part of the OB Educators Network program, WISER conducted a 4-hour faculty development workshop on “Facilitating and Debriefing a Simulation Session”, led by WISER’s Director, Dr. Paul Phrampus and Associate Director, Dr. John O’Donnell. Twenty-four participants from many UPMC hospitals participated in the event. Interactive lectures followed by hands-on sessions were a key component to the success of the event. During the hands-on sessions, the participants created, ran, and debriefed scenarios. After the program, faculty discussed the development of system wide scenarios and educational material as a follow-up to the workshop.

Foley Catheter Course

In an effort to address and improve patient safety, WISER has recently facilitated a system wide roll out of the Foley Catheterization Insertion (Foley Cath In) course, which was originally designed by Giselle Hamad, MD, Ave Perrino MSN, Anita Soltez MSN, and Dawn Wise BSN, RN. Under the guidance of lead instructor, Dawn Wise, WISER supports a train-the-trainers program to teach instructors how to teach the standardized Foley catheterization curriculum, including the onsite components. After the training, these instructors are now able to deploy the Foley catheterization curriculum at their hospital sites. WISER is excited to play a critical role in providing high quality education throughout the UPMC Health System.
BAM Study Launch

Early this summer, WISER was excited to launch the Basic Airway Management (BAM) Research study. This study was designed and piloted by a past WISER Fellow, Dr. Usapan Surabjaewong (Becky), as her scholarly project. Becky has since returned to Thailand to resume her faculty position as a practicing Emergency Medicine Physician at Siriraj Hospital, Mahidol University. The title of the study is: "A single-blinded randomized crossover trial comparing peer-to-peer and standard instruction on airway management skill training". It hypothesizes that novice study participants who have learned in a “peer-to-peer environment” would effectively gain their knowledge and skills on airway management training when compared to traditional instructor led training. Prior to the hands-on training, study participants are provided access to online course content that displays didactic materials focusing on airway examination, basic airway management, bag mask ventilation, and complications. When on-site, the participants will learn the psychomotor skills associated with oropharyngeal airway insertion, nasopharyngeal airway insertion, and bag mask ventilation. These skills will be taught and feedback will be provided in either a peer-to-peer environment or by an instructor. Study metrics include pre- and post-survey data, baseline and post-knowledge assessments, and skills assessments. WISER is pleased to support Becky’s research study and are looking forward to seeing the results!

Quick Tips:

In Situ Events
When running an in situ event, it is always a good idea to create an equipment checklist that includes medical supplies, simulators, and any medical equipment you will be using. That way when the event is over, you can review your checklist to ensure that all the equipment and supplies that you brought are returned to the center and importantly, not left in clinical areas.
Conducting an In-situ Event – A Simulation Operations Specialist Perspective

Many simulation centers conduct in-situ programs. Operationalizing an in-situ event is critical to its success. WISER has created a detailed process to ensure the development of the in-situ event has covered all operational logistics. The following describes the process for development of the in-situ event.

Development Considerations

a. Meet with the person creating or requesting the in-situ program

b. Planning
i. What is the purpose of the event?
   1. Why is the event being conducted?
   2. Is this a single or recurring event?

c. Discuss expectations
i. What are the expectations of your responsibilities?
ii. What data will be collected and reported after the event?
iii. Who is collecting data during the event?

d. The scenario
i. What is it? Vfib? Vtach?
ii. How long should it run?
iii. When is the scenario over?
iv. What is the win / lose?
v. Allow time to program or develop the scenario

e. The location
i. Where will the scenario take place?
ii. Is there a bed or where is the simulator going to be placed?
iii. Where will you meet the day of the event?
iv. Are there outlets by the location?

f. Equipment
i. What are you expected to bring?
ii. What will be used from the location?

g. Resources
i. What is staffing like at the location?
ii. How many people are expected to respond?
iii. What are the responders expected to do?

h. Time
i. What time of day will the event occur?
ii. What shift?
iii. Duration of the event?

Day of the event

a. Reach out to your contact
i. Confirm that the event is still occurring
ii. What time are they expecting to meet you?
iii. Where are they expecting to meet you?
b. Test everything
   i. Test the equipment the day prior to and the morning of the event
   ii. Is the scenario loaded on the computer?
   iii. Is there backup equipment?

c. Equipment considerations
   i. What should the you bring? (Should be easy to transport)
   ii. How is the equipment getting to the site?
   iii. What will likely break? (Bring extras)
   iv. What if the location needs to be moved? (Bring supplies...extension cords, etc.)
   v. Any AV equipment?
   vi. Any medical equipment?
   vii. Extension cords and power strips?

d. Time considerations
   i. Equipment prep
   ii. Travel to site
   iii. Set up
   iv. Scenario time
   v. Debriefing time
   vi. Tear down
   vii. Travel back
   viii. Report creation
   ix. Return equipment to service

e. Site preparation
   i. Arrive early
   ii. Pick a location
   iii. Review for logistics
      1. Plugs
      2. A place to control the simulator
      3. Can you see the action?
   iv. Notify family members and patients that are close to the action

f. Running the scenario
   i. Take a moment to huddle with the instructor
      1. Remind the team of your role
      2. You are a second set of eyes for the event
   ii. Be active in the debriefing
      1. You may have collected data or seen something that you may want to share

g. Post Scenario
   i. Break down of all equipment
   ii. Return environment to the original setting
   iii. Travel back to the simulation center
   iv. Unpack the simulation equipment
   v. Process any data that needs reported
Congratulations to Dr. Neal Benedict and team on their recent 2017 Award for Excellence in Assessment by the American Association of Colleges of Pharmacy!

Congratulations to Dr. Neal Benedict et al. on their recent 2017 Award for Excellence in Assessment by the American Association of Colleges of Pharmacy! The award was for the Blended Simulation Progress Testing for Assessment of Practice Readiness program run at WISER. This is the 3rd year the group has run the program at WISER. In addition to Dr. Benedict, Drs. Meyer, Smithburger, Donihi, Empey, Seybert, Drab, and Farkas, as well as Larry Kobulinsky, Thomas Waters, and John Lutz were named on the award. This award recognizes outstanding Doctor of Pharmacy assessment programs for their progress in developing and applying evidence of outcomes as part of the ongoing evaluation and improvement of pharmacy professional education. Recipients of this award are provided with an opportunity to present their work during a special session at the AACP Annual Meeting in July of each year. Congratulations to all involved!

WISER Welcomes New Visiting Scholars

WISER is excited to welcome two of our newest Visiting Scholars! **Minjie Lin MD, PhD**, is a WISER fellow who will be studying with us for the next year. She is spending her time focusing on research, publications, and curriculum development. Dr. Lin is a cardiologist from the Second Xiangya Hospital, Central South University in China. At her institution, Dr. Lin held the position of Vice President of the Post-Graduate Association of Central South University. Dr. Lin's interest in research would later bring her to the Department of Surgery at the University of Pittsburgh as a Research Fellow. Her studies there were focused on Non-Alcoholic Liver Disease (NAFLD). Her hard work and insightful research has led to several presentations. WISER is happy to welcome Dr. Lin to its WISER family. Dr. Lin brings an extensive background that encompasses education, experience and research.

**Dr. Rongzheng Yue** joins us from West China Hospital, Sichuan University in China, where she is an attending nephrologist. Her interest in medical teaching began almost 10 years ago, where she started as an assistant teaching director in her nephrology department. She has extensive experience with lecturing, flipped classroom design, and evaluation in the field of diagnostics. Dr. Yue will be spending 6 months at WISER focusing on curriculum development. We are very happy to welcome Dr. Yue and look forward to working together.
Event Logging Application

WISER has recently developed a set of tools that allows us to quickly create assessment forms that are both easy to use and very powerful. We call it our Event Logging Application (ELA) platform. This web based platform is housed on an inexpensive Linux server hosted by Google. The PHP based ELA engine gets the questions, answers, and form layout from within a Google spreadsheet. This same spreadsheet is used to collect the submitted data. Sophisticated analysis can be used by programming the incorporated JavaScript engine in the Google sheet. With that functionality we can set alerts, create graphs, and even send customized mass emails to both our students and instructors with a click of a button.

The data collected can be based upon standard forms, time markers, and other input. It is easy to create and modify the forms as need, as we simply need to change some of the criteria in the Google Spreadsheet.

We recently used the ELA for our Pharmacy Readiness Assessment course that was run early this summer. Over 250 first, third, and residency Pharmacy students participated over a two day period, the ELA was used to collect over 40 assessment points over two stations. Automated grading, based upon their level, was done with a click of a mouse. In addition, all 250 students automatically received a customized email, giving them specific feedback on their performance in four patient care categories.

We have incorporated the ELA into systems analysis, in-situ training, and many other applications. We look forward to expanding it use throughout all of WISER's endeavors.

Highlighted Publication

Congratulations to Dr. William McIvor, Cardiac Anesthesiologist at UPMC and Associate Director, Medical Student Programs at WISER, for your recent publication. The article titled Simulation-based Assessment of the Management of Critical Events by Board-certified Anesthesiologists explores how simulation was utilized to assess board certified anesthesiologists on their ability to manage and treat a medical crisis.

The article was published in Anesthesiology, The Journal of the American Society of Anesthesiologists.

(http://anesthesiology.pubs.asahq.org/article.aspx?articleid=2643158)
WISER Staff Updates

If you have come to WISER recently, you may have noticed there are a lot of new and missing faces! We hope this article will fill you in on all the changes.

**Jen Sinclair:** Jen has been a WISER fixture for over 10 years. As administrative coordinator, she has helped the majority of WISER faculty manage their classes and kept things running smoothly! Her welcoming presence is certainly missed while she is on sabbatical in Stockholm, Sweden! Jen will be returning in July of 2018. We wish her the best of luck with this amazing opportunity.

**Janelle McCarl:** Janelle has worked at WISER for the past two years as an administrative assistant. Her smiling face at the front desk was one of the first things that participants and instructors saw when they entered WISER. Her outstanding work will be greatly missed as she has recently transferred to fulfill a position as a UPMC Credentialing Coordinator. Through this new role, Janelle will continue working with healthcare providers to help maintain their credentials! Congratulations Janelle!

**Eric Feltner:** WISER would like to welcome our newest Simulation Operations Specialist, Eric Feltner, to our team. Eric comes to WISER from STAT MedEvac where he worked as a Communications Specialist for over 9 years. Eric is an Emergency Medical Technician and a volunteer fire fighter with Rural Ridge Volunteer Fire Department. He is also a PADI Certified Open Water Diver and is certified by the FAA as an unmanned Aerial Vehicle Pilot. Eric is diving in head first with his Simulation Operations Specialist training! Please join us in welcoming Eric to the team!

**Noreen Mahboob:** We are very excited to welcome Noreen Mahboob to our WISER family! Noreen recently started in her role as the Senior Administrative Assistant to WISER’s Director, Dr. Paul Phrampus. As a graduate of the University of Toledo majoring in organizational leadership and management, her collegiate experience will provide a great background to her role. Following college, Noreen completed an Administrative Internship to various members of the Flower Hospital administrative team, which provided her insight into healthcare management and administration. We look forward to Noreen’s contribution to the WISER team!

**Miranda Snyder:** WISER would like to welcome Miranda Snyder who is a new Administrative Assistant. Miranda joined us from eKidzCare Pediatric Home Health where she was responsible for recruiting and hiring field staff for in-home pediatric patient care. Prior to that, Miranda worked extensively as a volunteer for AmeriCorps assisting programs that are responsible for helping clients find employment. Please welcome Miranda to the WISER team!
Lung Procurement Task Trainer

Since 1982, UPMC’s Lung Transplant program has performed more than 2,000 lung transplants. Per the United Network for Organ Sharing, there are over 75,000 individuals awaiting some type of organ transplant. Specifically, there are approximately 1,400 persons awaiting a lung, or heart/lung block transplant.

To meet the demand for lung transplantation, surgeons need to be educated on acceptable donor criteria, as well as the process of successfully procuring lungs for transplantation. WISER has had the honor of collaborating with the UPMC Department of Cardiothoracic Surgery to train residents on various skills specific to cardiothoracic surgery. One such skill is the ability to adequately assess organ donors as a potential lung donor. Once an acceptable lung donor is identified, arrangements are made with the procurement program to coordinate the recovery of the lungs for transplantation.

During meetings with the Director of UPMC’s Lung Transplant program regarding the operational aspects of conducting a lung transplantation course, the lack of an appropriate task trainer was identified. The required specifications of the trainer were: 1) a life-size torso, 2) hole in the mid-sternum area that would simulate having to work “inside” of the body, 3) waterproof to withstand the volume of perfusion solution that would be infused to preserve the lung tissue, 4) easily and quickly cleaned, and 5) light weight, sturdy, and inexpensive.

WISER set out to identify commercially available trainers. There were a few simulators that met many of the specifications, however when looking at the quantity needed (initially 6, with an additional 6 in three months), quickly became cost prohibitive. Enter in WISER’s fiberglass man!

**WISER’s Fiberglass Man**

To create the trainers, Bondo’s® Fiberglass Resin material was selected. The kit comes complete with the resin liquid, hardener, and a sheet of fiberglass cloth. While the resin and hardener are a little challenging to mix and work with, the largest caution is to be sure to be in a well-ventilated area due to the odor associated with fiberglass. It is also recommended that proper protective gear is worn when working with fiberglass resin, and lastly, there is also the need to work quickly as the resin will begin to set generally within 20 minutes.

To make the trainers sturdy, multiple layers of glass cloth and resin were applied, with special attention paid to the sides of the trainer down to the table surface and any curvatures of the torso. The WISER trainers were made with 3 to 4 layers of material, depending on the amount of hardener used when mixing the resin.

Once the trainer is dry (on average the trainers were left to cure for 3 days), the uneven edges of material were removed to ensure the device rested squarely on a hard surface.

At this point, the senior resident in the CT Surgery program was contacted to sketch the desired chest opening on one of the trainers, which would be transferred to an additional torso once the initial cut-out was approved.

*(continued on next page)*
Lung Procurement Task Trainer - continued

To help with stabilization of the trainer, ¾” foam pipe insulation was applied to the sides of the torso, and the sides of the inside of the chest cut out. Adding the foam inside the cut out served two purposes: 1) The foam could accept the chest retractor to simulate holding the chest cavity open and 2) It protected the hands of the participant from potentially being injured by the sharp edge of the fiberglass.

Once the prototype was completed and approved, the remainder of the family was created, 6 initially, and 6 additionally for a total of 12.

The next step of the creation process was seeing the device in action. Pictured below, is the trainer in use during the inaugural Lung Procurement and Transplantation conference conducted at UPMC Health System, in conjunction with WISER's support.

Since the first class at UPMC, the course was offered at the International Society for Heart and Lung Transplantation (ISHLT) 37th Annual Meeting and Scientific Sessions held in San Diego CA. in April 2017. A total of twelve stations were utilized during the event, which was very well received by the participants.

WISER frequently receives requests to conduct educational activities and oftentimes, funding is not available to support the requests. The lack of funding forces outside-of-the-box thinking on how WISER can meet a course's financial demands, while still achieving its educational goals and objectives. So, what did it cost to make these trainers, and how much time was devoted to the project? The cost per trainer was approximately $75.00 each, requiring around five hours' time, not counting the time the trainers were curing.
We just wrapped up another successful iSIM (Improving Simulation Instructional Methods) faculty development course here at WISER. It is always refreshing to work with people from all over the world and help them realize their potentials as simulation faculty members. It is also rewarding to help people break free of the rules and myths put upon them by others that stifle creativity and growth.

Refocusing on learning, learning objectives, creating a safe learning environment and encouraging creative solutions allow people to go back home and contribute to building successful simulation based education programs. Allowing people to learn a debriefing method and practice it in a safe environment is quite a rewarding experience for us all.

WISER is continuing to grow with the launch of several new programs recently. We have been working in our system hospitals with our Inpatient Crisis Response System Evaluation and giving feedback to the hospitals to be able to identify latent threats to safety as well as to help prioritize training efforts to assist in the care of deteriorating patients.

Earlier this year we have launched a new highly successful introduction to debriefing and facilitation program. Educators from across the UPMC Health System are enjoying it as a first-step in the direction of becoming a simulation based educator.

We also participated in Healthcare Simulation Week through a series of videos that we produced showing candid, brief interviews with WISER staff members, some of our faculty and students! In addition to helping to create a buzz about simulation it was fun to get to know people and hear about their passion for simulation and thoughts of how they think it will help them into the future.

We have some busy months ahead as we look to the fall and winter. It’s hard to believe it is already time to start preparing for IMSH again. I look forward to seeing many of you in January in Los Angeles!

Until next time, happy simulating!

Visit Dr. Phrampus’s simulation blog at http://www.SimulatingHealthcare.org

WISER is affiliated with the University of Pittsburgh and the UPMC Health System