As a Department within the Hospital of the University of Pennsylvania, the Penn Medicine Clinical Simulation Center primarily follows the policies and procedures of the institution. This document outlines the Center’s supplemental Policies and Procedures.
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All forms referenced in this Policy and Procedures Manuals as well a copy of the Manual itself can be found on the Sim Center Website Faculty Access page at:

http://www.uphs.upenn.edu/SIMcenter/Faculty_Access/Secured_Faculty_Access.html
I. General Information

This Policy and Procedure Manual is not a substitute for other policies and codes, but a complement to other codes, policies and regulations held by Penn Medicine which regulate the behaviors of staff and learners of the Penn Medicine Clinical Simulation Center.

Contact Information: Penn Medicine Clinical Simulation Center
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Website: http://www.uphs.upenn.edu/simcenter/

Business Hours: Regularly scheduled business hours are Monday to Friday, from 7:30 am to 5:00 pm. Business hours may be extended or may include weekends in order to accommodate special programs. Such requests will be decided on a case-by-case basis.

Parking: Parking is $21.00 per day for non-UPHS employees or $10.50 per day with Penn Medicine ID at 1700 South Street Parking Garage (entrance to the left/east of 1740 South Street building entrance). Parking is free 3 pm to midnight and on weekends with Penn ID at 1700 South Street Parking Garage for those students enrolled in evening or weekend classes. The Center does not validate parking, although parking passes can be purchased at the Center by non-UPHS employees for a discounted rate of $11.00.
Mission Statement

The mission of the Penn Medicine Clinical Simulation Center is to improve patient safety and clinical outcomes by integrating medical simulation based teaching methodologies into the educational curriculum for all students, residents, attending physicians, nurses and other ancillary health care staff at the University of Pennsylvania Health System.

Vision Statement

Improved Patient Care through Simulation Based Teaching and the Advancement of this Educational Methodology

Penn Medicine Clinical Simulation Center is an educational entity focused on utilizing and developing the field of simulation based medical education with a staff committed to:

- Be learner-focused, service-oriented educational organization.
- Design and implement simulation training that fully incorporate state-of-the-art training techniques and equipment.
- Incorporate medical simulation into the training curriculum for students, faculty and staff at all levels in all specialties.
- Contribute to the published field of research surrounding simulation based educational methodologies.
- Demonstrate the validity and predictive value of medical simulation as a competency assessment evaluation tool.
- Further the development of medical simulation training and technology through collaboration with corporate sponsors and academic professionals from various non-medical specialties.
- Serve as a resource for other healthcare professionals, educators and researchers in the field of simulation based educational methodologies.
- Become a regional leader in the delivery of simulation training to local medical, corporate and civic organizations that lack the facility, equipment and personnel of their own to do so.
II. Center Layout
III. Governance:

**Steering Committee** - The Center is guided by the Advisory Steering Committee which includes a high level administrator from each of the three health system hospitals, the UPHS Chief Medical Officer, Corporate Director of Nursing Professional Development, VP for Quality and Patient Safety, VP for Learning and Development and the Senior Vice President & Chief Administrative Officer for Corporate UPHS. The Steering Committee also includes members from key clinical departments such as Surgery, Anesthesia, OB/GYN and Emergency Medicine, the Graduate Medical Education and Perelman School of Medicine. The Steering Committee meets with the Executive and Operations Director on a quarterly basis.

**Executive Director** - Ensures that the Center curriculum is aligned with the mission and educational objectives of the Institution and meets the needs of the faculty and learners. He/She develops the PMCSC strategic plan and budget and oversees its implementation in coordination with the Director of Operations. He/She forges partnerships within and external
to Penn Medicine to increase utilization and ensures all simulation curriculum is developed in alliance with Institutional risk reduction policies and aimed at improving patient safety.

**Director of Standardized Patient Program** – Oversees and ensure the successful operation of all SP programs at Penn Medicine. This includes program and budget development, implementation, evaluation and staffing.

**Operations Director** - Oversees the day-to-day activities of the Center such as the schedule, staff, learners, and budget. Develops the strategic plan and budget and oversees its implementation in coordination with the Executive Director.

**Director Life Support Programs** - Oversees the American Heart Association course related activities of the Center including the schedule, instructors, and learners.

**Operations Committee** - Reviews the weekly operations of the Center including the schedule, resolution of complaints, maintenance of supplies, and course preparation. This committee is composed of the Director of Operations direct reports and meets every two weeks.

**Director of Research** - Oversees a program to examine the impact of simulation on quality improvement initiatives and overall patient outcomes. Provides leadership and support to Faculty, Simulation Educators and other parties in the development, implementation, evaluation and publication of simulation-based research activities conducted at PMCSC.

**Research Committee** - Oversees and reviews all ongoing research conducted at the Center. Its members are Penn faculty members with previous experience in simulation-based research. The Research Committee meets on a quarterly basis.

**Specialty Directors** - Are the point person for their department and are typically responsible for integrating simulation-based technology into their department’s existing educational curriculum and/or research. This committee is composed of faculty members representing all major clinical departments, plus several non-clinical fields, such as engineering. Specialty directors are often the individual responsible for the majority of the simulation-based teaching and research within their department. Many receive some sort of financial compensation from their primary department for their percentage effort at the Center. The Specialty Directors’ Committee meets bi-annually.
IV. Complaint Resolution Process

In the event the complaint arises from a Center employee, the primary policy that would guide the resolution would be the UPHS “Managerial Decision Review Processes” Policy. In such a situation, the Operations Director would be the primary “manager” and the first to respond. However the complaint can be escalated to the Executive Director at any time.

When dealing with in-person learner issues or complaint or concern, it may be either the student or their instructor who brings the complaint directly to the attention of the Center staff. If the complaint requires an immediate response, the staff member who received it may either resolve the complaint him or herself or escalate it to the Operations Director based on its scope. The Operations Director can in turn, either resolve the issue or bring it to the attention of the Executive Director for guidance and resolution. If the dispute involves AHA certification courses such as ACLS, BLS or PALS, (students showing up late to class or with expired certifications) the chain of escalation would also include the Director of the Life Support Program and the AHA Regional Faculty Member.

Complaints or suggestions are also received through emails, letters, and session evaluations. Issues submitted in writing, as well as in-person complaints, are discussed at the weekly Operations Committee Meeting or at the bi-monthly Life Support Meeting. If the complaint pertains to a Center instructor, the complaint would be shared directly with him/her.
Complaint Resolution Chain of Command

Student/Center User

Course Instructor

Center Staff or AHA Center Coordinator (if ACLS/BLS/PALS related)
   (Josef Luba, Chet Zaremski, Gregory Motuk, Tonya Jones)

Operations Director or Director of Life Support Program (if ACLS/BLS/PALS related)
   (Gretchen Kolb or Gregg Lipschik)

Executive Director or Regional Faculty Member (if ACLS/BLS/PALS related)
   (PMCSC Exec Director or Karen Craig)

The Penn Medicine Clinical Simulation Center Executive Director can also be contacted at any point during this process to resolve disputes
V. Quality Improvement Process

In alliance with the Center’s mission to improve patient safety and clinical outcomes through the use of medical simulation, the Center actively contributes toward quality improvement initiatives identified by the Health System. These initiatives may stem from areas of vulnerability identified through Penn Safety Net patient complaints, and recent malpractice claims, among others. To contribute to the Health System QI process, Center staff members participate in project committees and develop simulation-based education to support proposed initiatives. The Center serves as a site of several projects initiated by the Risk Reduction and Patient Safety Committee. Both the Health System Chief Medical Officer, Corporate VP for Quality and Patient Safety are active contributing members of the Sim Center Steering Committee.

In addition to contributing to Health System quality improvement initiatives, the staff, faculty and Steering Committee of the Center are continually looking for ways to improve and streamline internal Center processes. We feel that learner and instructor feedback provides the best means to identify areas of opportunity and potential improvement. To encourage this type of dialogue, the “Penn Medicine Clinical Simulation Center Session Evaluation Tool” includes an open-ended question about how the learner’s session at the Center could be modified to better suit his/her needs. There is also a general Simulation Center email address to which visitors can submit comments. Specialty Faculty Meetings and quarterly Steering Committee Meetings are another means by which the Center administrators can review and discuss current practices and receive feedback from key stakeholders.

All complaints and suggestions are taken very seriously and continue to be discussed in weekly Operational meetings until a successful resolution is reached. Utilization of learner feedback has enabled the Center to identify ways to improve course planning, debriefing, student enrollment and access to course materials.

Finally, providing centralized access to current Center policies, schedule, and information is essential in the ongoing process to improve quality. For this reason, the Center website is updated and reviewed on a weekly basis to ensure all information is current.
VI. Course Administration
   
   A. Scheduling and Planning
   
   All scheduling requests can be submitted online using the “Session Planning Worksheet” [www.surveymonkey.com/s/Session_Template](http://www.surveymonkey.com/s/Session_Template) which is received by the Operations Director. Events should be scheduled at a minimum of a month in advance of the session date, with a preference for six to twelve months. Priority in scheduling is given to those requests which are aligned with the PMCSC Strategic Goals and the Penn Medicine blueprint for Quality and Patient Safety Imperatives. Requests are honored in the order they are received, space and staff permitting. While requests for specific rooms may be made, the final classroom assignment is based on the size and needs of all groups scheduled on a given day and up to the discretion of the Operations Director.

   Following submission, the “Session Planning Worksheet” is reviewed by both the Sim Educator and Operations Director. If the lead instructor/faculty member has never hosted a previous course at the Center, he/she is requested to schedule a meeting with the Sim Educator and Director of Operations in order to:

   - Tour the facility
   - Review and sign the “Simulation Instructor” job description as a commitment to maintain the responsibilities outlined
   - Discuss his/her course needs, objectives and session evaluation form to be used
   - Discuss the room set up, medical equipment and any disposable needs
   - Receive a tutorial on the AV capabilities of the facility
   - Receive suggestions from the Educator regarding videos, pre/post session evaluations forms, and skills trainers to incorporate in the session
   - “Orientation to Simulation”
   - New instructor/faculty members are recommended, but not required to attend both the “Sim Center: Introduction to Medical Simulation” and “Sim Center: Debriefing for Healthcare Simulation” courses. Both are one-day introductory courses hosted monthly to semi-monthly at the Center.

   If the event is a new course/session and also requires scenario development, a completed “Scenario Planning Template” must also be submitted at least four weeks prior to the anticipated event. If more than one scenario must be developed, separate scenario development forms must be completed for each, and additional time may be required.

   Once the scenario is developed, it is reviewed with the Simulation Educator (ideally in person) one week prior to the scheduled session date so that any remaining questions or missing scenario aspects can be addressed. At this time, the Educator and Technician may suggest
changes to the scenario to better support the learning objectives of the session as dictated by the instructor.

If a scheduling request is made for a course that has been hosted at the Center previously, and there are no changes to the curriculum by the instructor and space is available, the event is added to the Center calendar.

For courses that are developed and created by the Center, such as OR Emergency Team Training, depending on the topic, content experts (both internal and external) from various fields are contacted for input. If internal, these are individuals are often Specialty Directors, however when the training involve a specific sub-specialty not represented and will include participants from that discipline, other faculty members may be consulted as well. The scenarios for courses developed by the Center are then reviewed through practice by several groups of learners such as surgery residents and the trainers for errors, inconsistencies, realism, prior to use.

B. Cancellation Policy

Departments that cancel sessions less than one week prior to the course date will be charged for the event based on the number of students, course duration and space booked for the event.

For AHA courses including BCLS, ACLS and PALS, learners must agree to the following in Knowledge Link prior to being permitted to register for a course:

- I agree that if I am unable to attend this class, I am responsible for dropping my enrollment in Knowledge Link as soon as possible and before class starts.
- I understand that if I am unable to attend this course and fail to drop my enrollment via Knowledge Link greater than two business days prior to its start, my affiliated UPHS Department (or myself) will still be charged the full registration fee for the course I fail to attend as well as for the course I re-register for and complete.
- I understand if I elect to take this course by my own choice, and it is not a requirement of my current role in the health system, my affiliated UPHS Departments may charge me the cost of course registration and any incurred cancellation fees.
- I agree if I decide to go on a wait list, I am still responsible for reviewing the text and preparing for the course. If a spot opens I will then be admitted to the course. If I show up unprepared, my access to the course will be denied.

For any violations of this policy, the learners affiliated UPHS Department will be charged the full cost of the course at the end of the month in which the violation occurred. It is then up to the
manager of that Department to determine whether he/she will require the employee to reimburse the Departmental account.
VII. Student Registration in Knowledge Link

All students must register in Knowledge Link for the Center course they intend to participate in PRIOR to their arrival at the Center. It is the responsibility of the sponsoring department, instructor and student to ensure this is completed. Instructors will receive a confirmation email a week or so in advance of the course date that contains the name of their session, time and date as it is listed in Knowledge Link. They are to instruct all students that registration must be done prior to arrival.

Prior enrollment in Knowledge Link is essential in order to adequately plan for the size of the class (both space and equipment), provide an accurate sign in sheet for each group, alert security as to those arriving to the Center, and accurately charge for student time.

It is possible for students to register for a course after they arrive at the Center via the computers in the computer lab; however, this should be the exception, not the rule. Groups that repeatedly fail to have their students register through Knowledge Link for their events may not be permitted to schedule future sessions at the Center.
VIII. In Situ Simulations

In Situ hospital team training provides an opportunity to improve interdisciplinary team dynamics and communication as well as to identify unit-based key systemic errors, in many cases, more effectively than similar training conducted offsite, at the Simulation Center. However in order to promote a culture of safety improvements based on these trainings, unit-based administration must be represented in the planning and delivery of such exercises and subsequently enact education, implement new policies or alter system processes to resolve any patient safety issues identified via training.

A. Development & Scheduling:

Unit requests for In Situ training, including a topic and general objectives, should be submitted via the “Session Planning Template” www.surveymonkey.com/s/Session_Template. Requests must be complete. The request should be made be made by the “Unit Facilitator”, an individual within that Unit who will serve as content expert, participate in the simulation and debriefing, and who has the authority to resolve any patient safety issues identified via training. Examples of simulation topics include new process or procedure for operations improvement purposes or recent sentinel events with a goal to understanding the system flaws, process failures and team break downs that lead to such events.

Requests are received by the Sim Center Operations Director and assigned to a “Simulation Team”, the PMCSC Educator, Professional Development Specialist (PDS) and either a Physician Faculty member or a Nurse Educator from that entity, are assigned to that Unit to develop and run that simulation. The Simulation Team will meet with the “Unit Facilitator” from that Unit to further develop the topic and objectives for the simulation through completion of the “Scenario Planning Template”. Scenarios should be designed to prompt specific human factor behaviors such as leadership, shared mental model, situational awareness and closed loop communication. The participants in the simulation should be interdisciplinary professional teams and are encouraged to also include multiple departments. The Unit Facilitator, PMCSC Educator, PDS, Faculty member and/or Nurse Educator will work to develop the simulation accordingly. The exercise should include a participant session evaluation and pre and post questionnaire to access knowledge gained from participation in the simulation.

If the In Situ session is requested specifically for Performance Improvement (PI) purposes, a member of the PI team from that entity will participate in the planning and the development of an appropriate “swim lane” process map. A project scope, with deliverables and clearly defined project roles and responsibility will be agreed upon by the PMCSC staff and Project Leader. If this In Situ request is for the purpose of Performance Improvement, the submission must include a "Simulation Champion" in a leadership role.
The role of this individual is to:

- Provide guidance to the Unit Facilitator and team on the scenario.
- Participate in the debrief and assist in the approval of action plans.
- Plays an active role in supporting the implementation of action plans.

Once this process is complete, this Unit is added to a list of those approved for In Situ training and a date for training is selected based on the availability of the manikin, Simulation Team, Unit Facilitator and PI team as appropriate.

**B. Delivery:**

Set up for the session should be as realistic as possible including the equipment and supplies that would typically be present in patient setting. If there are pieces of medical equipment, such as crash carts, or medications that cannot be used during the simulation due to impact on patient care, this should be clarified in advance. All simulated medications should be labeled as such to prevent confusion with actual clinical supplies. Sessions will be recorded for debriefing purposes, via either a mobile SimCapture Unit set up in the patient room or via E-Lert monitoring. The simulation may be run multiple times on the same date or various to provide training to the maximum number of team members. There must be adequate staffing during the exercise to ensure patient care is not interrupted.

A full participant briefing, emphasizing communication and teamwork, the importance of participants doing what they would typically do in a real clinical scenario and the need to suspend ones disbelief should precede each initial In Situ simulation.

**C. Debriefings:**

Following the simulation, a debriefing, led by either the PMCSC Educator, PDS, the Physician Faculty member or Nurse Educator (if trained) and attended by the Unit Facilitator, should take place in a conference room with a monitor available for viewing key components of the recorded simulation. Breakdowns in communication and teamwork and contributing conditions in the work environment will be highlighted during the debriefing.

**D. Safety Improvements:**

Based on the team simulation performance and debriefing, a written summary of the session with the identified system weaknesses and key errors itemized generated by the PMCSC Educator, PDS or PI team members will be provided to the Unit Facilitator. The Unit Facilitator with support from other supervisory members of the Unit must then develop a plan to implement countermeasures to prevent patient harm through steps such as additional staff education, revision of system process, et cetera. These countermeasures should be clearly
itemized and identified and linked to clear measurable outcomes. In Situ findings are discussed at both Executive Steering Committee Meetings as well as at quarterly In Situ Simulation Committee Meetings.

E. Follow Up:

Three to six months following the initial simulation, a second similar simulation, with added distracters used to mimic real-life incidents will occur with the intent to test the effectiveness of the countermeasures enacted following the initial training. The Unit Facilitator should again be present in the debriefing.

F. Oversight:

Outcomes and findings from In Situ training are reported to the Executive Steering Committee and the In Situ Committee which meets each meet quarterly. The In Situ Committee includes Patient Safety Officer, members of the Clinical Emergencies Committee, Directors of Nursing Education.
IX. Professional Development Requirements for Instructors

As outlined in the “Simulation Instructor” job description, simulation instructors are required to attend at least one continuing education event per year focused on some aspect of simulation-based education. Since not all instructors have the means to travel annually to attend such courses, they can fulfill this requirement by participating in Center-sponsored courses as well as in external events. Examples of educational events offered at the Center in the past as well as on an ongoing basis include:

- “Teaching with Simulation: A Simulation Facilitators Course”. This is a collaborative 3-day course offered bi-annually by the Jefferson University and Hospitals, Penn Medicine, Penn School of Nursing, the Perelman School of Medicine at the University of Pennsylvania, and Children’s Hospital of Philadelphia. This course includes the fundamentals of curriculum development and effective debriefing, is a recommendation for all new instructors who teach with simulation on a regular basis, would like to lead their own scenario debriefing sessions and have not undergone a similar course at another institution. This course is accredited by both ACCME and ANCC.
- “Sim Center: Introduction to Medical Simulation”. This monthly one-day course is an introductory work-shop for clinical educators and faculty who use, or plan to use, simulation-based educational efforts such as in-situ simulations, procedural and team training. Using lectures, demonstrations and interactive exercises, we will introduce participants to the basic techniques and nomenclature of simulation, including types of simulation, available equipment, audiovisual aids, logistics, challenges of simulation, and debriefing. As part of the course, participants will design, perform and debrief a simulation-based team-training exercise. This course is accredited by both ACCME and ANCC.
- “Sim Center: Debriefing for Healthcare Simulation”. This monthly one-day course is an opportunity for hands-on exposure to a variety of simulation equipment and techniques, preparing learners to introduce and use the powerful, versatile techniques of clinical simulation in their educational programs. This course is accredited by both ACCME and ANCC.
- Training courses on operating and programming various patient simulators such as Laerdal SimMan, Laerdal 3G, Laerdal SimNewB, Gaumard NewBornHal, Gaumard Noelle, ALS manikin.
- Training on the use of the B-Line Software System or other aspects of Center audiovisual system
- Upgrade and initial system training on virtual reality trainers
- Individually scheduled tutorial and refresher sessions on the use and programming of any Center simulators
Instructor training in the following disciplines: Advanced Cardiac Life Support, Basic Cardiac Life Support, Pediatric Advanced Life Support, Fundamental of Critical Care Support, Advanced Trauma Life Support, Advanced Trauma Care for Nurses, Neonatal Resuscitation Provider

- The “Sim Center Research Dinner” offered annually
- The “Philadelphia Area Simulation Consortium”, established in 2013, meets bi-annually. It is composed of simulation educators, technicians, researchers and administration from over twenty academic and healthcare based simulation centers in the tri-state area. The purpose of this group is to collaborate on multisite research and share best practices for learner assessment and outcomes measurement.
- Presentations from the “Sim Center: Introduction to Medical Simulation” and “Sim Center: Debriefing for Healthcare Simulation” are available for review on the restricted Sim Center Faculty Access page.

In addition to these internal course offerings, there are also local and national continuing educational events in medical simulation, such as the “Facilitator Debriefing Course” at Children’s Hospital of Philadelphia, regional Laerdal Simulation Users Network (SUN) meetings, other corporate sponsored educational events, simulation training courses at institutions such as Harvard, CRICO/RMF, WISER, IMSH as well as other simulation society annual meetings.
X. Course Evaluations

Just as instructor to student feedback is a vital part of simulation-based training, so too is the learner’s evaluation of the instructor, staff, equipment, and facilities. Without the benefit of feedback from session participants, the Center would be unable to continually improve and enhance its scenario training and offerings.

Below are guidelines for the use of evaluations for courses conducted at the Center:

- All sessions should include learner evaluation of curriculum materials, integration of simulation-based education and debriefing, technology/simulators utilized, facilities, staff and the instructor(s).
- Some instructors or Departments may choose to use an evaluation form they have designed or is required for CME or CEU purposes. In addition, many Departments will evaluate a simulation-based session as one component in a larger rotation or course that includes non-simulation-based elements. In both cases, the instructors or Departments must send the Center summaries of these evaluations for our records.
- All evaluation tools should be submitted for review by the Sim Educator and Specialty Director from that particular specialty prior to use. Suggested changes to the tool may be made and incorporated based upon this review.
- Regardless of the evaluation version used by the instructor or Department, all learners receive a copy of the “Penn Medicine Clinical Simulation Center Session Evaluation Tool” following their session. This tool is available as a paper copy as well as online via a Survey Monkey link that can be emailed by instructors or staff. A link to this survey is automatically emailed at the end of each month to all learners of the Sim Center from that prior month. The “Penn Medicine Clinical Simulation Center Session Evaluation Tool” has previously been reviewed by the Center staff and Specialty Directors. Students are advised that completion of a course evaluation is required in order to receive course credit in “Knowledge Link”.

If the evaluation tool used originated with the Department or instructor, we request that the instructor or Department send the Center summaries of these evaluations for our records. The Center does not require copies of each of the original evaluations. If the “Penn Medicine Clinical Simulation Center Session Evaluation Tool” is used, original copies are retained by the Center and each evaluation is entered into Survey Monkey for summary. Any complaints are immediately shared with the instructor and staff following the session so that improvements can be incorporated in future sessions. Evaluation responses are also compiled and shared with instructors and Specialty Directors as part of annual instructor self reviews. Course curriculums are modified based on feedback.
XI. Evaluation of Simulation Instructors

In some cases feedback gained from participant evaluations may identify instructors who require assistance to more effectively integrate simulation technologies or debriefing into their sessions. It may be the teaching modality, the debriefing process, the software, or the simulators posing a challenge to the instructor.

All scenario-based sessions at the Center are recorded and stored using B-Line Medical SimCapture. Therefore, live examples of the instructor in action can be reviewed with the Sim Educator with the goal of helping the instructor master this educational modality. The Center staff can make recommendations about either internal or external training courses the instructor might attend. If the issue is technology based, either the Sim Tech or the Educator are available to review any technical aspects of the simulators and AV system with the instructor.

In the event that an instructor continues to receive poor evaluations following intervention by the Center staff, it may be suggested that he/she be replaced by another qualified instructor from within that discipline until a time when that instructor is able to successfully provide simulation-based education. He or she may be recommended to attend the “Sim Center: Introduction to Medical Simulation”, “Sim Center: Debriefing for Healthcare Simulation”, “Teaching with Simulation: A Simulation Facilitators Course” or another external course.

Annual performance appraisal is required for all health system employees (UPHS Performance Appraisal Policy). In keeping with this institutional policy, regular Center instructors are asked to evaluate themselves annually against the “Simulation Instructor” job description. This job description is used for all simulation instructors with the exception of ACLS/BLS course instructors, who have a distinct version which incorporates unique AHA requirements. Prior to their first session at the Center, new instructors are provided with a copy of the “Simulation Instructor” job description and are asked to return a signed copy as a commitment to maintaining the duties and responsibilities contained within. Copies of annual self-evaluations supplied by the instructors are maintained on file and may also be incorporated with student evaluations and previously recorded simulation sessions to provide instructor feedback and critique.
XII. Incorporation of Session Prebriefing and Debriefing in the Learning Process

Scenario prebriefing and debriefing are essential parts of simulation-based education in healthcare, and PMCSC encourages all instructors to incorporate this into their sessions. Setting the stage during a prebrief for a simulation-based training, assessment or process improvement session is essential in order to achieve the best results for the participants. Post-session debriefing for formalized reflection on the learning process to foster development of clinical judgment and critical thinking is also necessary. In order to promote session pre- and post-briefing, the following tools are available for instructor use and guidance on the PMCSC Faculty webpage:

- “Orientation to the Simulated Environment at the Simulation Center” – in order to set the stage for a successful session.
- “Our Mutual Contract for a Successful Simulation Experience” – reviews the essential ground roles of simulation.
- “Simulation Session Debriefing Worksheet”- includes the objectives of debriefing, how to introduce a debriefing session, and questions to start and close the session.

When scheduling their session, course instructor/faculty are advised to allow at least fifteen minutes for the pre-brief and twice as much time for the debrief as they do for the actual scenario.

The session pre- and post-brief is typically led by the Sim Educator unless the course instructor/faculty member has completed formal training in debriefing. The Educator will demonstrate how the recorded session provided via the B-line software can be used to enhance the debriefing process. The Educator will also provide guidance throughout the session and later suggestions to the instructor on how he/she might improve the session.

All instructors are encouraged to attend the one-day “Sim Center: Debriefing for Healthcare Simulation” Course hosted by the Center, three-day “Teaching with Simulation: A Simulation Facilitators Course”, or a similar course offered at another Center (such as CHOP). Presentations from the “Sim Center: Introduction to Medical Simulation” and “Sim Center: Debriefing for Healthcare Simulation” are available for review on the restricted Sim Center Faculty Access page. Instructors can contact the Simulation Educator to develop a more formal debriefing program or to obtain a copy of the “Simulation Session Debriefing Worksheet”.


XIII.  Confidentiality Policy

Simulation-based training involves immersion of the participant in a realistic clinical situation and medical environment. This training can involve the administration of simulated medications, therapies, and treatments. During participation in such sessions, students observe the performance of peers in managing medical events. In order to create a safe learning and constructive debriefing environment for the participant, strict confidentiality of what transpires on both a clinical and interpersonal level throughout the exercise must be maintained. Participants must feel free to make errors without the risk of liability or employment repercussions. Instructors should discuss confidentiality and note that the session is a safe learning environment at the start of all sessions. Individual feedback provided publicly to each learner during the debriefing process must also remain confidential. An “Orientation to Simulation” sample script which includes these concepts has been developed by the Center and all instructors are encouraged to use it as an introduction to all scenario based sessions.

In some cases the training may take place on an actual hospital patient floor, within a patient care setting, using certified medical equipment from that floor. This may be done in attempt to identify and resolve key systemic errors within that unit and ultimately improve patient care and safety. In that case, while the specific identities of individuals participating in the exercise will be protected to the best of the instructor’s ability, any key clinical issues (such as malfunctioning/missing equipment or staff confusion regarding care protocol, etc) which could potentially impact patient safety and care, must be reported to, and addressed by, the supervisor for that clinical area. The intent is not to penalize specific staff involved in the exercise, but to ensure all staff members in that area are aware of proper equipment use, medical procedures, etc and promote the ultimate goal of improved patient care.

Some simulation exercises are conducted to assess ability and knowledge. In this case the participant may be required to demonstrate some degree of competency in order to progress within his or her career or training pathway. In this case, if simulation is utilized for the purpose of assessment, the results may not be confidential and may influence promotion or employment status. The purpose of the exercise, whether training, performance improvement or assessment should be made clear by the instructor.

In keeping with this policy, all instructors and students undergoing training at the Center are required to complete and sign the “Penn Medicine Clinical Simulation Center Confidentiality and Photo Consent”. A signed copy of the consent must be on file in order for an instructor or student to participate in simulation based scenario training. A copy must also be on file prior to an instructor being assigned login and password access to the B-Line system, which allows the viewing of recorded sessions.
The B-line system allows the Center to assign and restrict access to sessions for review or debriefing to only those instructors/faculty involved in the specific session. Instructors cannot view sessions recorded by other groups. Learners are not provided password access to the system, unless a specific request is made by the session faculty member. The Center retains B-line recorded session for one year from the date of training. Beyond that time period, only those sessions recorded as part of an IRB approved research study (or a study determined by the IRB to be “exempt”) will be retained. The sessions that are part of a research study will be retained for the duration of that study and deleted at its conclusion.

In addition, per the institution’s legal counsel, the same HIPAA rules of confidentiality that apply to clinical care within the healthcare institution also apply to those activities taking place at the Center as well as on hospital floors or wards (UPHS Confidentiality, Access to Information and Information Security).
XIV. Psychological Safety

Psychological safety impacts the learners’ ability to engage in simulated events and critical reflection. Engagement in these activities is essential in fostering changes in critical behaviors. In order to ensure psychological safety for learners at PMCSC the faculty/facilitators will adhere to the following guidelines:

Provide a prebrief prior to a complex scenario. Both “Orientation to the Simulated Environment at the Simulation Center” and “Our Mutual Contract for a Successful Simulation Experience” are provided as examples. The prebrief will serve as an orientation session prior to the start of the simulation based learning experience in which instructions or preparatory information is given to the participants. During the prebrief the facilitators will:

- Review the round rules of simulation
- Refer to the “Basic Assumption”
- Instruct the participants not to discuss the simulation outside of the exercise
- Instruct the participants to maintain confidentiality of the case
- Acknowledge the artificial environment
- Orient the participants to the simulator and the environment
- Define a length of time for the entire exercise
- Instruct the participants how to elicit additional resources if needed (e.g. phone and numbers to call)
- Instruct the participants to practice within their professional scope
- Verbalize mistakes are expected and this is our chance to improve our behaviors and ultimately our patients’ outcomes.
- Review rules about respect and professional behavior

The facilitators will be expected to have a simulation facilitators’ course, or a simulation educator will be involved in the debriefing to manage disruptive behaviors during the simulation or the debriefing. If a learner has obvious or expressed emotional distress because of an event that occurred during the simulation or if the simulation led them to a “real life” emotional frame, the facilitator will have a one to one discussion with the learner. If the problem may lead to an issue in the clinical setting the participant will be referred to the UPHS Employee Assistance Program.
XV. Universal Precautions, Personal Safety and Security

Center users should follow universal precautions against infectious disease while participating in clinical activities. Universal Precautions Guidelines can be provided upon request. Additionally, users should exercise their own discretion and good judgment regarding their participation in activities in the Centers and the potential that may cause for spreading their illnesses.

The following are a list of general precautions or ensure the personal safety and security of Center users.

- Food and drinks are not permitted in the Simulation Team Training Rooms (“SimRooms”), Task Trainer Rooms, Computer Room, Core, SP Exam Rooms.
- All sharps must be disposed of in an appropriately labeled sharps container.
- The containers and bags marked “red bag waste” should only be used for potentially infectious waste or animal by-products, not for regular trash.
- Under no circumstances may sharps or supplies be removed from the Center.
- The medical and disposable equipment within PMCSC should never be used for clinical purposes. However it should be treated with the same safety precautions employed with actual clinical equipment.
- Hand washing or use of hand sanitizers shall be part of practice in the Center when at all possible based on the physical layout of the space.
- All injuries shall be report to Center faculty/instructors/staff. In an injury occurs with a needle or other sharp instrument, wash the wound thoroughly with soap and water as soon as possible. The student or staff member will be referred to Student Health or Occupational Medicine.
- Any damaged, or potentially dangerous equipment is to be reported to the Center staff. The staff shall attempt to correct the problem and if unsuccessful, the Operations Director will be notified.
XVI. Research Oversight

Regular evaluation and assessment of the Center’s research studies are a vital part of maintaining a productive and efficient research program. Since much of the training conducted at the Center is novel, there is an obligation to measure its effectiveness and impact on patient care, safety, staff knowledge and professional development. For that reason, well designed and implemented research is an essential part of the Center’s vision. Any grants or research activities that require the use of the Simulation Center its resources and/or time from its faculty/staff should be coordinated with the Simulation Center Executive Director and/or the Simulation Center Research Committee.

Any publication or presentations completed as a collaborative effort with the Simulation Center shall be conducted utilizing a team approach. All publications involving the use of Clinical Simulation Center resources must acknowledge the Clinical Simulation Center and/or include participating Center staff and Executive Director as contributing authors as appropriate.

The Center follows the procedures and policies for research as outlined by the Office of Regulatory Affairs. This includes:

- The requirement of Institutional Review Board (IRB) Approval, whether for full, expedited or exempt status, for those studies that meet the definition of human research.
- The principal investigator (PI) on all IRB-submitted research protocols must be a full time Penn Faculty member.
- Anyone involved in research must complete Human Subjects Protection training through Collaborative Institutional Training Initiative (CITI) or hold a current certification from NIH on Human Subjects Protection.
- The IRB Handbook for Faculty and Academic Administrators and the UPHS policy on the use of protected health information (PHI) in research cover all aspects of conducting research at the health system, and PIs are encouraged to review them.

Research conducted at the Center is overseen and reviewed by the Research Committee, which meets on a quarterly basis. The members of this committee are faculty members with significant experience in research, an interest in simulation-based research, and at least one ongoing simulation based research project. Responsibilities of the committee include:

- Review the merits of proposed simulated based research projects and make suggestions regarding protocol amendments to the initiating investigator, using the Center Research Proposal Evaluation Form
- Maintain copies of Institutional Review Board (IRB) approval on file for research conducted at the Center
• Ensure procedures and policies of research are followed as outlined by the Office of Regulatory Affairs
• Promote the submission of research conducted at the Center for presentation at a national society meeting or for publication in a peer-reviewed journal
• Host annual or semi-annual “Research Dinners” to advance the development of department-specific and collaborative research projects as well as to assess ongoing research

Center instructors/faculty wishing to join the Research Committee are welcome to submit their name to the Executive Director for consideration. Current research topics as well as PDFs of presented posters and presentation are also posted on the Center website with Faculty consent.
XVII. Supply and Equipment Management

Proper labelling and maintenance of supplies and equipment is required for safe use and handling. Instructors should include in their pre-brief to the learners that while none of the equipment within PMCSC should ever be used for clinical purposes; it should be treated with the same safety precautions employed with actual clinical equipment. They should also be made aware that while the packaging and labels of medications may replicate their clinical appearance, they are simulated. The wall and boom mounted medical gas connections have been abandoned and are for simulation training only.

Appropriate maintenance of equipment, timely repair, and service must be ensured for the longevity of the Center’s equipment. Equipment that is out of service interferes with scheduled training and disrupts curricula. Therefore the Center has purchased the longest and highest level of warranty on all its simulation purchases to ensure that the maximum number of repairs and service is included. In addition to noting the date of purchase, serial numbers and simulator vendor at the time of purchase, the Center also records the date of warranty expiration for all equipment, whether annual service checks are included, and the service check due date. The Center incorporates the cost of warranty renewal in its annual operational budget.

When there is an issue with a piece of equipment, the Simulation Technician will alert the Director of Operations, attempt to trouble shoot, and when possible, resolve the situation himself. If this is not possible, he will contact the vendor and determine the next steps, whether that includes guidance by phone as additional trouble shooting is attempted, return of the equipment by mail to the vendor for repair, or an onsite visit by the vendor. If there is no resolution to the problem within five working days, he will escalate the issue to the Director of Operations.

For those pieces of simulation equipment covered under warranty agreements that include annual services checks, the Simulation Technician will contact the vendor several months prior to that date to schedule an onsite visit. The Simulation Technician is also responsible for day-to-day service and care of all simulation equipment. He will clean, refill fluids, make basic repairs, and replace disposable parts as needed. He will be aware of the current maintenance status of all equipment in the Center and will maintain a log of all requests, repairs, and preventative maintenance work conducted.

The Center submits capital requests on an annual basis. If there is a piece of equipment that has been serviced adequately but is due for replacement due to age or wear, replacement of that item will be included in the annual request. This system of maintenance also holds true for the computers, AV and software systems (specifically B-Line) in the facility.
To assist in the longevity of the Center’s equipment, students must use the equipment only as directed under the supervision of an instructor. If there are any questions as to the proper use of a piece of equipment, the Simulation Technician should be consulted. The students and/or his/her department may be responsible for any damage to equipment that is the result of behavior that is careless or contrary to instructional use.

Below is a maintenance plan with timeline for all task trainers, manikins and medical equipment.

**Maintenance Plan for Trainers / Manikins / Equipment**

**After each use:**

- Wipe down all manikins and low fidelity skills trainers to remove all adhesives, moulage and markings.
- Drain all fluids and the flush tubing system. Top off all fluids as needed.
- Clean and disinfect all American Heart Association course materials (masks, valves) in conjunction with AHA guidelines.
- Assessed all task trainers, manikins and medical equipment for obvious damage, leaks, necessary part replacements, and cleanliness. If not in use or scheduled to be used, once wiped, drained and dried, store in appropriate area.
- Check supply of sheets, replace as needed. Change dirty/wet linen and clothing.
- Set aside course disposables to be inventoried by senior tech. Once inventoried, unused disposables should be returned to storage.
- Power off simulators, PCs and wall monitors.

**Weekly:**

- Clean and inspect all equipment
- Wipe down skin/covers. Remove any adhesive, moulage or markings left on skin
- Calibrate all sensors and monitors (including VR systems)
- Turn on and test all electronic devices, check/replace batteries as needed
- Run associated programs that control equipment
- Drain all fluids and the flush tubing system. Top off all fluids as needed. Add antifugal agent as needed.
- Change dirty/wet linen and clothing.

**Monthly:**

- Inspect (and if needed replace) all disposable parts
- Assess for wear and tear that might need major work or factory service
Annually:

- Preventative maintenance package completed by respective vendor

As Needed:

- Contact vendor for onsite maintenance or verbal/written guidance if equipment issue is unable to be successfully resolved by tech
XVIII. Offsite Use of Equipment

The Center considers requests by faculty, instructors and training partners to check out specific equipment, simulators and supplies for offsite, training and non-clinical use. Consideration to such requests is given when/if:

- The Center does not have, nor can it obtain, the necessary medical equipment to use in conjunction with a simulator.
- From a logistical stand point (such as staffing) it is not reasonable that a specific training take place at the Center and must be done elsewhere necessitating offsite use of the equipment, simulators or supplies.
- Use of SimMan 3G is requested because the onsite tradition SimMan does not have the capabilities to recreate crucial components of the requested simulation. Center staff must accompany the 3G and shall provide the set-up, tear-down and manikin cleaning.

The responsibility for any equipment damages is assumed by the requester and monetary compensation is required if damaged. The requester must ensure adequate space and security for the equipment and/or simulator. The requester is solely responsible for the collection, transportation and return of these items, unless otherwise arranged.

- Check out of all equipment greater than $1000 must be approved by the Operations Director.
- Check out of all equipment greater than $10,000 must be approved by the Executive Director.
- Any fees related to the use of specific equipment and/or simulators shall be set by the Simulation Center if utilized by an external source.
- Equipment and simulators may be checked out for 1 to 2 days. All requests beyond 2 day must be approved by the Operations Director.
- The requester must complete and sign an “Agreement to Utilize Simulation Equipment Offsite”.

All medical equipment in the Center is intended for non-clinical use only and therefore cannot be used on or offsite in the care of actual patients. Many items are donated or sold with the explicit understanding that they are intended for training purposes only and may be associated with legal agreements to that effect. None of the items onsite are maintained by clinical engineering nor are they cleaned and sanitized by environmental services.
XIX. General Guidelines for Conduct at the Simulation Center

- Professional behavior is expected at all times in the Simulation Center and users are expected to abide by the Penn Medicine Code of Conduct.
- All Center users and visitors are asked to wear their Penn Medicine identification badge when at the Center unless participating in an activity that would specifically preclude such identification.
- All Center users and visitors are asked to present themselves at the Security Desk on the first floor of Penn Medicine at Rittenhouse upon arrival and provide some form of ID. Visitors will be required to sign in if they do not display a current/valid Penn Medicine ID.
- All Center users and visitors are asked to sign in the Administration Area upon arrival to the Center on the second floor unless otherwise directed.
- All Center users and visitors are encouraged to store their personal belongings in the locker room upon arrival. Users are reminded to bring their own locks.
- The Center cannot be held responsible for any personal items left unattended in any of the conference or team training facilities.
- All Center users, including learners, instructor and standardized patients, are expected to be punctual for learning sessions.
- As the Center is frequently used for examination purposes, it is imperative that users remain in the space designated for their session and not wander throughout the Center unless accompanied by a Center staff member.
- Access to the staff lounge (including the refrigerator, microwave and coffee pot) is limited to Center staff, instructors and faculty. Access may be extended to Center learners under special circumstances. To physically access the staff lounge users must enter through the gender appropriate locker room.
- Food and drink may be consumed in the Large & Intermediate Conference Rooms, Multiskills Lab and Breakout Rooms.
- Food and drink are not permitted in the Simulation Team Training Rooms (“SimRooms”), Task Trainer Rooms, Computer Room, Core, SP Exam Rooms.
- Unauthorized photography is not permitted in the Center. Anyone requiring photographs for a presentation or poster may ask the Center’s Operations Director, who will ensure that written consent is acquired from anyone features in the photographs.
- Permission for the use of screen shots or video clips from session recording utilizing the B-Line system for purposes other than debriefing at the Center immediately following the session (such as presentation or poster) must be obtained from the Operations Director.
- Computer stations providing internet access are available for all Center users in the Computer Room. Users are asked not to change the computer settings.
- The computers located in the Center’s Core, SP Exam Rooms, Breakout and Conference rooms are not for personal use under any circumstances.
- Access to the four desk cubicles in the rear of the Administrative Area are restricted to Center faculty and instructors only, not learners and intended for use only while teaching at the Center. Faculty and instructors are asked to not leave any personal belongings, course materials, or other items in the desk storage. If short or long term storage of course materials are required faculty and instructors can contact the Executive or Operations Director.
- Printing, photocopying and faxing are not available at the Center except under special circumstances. Learner completion reports, assignments and articles should be printed prior to arrival at the Center.
- The Center does not validate parking. Faculty and instructor who teach at the Center on a weekly basis and already pay for a parking spot at another Penn Medicine garage are eligible for reciprocal parking and can contact the Operations Director for more information.
- Anyone found intentionally damaging Center property or removing property or supplies from the Center without permission will be asked to leave the premises immediately. Subsequently, communication reporting the incident will be send to the appropriate Department Administrator or Associate Dean.
- All tours of the Center must be scheduled with and approved by the Executive or Operation Director.
- The use of animal by-products for a training session, regardless of source of origin, must be approved by the Executive or Operation Director. The procurement, handling, disposal in provided red bag waste and sanitization of any contact surfaces or instrumentation is the responsibility of the faculty/instructor teaching that sessions.