

Curriculum: Medical Simulation Fellowship

Approach to the training year

The fellow will gradually increase responsibility over the training year, moving from an initial orientation/observorship, to a partnership with the educators, and then to leadership within specific course offerings, in collaboration with domain-specific content experts. We expect that each stage will take the fellow 2-4 months, depending on the knowledge and skill they have entering the training year.

During stage 1 (orientation/observorship) we expect the fellow to attend as many different courses as possible, balancing their other simulation and clinical responsibilities. This allows the fellow to experience simulations within the lab, in situ, outreach and virtual settings and allows provides them experience with and exposure to our entire staff. We currently have over 100 courses, so a representative sample is possible in the first few months of fellowship.

During stage 2 (partnership) we expect the fellow to focus on 8-12 courses, with a few of them specific to their clinical area of expertise and/or area of interest. During this stage they become a simulationist within the course, similar to our education consultants, education specialists and simulation technicians. This allows them to apply what they learned in stage 1, while reflecting on their own needs and getting constant feedback from our staff. Their mid-year evaluation is completed during this stage, allowing the Program Director to provide a summative evaluation and help the fellow recognize needs for the latter half of the year.

During stage 3 (leadership) we expect the fellow to focus on only 3-5 courses, including the one related to their project. During this stage they are responsible for setup, briefing, simulation, debriefing and immediate reflection on performance. Reducing the number of courses also allows them more time to work on their project, something we identified in our initial fellow's year as a need. The goal by the end of this stage is the fellow self-identifies as and is evaluated by staff as competent (i.e. can perform independently) in all the content areas of instruction listed below.

Content areas of instruction for Medical Simulation Fellowship

1. Orientation and simulation-based training overview, with focus on pediatric simulation
2. Fidelity – learner, device, environment and participants
3. Scenario design and course development
4. Outcome measurement – validity and reliability
5. Facilitation and Debriefing
6. Deliberate practice
7. Mastery Learning
8. Team training
9. Systems Integration (including simulation-based clinical systems testing)
10. Simulation-based assessment, including self-assessment of instructors for quality improvement

Learning Objectives for Medical Simulation Fellowship

By the end of the training year, the fellow will independently be able to:

1. Demonstrate significant knowledge and skill in the application of varied high- and low-fidelity training manikins and supporting equipment
2. Develop, pilot and implement simulation-based medical education (SBME) scenarios within training and/or assessment courses
3. Demonstrate significant knowledge and skill in simulation facilitation, including verbal and video-based debriefing
4. Apply assessment tools and programs for procedural skill training, with a focus on deliberate practice to mastery learning
5. Evaluate the implementation and delivery of SBME courses at the learner and/or team level
6. Develop a SBME research question into a longitudinal project, ideally approved by the institution's review board, including assessment of the project's impact on learners and/or patients
7. Apply audiovisual recording and other technologies to enhance SBME training and/or research programs
8. Train, advise and evaluate educators in SBME principles, including resident and fellows during their 2-week rotation
9. Demonstrate baseline knowledge and skill in areas of simulation center operations, including course intake and evaluation, course scheduling, and SSIH accreditation process and requirements
10. Demonstrate the ability to advocate for and promote the use of SBME within the institution

These fellows performance of and growth within these objectives are evaluated using an online survey in REDCap available to all staff members of the Center for Simulation and Research.

Meeting Schedule for Medical Simulation Fellow

The fellow will meet at the beginning of the academic year with the Fellowship Program Director to review and discuss learning objectives, responsibilities, and goals for the training year.

- July

The fellow will meet at the beginning of the academic year with the Research Director to begin planning their scholarly project.

- July-August

The fellow will meet at the beginning of the academic year with the Operations Director to discuss center operations:

- July-August

The fellow will meet at the beginning of the academic year with the Education Consultant to discuss learning theory and debriefing:

- July-August

The fellow will meet regularly with the Fellowship Program Director to provide formative feedback, identify areas of need, and develop short-term and long-term plans to fulfill those needs.

- August
- September
- October
- November
- December
- January
- February
- March
- April
- May

The fellow will meet with the Fellowship Program Director mid-year to review interim summative feedback from staff. The fellow and Program Director will also take time to identify areas of need, and develop short-term and long-term plans to fulfill those needs.

- January-February

(New for 2021-2022) The fellow will meet with the Education Consultant throughout the academic year to review, evaluate and guide the fellow's debriefing and facilitation skills. Within these ad hoc meetings, the Consultant will review the fellow's scoring on the Observational Structured Assessment of Debriefing (OSAD) tool based on either in-person evaluation of the fellow or on video recordings of debriefing sessions performed by the fellow.

- A goal of scoring 20 or higher consistently across the tool and improvement within low-scoring domains in the goal by late fall/early winter

Research meetings will occur quarterly throughout the year, with the Research Director reviewing all products of the scholarly project, including the study proposal/protocol, abstract, and manuscript; and, the Fellowship Program Director will meet quarterly with the fellow and the fellow's research mentor to ensure the fellow is progressing in his/her research project.

- October-November
- January-February
- April-May

At the end of the training year, the fellow will have an exit interview and receive summative feedback and be given the opportunity to provide feedback on his/her fellowship experience as a way to improve the fellowship.

- June 2021

Input for each summative feedback/evaluation session will be obtained from each faculty member, the education specialists and other staff from the Center for Simulation and Research, and from clinical staff and providers within the fellows' area of subspecialty practice.

Journal Club

Each month during our protected staff meeting day the Program Director will facilitate a simulation-based journal club. Four articles will be selected based on the month's topic. The articles are sent out at the time the meeting agenda is emailed to all staff, usually 1-2 weeks ahead of the meeting. The Program director will coordinate presenters for each article, including the fellow. The selected topics are mapped to the content areas and learning objectives, but will change year to year based on identified needs for that year's fellow. For example, new in FY'21 were the topics of rapid cycle deliberate practice and video-assisted debriefing, as that year's fellow identified those as areas of need within his monthly meetings with the Program Director. Also, while this monthly journal club is pertinent to the fellowship, it will also be used for areas required by the Center's staff as a whole. For example, in FY'21 the Center was asked to facilitate simulation-based clinical systems testing (SbCST) prior to opening of a new critical care tower. Thus, journal club was used to discuss articles relevant to SbCST. Finally, new in FY'22 will be the establishment of an annual topic of "simulation for resident-level physicians." We have not done this topic, however with the advent of a new position in our Center, Physician Lead – Resident Simulation, and the number of resident courses we have, we have decided to include one session each year focusing on recent "best evidence" in the use simulation for resident training. This is pertinent to the fellowship, as the fellow has increasing responsibilities with the residents over the training year (learning objective #8).