

SIMULATION CENTER

2019 Annual Report

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SIMULATION:
Improving the safety and
quality of healthcare delivered
by NYC Health + Hospitals.

Simulation Center
1400 Pelham Parkway South
Building 4, 2nd Floor, Room 200
Bronx, NY 10461
www.nychealthandhospitals.org/simulationcenter



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**SIMULATION
CENTER**



The Simulation Center serves the entire healthcare system, providing simulation services to advance system-wide patient safety and quality improvement initiatives.

Established in 2010, The Simulation Center is continuing to grow a devolved model of simulation that expands the reach of simulation. New obstetric mini-labs were being established in 2019. This allows better access locally to NYC Health + Hospital's clinicians, administrators, educators, and support staff.

Currently, the Center Hub and newly established satellite centers offer courses that have been developed based on an examination of root cause analyses, claims data, and hospital performance data. Team training is an integral part of the course design and delivery. The "in-situ" or unit-based simulation program is growing exponentially in selected units throughout the hospital system. Better patient outcomes and improvement in staff satisfaction have been seen in the areas where these programs have been established. A more rigorous process of data collection is being developed.

The Simulation Center Hub
 1400 Pelham Parkway South
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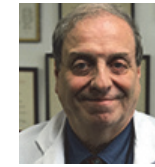
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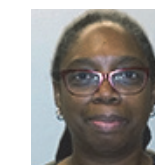
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Susan Mikus, RN (Obstetrics, Coney Island Hospital)

"I am working on improving the patient experience at my facility by training staff on making 'human connections' with our patients."



Vonetta Morris, RN (Nursing, Correctional Health Services)

"Correctional Health Services is excited to be a part of the NYCH+H simulation family. Our second annual Simulation Fair in September 2019 was a success and we are looking

forward to facilitating other simulation events in the future. We have been utilizing simulation to improve our medical emergency responses throughout Correctional Health. This has been very successful due to buy-in from key stakeholders. Over the past year, we were able to purchase additional low fidelity manikins to increase simulation trainings in several of our clinics. It has been a privilege to be a fellow in this prestigious program."



Latchmi Nagaswar, RN (PACU, Elmhurst Hospital Center)

"I am currently working on stroke team activities at Elmhurst."



Shterni Seligson, PA-C (Emergency Medicine, Metropolitan Hospital)

"I'm currently working on a project to debrief after critical events in the Emergency Department at Metropolitan Hospital."



Maninder Singh, MD (Emergency Medicine, Jacobi Medical Center)

"I've been working on delivering Intro to Debriefing and Advanced Emergency Medicine Skills workshops monthly, tailored to the Emergency Medicine attending

physicians at Jacobi/Montefiore. I've also been working on monthly interdisciplinary North Central Bronx Emergency Department in-situ simulations."

EXECUTIVE SUMMARY

Calendar Year 2019 marks the Simulation Center's ninth year of service to the clinicians and staff of New York City Health + Hospitals. In 2019, we have managed to expand the reach of simulation in our system through continued collaboration with our 11 acute care facilities, as well as partnerships with Central Office departments including Quality, Nursing, and Performance Improvement. We have also had the opportunity to take simulation into new territories with the debut of a Surgical Cut Suit simulation program, the first such hospital-based simulation program in the nation, which provides high-tech

surgical simulations to train medical and operating room personnel. In addition to this, we have begun a Central Line Associated Blood Stream Infection (CLABSI) reduction program in select Cardiac Care Units in collaboration with Performance Improvement, an Emergency Room Simulation Collaborative with Central Office, and our #safemomsnyc Maternal Mortality Reduction program for which we have begun construction on all 6 mini obstetrical labs.

The Simulation Center has continued to propel simulation forward with our devolved model of simulation. Our hub (The Simulation Center on

the NYC Health + Hospitals/Jacobi campus) has supported Trauma Resuscitation sessions, Stop the Bleed training, Neonatal Resuscitation program classes and a host of other special training programs. In addition to this, we facilitate our regular courses such as Advanced Airway Skills, Cardiac Code Team, Code Team 2.0, Central Line Placement Skills, Introduction to Debriefing, Pediatric Airway Skills, Pediatric Cardiac Code Team and Teamwork and Communication Skills. In calendar year 2019 alone, at the simulation hub at Jacobi, we had 3,039 training encounters, of which 69% were physicians or other advanced practice



One of our pediatric manikins in use in a scenario at the Simulation Center.



View from the control room at NYC Health + Hospitals Simulation Center.

providers and 17% were nursing. Our satellite simulation centers have also continued to have great success in implementing simulation programs in Elmhurst, Harlem, Lincoln and Correctional Health, offering simulation training to learners within those facilities, eliminating the need to travel to the hub.

Additionally, we have maintained our fellowship program, one of the largest healthcare simulation fellowship programs globally. Our goal with our fellowship program continues

to be to engage Health + Hospitals staff with simulation and build a cadre of simulation instructors who can provide simulation education in various forms to clinicians and staff throughout the system. Thirteen new simulation fellows completed the fellowship program in 2019. We are excited to continue this program with 12 fellows starting the fellowship in July 2019, with an anticipated graduation date of June 2020. We are excited to work with our fellows to meet our strategic planning needs within the Health + Hospitals system.

We hope to continue to work closely with all of our facilities and NYC Health + Hospitals' Central Office to grow our simulation program and continue to have a positive impact of the lives of our patients and staff.



Sean Armantrading, BHA (Behavioral Health, Queens Hospital) "I'm working on using GoPro cameras to improve performance with the treatment team, as well build empathy for psych patients at Queens Hospital."



Rachel Carroll-Bennett, MD (Obstetrics, Elmhurst Hospital) "I am developing a simulation curriculum for OB/GYN residents to teach and enhance leadership and communication skills when assessing a critical pregnant patient. The goals of

this training are to increase learner confidence and skill in evaluation of a pregnant patient with abnormal vital signs, ensure appropriate and timely escalation to higher levels of care, and to improve provider consideration of both obstetric and non-obstetric etiologies of illness."



Karen Goodman, MD (Pediatric Emergency Medicine, Bellevue Hospital) "Currently, I am working on implementing empathy rounds to improve staff wellness and support."



Marlene Harford, RN (Maternal Mortality Reduction Program, The Simulation Center) "I've been fortunate to have come on board at NYC Health + Hospitals Simulation Center for the Maternal Mortality Reduction Program

(MMRP) and have been working on developing the curriculum for Post-Partum Hemorrhage which will be rolled out next year!"



Sangeeta Kakumanu, MD (Obstetrics, Harlem Hospital)

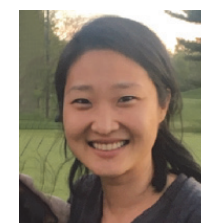
"I am working at Harlem in implementing as a simulation project a Post C-section debriefing checklist as a routine part of the most performed cases that we do. In so

doing, this will hopefully start to change the culture of not only debriefing post event cases, but good outcome cases as well and in so doing, can actually make changes to systems, processes, equipment, etc."



Donnette Kelly, RN (ICU, Jacobi Medical Center)

"I am currently working on using debriefing to improve start times in the operating room."



Esther Kwak, MD (Emergency Medicine, Kings County Hospital Center)

"Kings County has the largest residency in the country, with almost a hundred emergency medicine residents. Our simulation sessions often have more than seven

people per session, and it is often difficult to make sure that everyone involved gets a shot at leading a mock resuscitation. Though all residents including interns should practice leading difficult cases in a simulation environment, it is most urgent for those transitioning from their junior to senior years to get leadership experience under their belt. Poor communication is one of the leading root causes of medical error in the United States. Someone's first critical care shift as a senior should not be a 'practice shift,' for the sake of patient care. The simulation experience being proposed is one that will help the junior to senior transition particularly in the critical care trauma area of the Kings County emergency department. The simulation will focus on non-clinical skills needed to carry out critical care scenarios in the emergency department. Based on small group surveys of current fourth years, such an experience is something that would be beneficial to the training of ER clinical monsters."

SPECIAL FEATURE: SPECIAL PATHOGENS

In 2019, The Simulation Center continued to collaborate with Dr. Syra Madad, Senior Director of the System-wide Special Pathogens Program, and the Office of Emergency Management to prepare New York City Health + Hospitals in the case of a deadly pathogen such as Ebola. We assisted the Special Pathogens team with the National Ebola Training and Education Center (NETEC) by training teams of Healthcare Workers from across the United States in higher level training skills for the care of Ebola patients.



In addition to assisting with the NETEC training, our team was also there to provide support for the rollout of the System's first AMERCO Mobile Satellite Simulation Center.

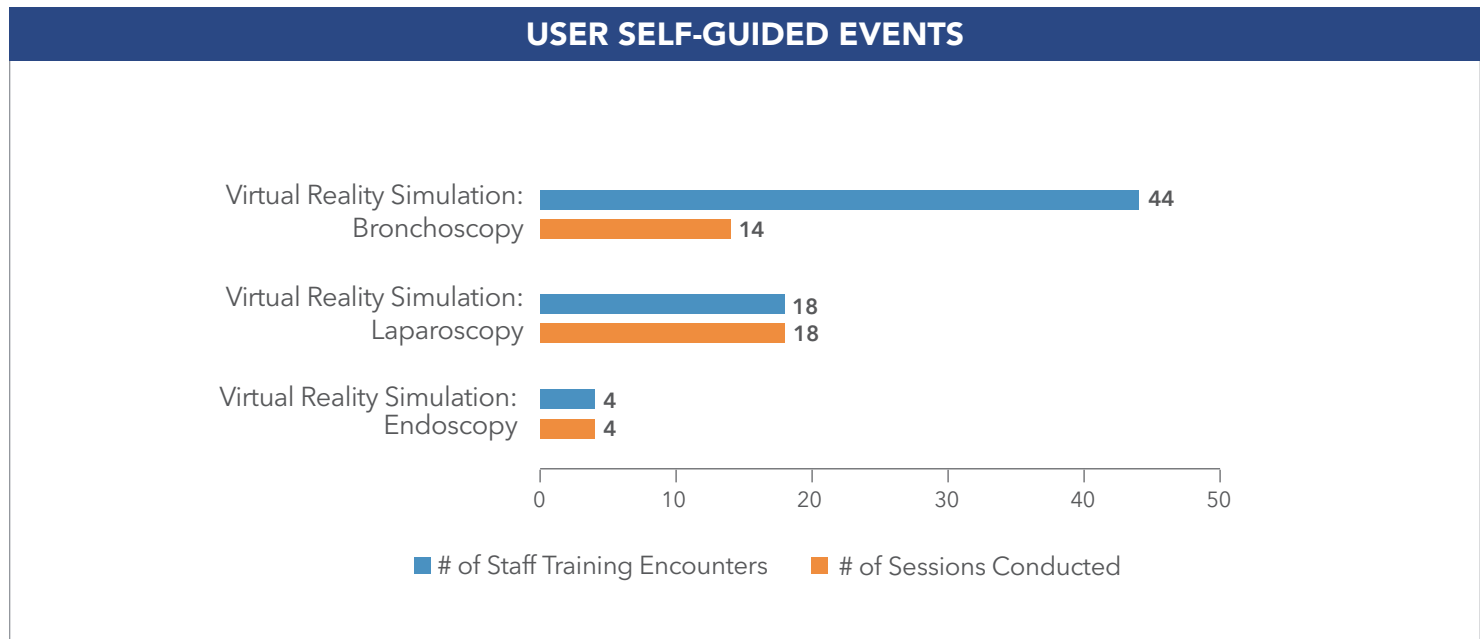
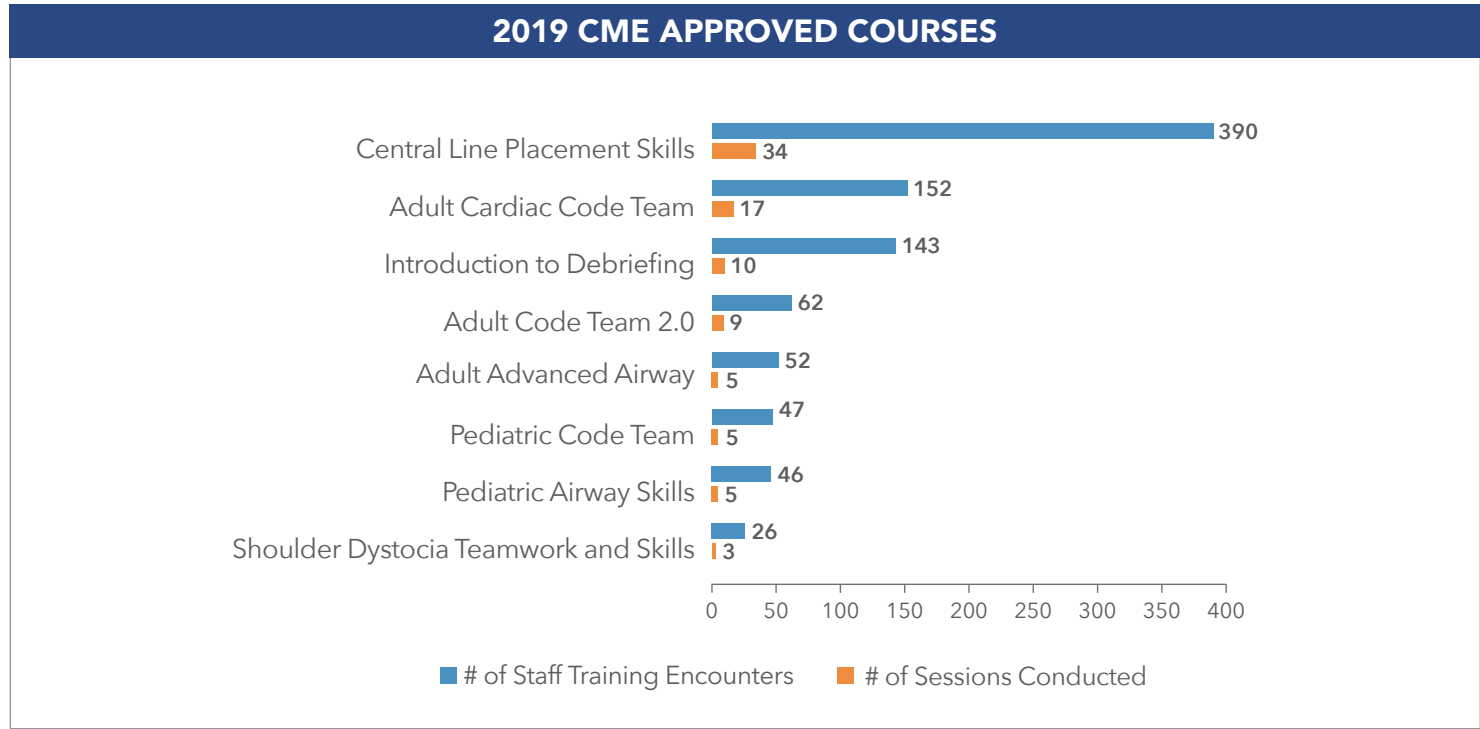


The Emergency Department at NYC Health + Hospitals/ Kings County, was filmed by Netflix for the "Pandemic" documentary. These types of simulations prepare staff to care for patients in the event of an emergency, in an alternate care sites.

SIMULATION HUB UTILIZATION – CY 2019

SIMULATION HUB UTILIZATION BY DISCIPLINE												
	Bellevue	Coney Island	Elmhurst	Harlem	Jacobi	Kings County	Lincoln	Metro-politan	North Central Bronx	Queens	Woodhull	Total
Admin.	–	–	–	–	16 (1%)	3 (3%)	–	–	3 (2%)	–	5 (3%)	27 (1%)
Advanced Practice Provider (CNM, NP, CRNA, PA)	–	–	–	–	55 (1%)	–	1 (1%)	2 (1%)	22 (12%)	7 (16%)	12 (7%)	99 (3%)
Attending	4 (7%)	2 (4%)	3 (3%)	21 (15%)	203 (11%)	7 (6%)	4 (4%)	8 (4%)	7 (4%)	8 (19%)	9 (5%)	276 (9%)
Nurses	–	1 (2%)	17 (17%)	1 (1%)	353 (19%)	12 (11%)	8 (8%)	–	85 (46%)	–	44 (25%)	521 (17%)
Patient Care Associate (PCT, PCA, BHA, etc.)	15 (27%)	9 (17%)	–	7 (5%)	14 (1%)	14 (13%)	43 (42%)	–	12 (7%)	1 (2%)	–	115 (4%)
Resident	31 (56%)	39 (75%)	76 (78%)	104 (75%)	1029 (55%)	70 (64%)	40 (39%)	185 (82%)	39 (21%)	26 (60%)	104 (59%)	1743 (57%)
Respiratory Therapist	–	–	–	–	5 (<1%)	1 (<1%)	–	–	2 (<1%)	–	–	8 (<1%)
Social/Case Worker	–	–	–	–	3 (<1%)	1 (<1%)	–	–	–	–	–	4 (<1%)
Student	–	–	1 (1%)	3 (2%)	168 (9%)	–	–	28 (12%)	10 (5%)	–	–	210 (7%)
Support Services	5 (9%)	1 (2%)	1 (1%)	3 (2%)	3 (<1%)	1 (<1%)	6 (6%)	3 (1%)	2 (1%)	1 (2%)	1 (1%)	27 (1%)
Other	–	–	–	–	8 (<1%)	–	–	–	1 (1%)	–	–	9 (<1%)
Total	55 (2%)	52 (2%)	98 (3%)	139 (5%)	1858 (61%)	109 (4%)	102 (3%)	226 (7%)	183 (6%)	43 (1%)	175 (6%)	3039

Note: This table only represents staff members who have attended a simulation course at the Simulation Center (IMSAL) and does not include simulation activities conducted in-situ or at satellite centers.



The Health + Hospitals Simulation team continues to participate in scholarly research in the field of healthcare simulation and in doing so, contributing to the larger simulation education community. Of note this year, our very own team led by Michael Meguerdichian, Komal Bajaj, Suzanne Bentley, and Katie Walker co-authored the article titled

Simulation Fellowships: Survey of Current Summative Assessment Practices.

The article explores how the simulation fellowship training community monitors fellows' progress in various aspects of simulation education development, as well as the relative validity evidence of

their assessment strategies using Kane's theoretical framework. The article offers new ideas that guide and distinguish competency toward expertise in training. Moving forward, we hope this article serves as the stepping stone that inspires further research focused on creating validated assessment tools to assist in refining fellowship training.



Central Office's Quality team presenting to our 2018-2019 fellows on a FUSE (Fundamental Underpinnings of Simulation Education) Day.

MATERNAL MORTALITY REDUCTION PROGRAM

In response to the high maternal mortality and morbidity rates of women of color in New York City, the Maternal Mortality Reduction Team (MMRP) implemented one arm of a novel multi-pronged project to reduce this disparity and attempt to close the gap embedding in-situ simulation in all 11 acute care Health + Hospital facilities. This team of four—two nurse educators and two coordinating managers—provides education and training to multidisciplinary obstetrical and postpartum teams in the Labor & Delivery and Postpartum units of all 11 acute care facilities.



Members of our NYC Health + Hospitals obstetrics Hemorrhage Task Force.

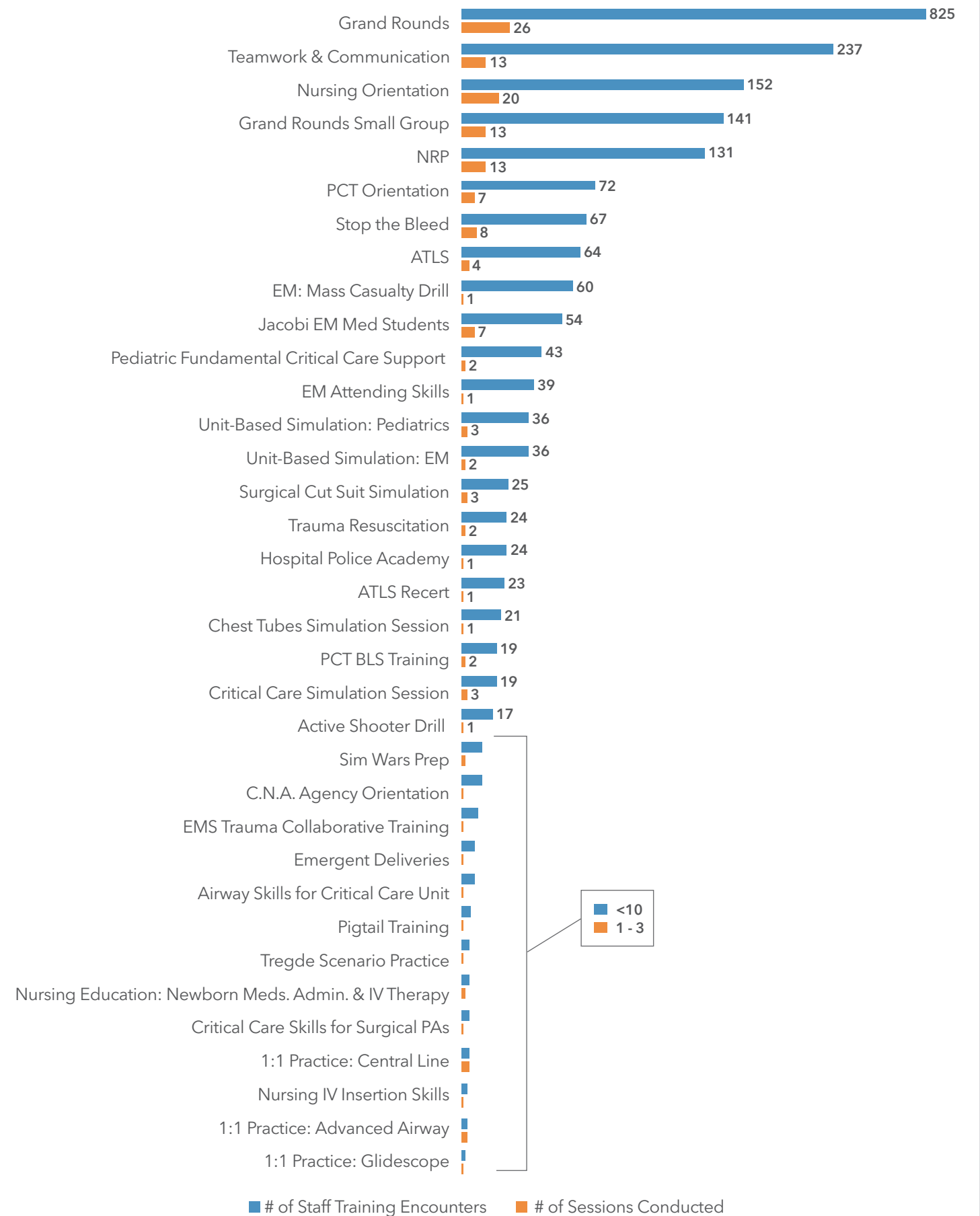
In collaboration with the Department of Health, the Maternal Mortality Reduction Team provided a number of 4-hour train-the-trainer courses: Foundation of In-Situ Simulation, Scenario Design, Intro to Debriefing and Implicit Bias (presented by Jen Sarduy of Rebirth Equity) to members of the Maternity Hospital Quality Improvement Network (MHQIN). The MHQIN is a cohort of 8 NYC Health and Hospital facilities and 6 private Hospitals participating in an obstetric-focused quality improvement initiative. The goal of this program is to develop simulation educators who return to their hospitals and embed simulation education into the fabric of their units in an effort to improve maternal outcomes.

In 2019, the MMRP team started with a life support scenario for the unresponsive obstetric patient (OB ACLS), utilizing both low and high-fidelity tools (i.e., Resusci Anne/birthing prompts and Sim Mom, respectively). This project included collaboration with both current and previous simulation fellows, Core Teams at each facility, and the newest addition to the Sim faculty team, Associate Education Director Dr. Tricia Yusaf. Limbs and Things donated six brown birthing prompts, manufactured just for this program! To date, over 85% of all obstetric staff have participated in an OB ACLS in-situ simulation. Lessons learned include: discovery and rectification of latent safety threats such as streamlining the location of the scalpel needed for the anticipated four-minute perimortem cesarean section and using 'No Go' criteria as an opportunity to incorporate skills stations for staff to practice related skills (i.e., high quality CPR, defibrillator use, code cart, team roles, communication).

Lessons learned include: discovering and attending to latent safety threats such as streamlining the location of the scalpel needed for the anticipated four-minute perimortem cesarean section, and using the times when 'No Go' criteria were met, due to high acuity or low staffing levels, as an opportunity to do one-on-one skills stations (i.e., high quality CPR, defibrillator use, code cart, team roles and communication discussions).

Looking ahead, the Maternal Mortality Reduction Team plans to continue OB-ACLS drills for deliberate practice and mastery learning. The team's focus will include postpartum hemorrhage skills stations in 2020.

NON-CME SIMULATION-BASED COURSES



NEW PROJECTS

In Calendar Year 2019, we commenced some new projects for the Simulation Center including:

The Surgical Cut Suit project with the Trauma Surgery department. This initiative uses the hyper-real Cut Suit to provide surgical simulation experience to trauma residents.

The Emergency Room Stroke Sim initiative aims to bring stroke simulation into the Emergency Department. Dr. Suzanne Bentley, Director of Elmhurst Hospital's Satellite Simulation Center, has led this initiative in collaboration with Dr. Donnie Bell.

The System-wide Debriefing Initiative, created in collaboration with the Office of Quality and Safety, aims to impart post-event debriefing knowledge to all staff at NYC H+H facilities.



Bellevue Hospital's Dr. Michael Klein leads a Cut Suit Simulation with Bellevue's surgery residents.

IN-SITU SUMMARY



In-Situ debriefing at Jacobi Hospital's Emergency Department being filmed for National Geographic.

In 2019, we continued our interdisciplinary ED/Trauma in-situs at Jacobi with Dr. Andrew Restivo and Dr. Edward Chao and included pediatric in-situs at Jacobi with Dr. Raidour Ahmed.

In addition to our Jacobi in-situs, we began running in-situs at the North Central Bronx Emergency Department, led by Dr. Maninder Singh.

In-situ simulation continued at Metropolitan Emergency Department.

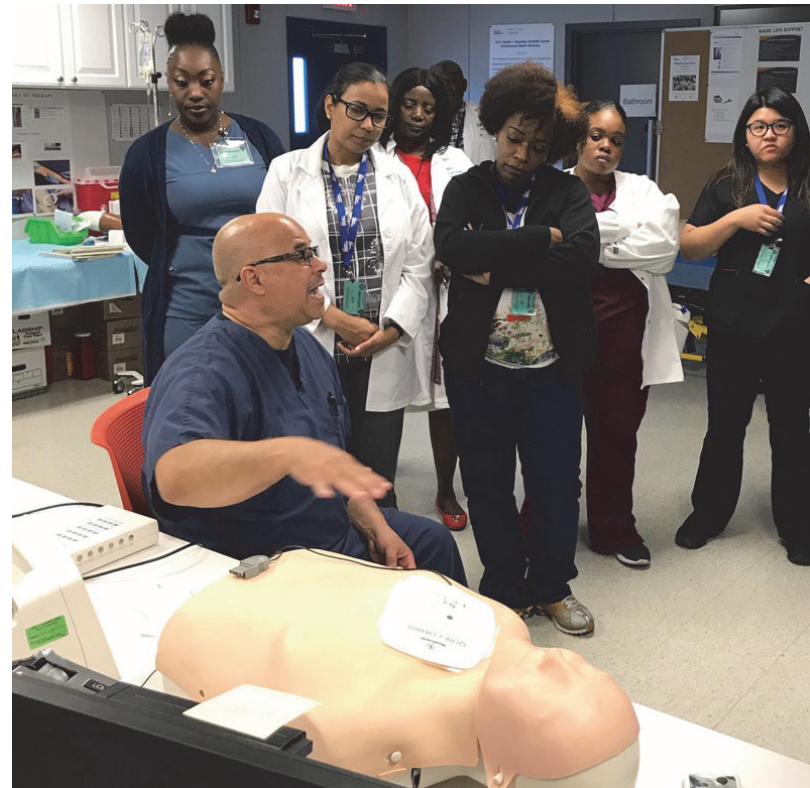
We hope to collaborate with more facilities and departments in the coming years!

THIRD ANNUAL HEALTHCARE SIMULATION WEEK

For the first time, the Simulation Center celebrated Healthcare Simulation Week in all 11 of our acute care facilities and Correctional Health Services! Healthcare Simulation Week raises awareness about how healthcare simulation plays an important role in our health system to improve patient safety. We also celebrated professionals who use simulation to help our healthcare staff master their skills.



Kings County Hospital Center's Simulation Fair.



Correctional Health Services' Simulation Director, David Viera, during a Simulation Week demonstration.

THIRD ANNUAL SIMULATION SYMPOSIUM

The Third Annual NYC Health + Hospitals Simulation Symposium was our most successful symposium yet, fully booked weeks before the event. Our theme this year was *Taking the Leap: Using Simulation to Aim Higher in Patient Experience*. The symposium was designed for new and experienced healthcare practitioners, administrators, educators and researchers and provided an innovative showcase of global trends in healthcare simulation.



Dr. Beth Mancini at the Symposium.

The annual simulation achievements were awarded. These were awarded to:

- **Dr. Daisy Grueso** and **Dr. Syra Madad** for Outstanding Contribution to NYC Health + Hospitals Simulation Program by an Individual
- **Bellevue's Labor and Delivery Team, the NYC Health + Hospitals System Performance Improvement Unit, and the Helping Healers Heal (H3) Program** for Outstanding Contribution to NYC Health + Hospitals Simulation Program by a Healthcare Team
- **Queens Hospital** for Outstanding Contribution to Simulation in Healthcare Week by a Non-Satellite Facility

We were privileged this year with three distinguished keynote speakers:

Dr. Jenny Rudolph, PhD is the Executive Director of the Center for Medical Simulation, which is dedicated to improving learning cultures in healthcare organizations. She pioneered the "with good judgment" approach to difficult conversations which helps people be both honest and caring in communicating when the stakes are high.

Amelia Rudolph is the Founder and Artistic Director of Bandaloop. Her work is informed by natural and built spaces, human relationships, and by non-traditional relationships with gravity. Jenny and Amelia explored how our success and performance relies on good safety, both physical and emotional, and how, when the environment is safe, we are free to do our best for the patient experience.

Dr. Beth Mancini, MSN, PhD has been active in healthcare simulation for more than 30 years. She shared an extraordinary personal story with us which she linked to how her work with the American Heart Association and simulation has improved individual and group performances, particularly related to the patient experience.

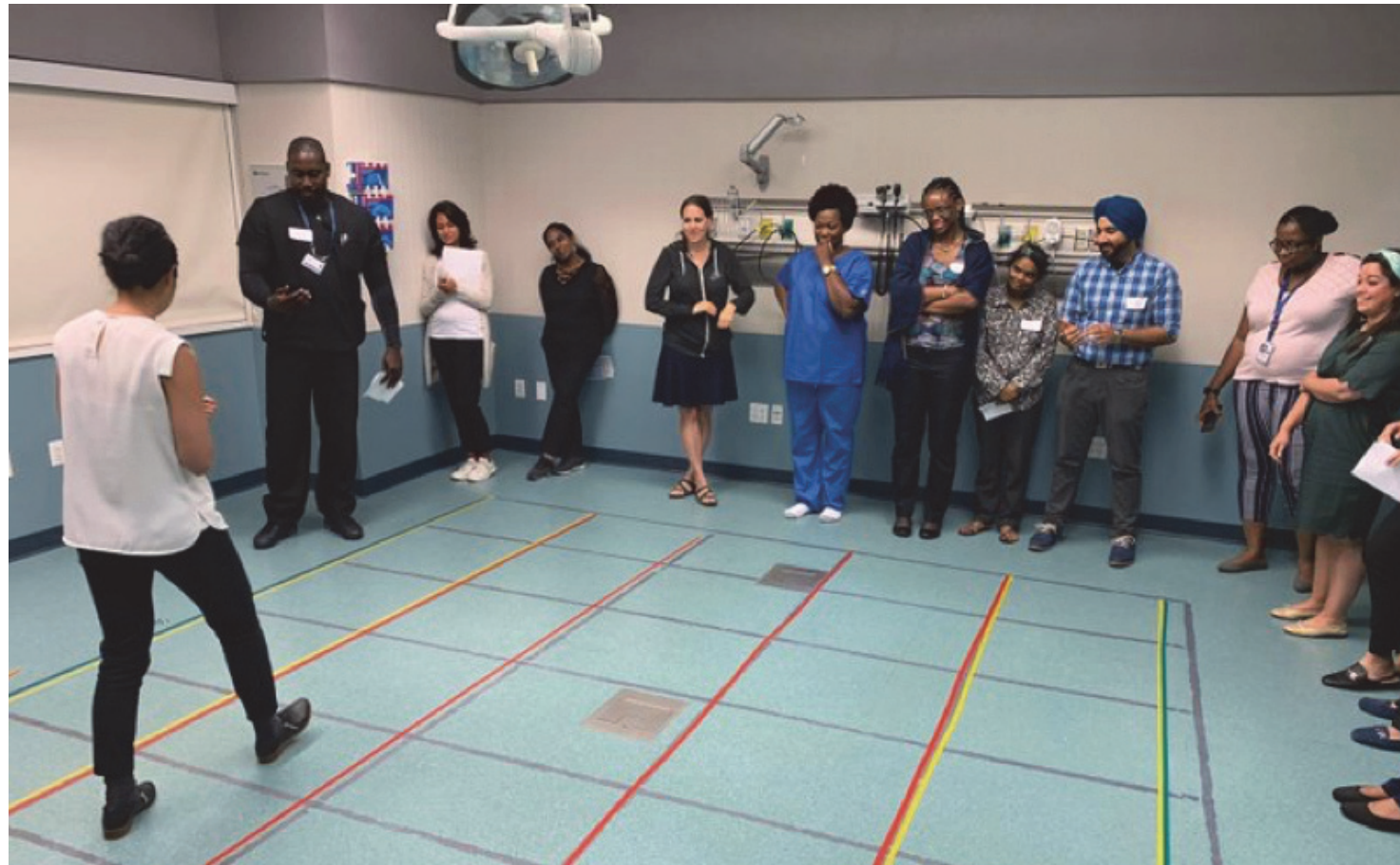


Dr. Jenny Rudolph and Amelia Rudolph at the Symposium.

SIMULATION FELLOWSHIP PROGRAM 2019

The Health + Hospitals Simulation Fellowship for 2019-2020 has 12 participants from across the system, bringing a variety of professional and specialty experience. Our fellows have taken on projects focused on improving interdisciplinary care, bringing in-situ simulation to new departments, introducing post-event debriefing, stepping up mass casualty preparedness, among others, aimed to improve our hospital system.

We were fortunate to continue our Visiting Professor program; bringing experts in the simulation field to engage with our fellows and present them with new and different approaches to medical simulation. We look forward to growing our fellowship family and refining our program with the feedback and lessons learned from this class.

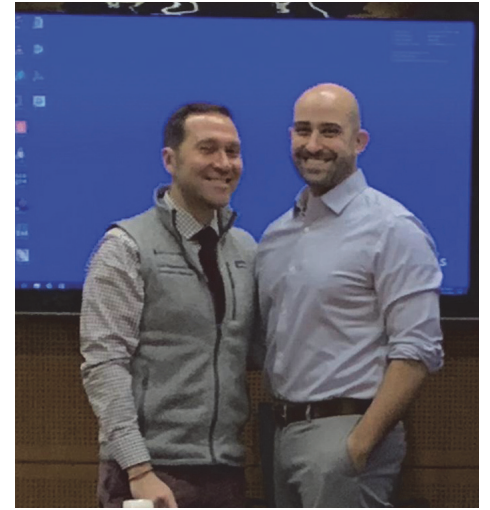


2019 Fellows and Simulation Center Staff.

VISITING PROFESSOR PROGRAM

The Visiting Professor program continued in 2019 with four distinguished professors leading workshops for the NYC Health + Hospitals Simulation program. In March, Dr. Betsy Hunt introduced Rapid Cycle Deliberate Practice, a topic used at her institution to drive down mortality associated with cardiac arrest resuscitation. June marked a visit from Dr. Cate Nicholas, who brought with her expertise around standardized patient methodology, to ensure the perspective of the patient in simulated experiences. In September, we were graced with a visit by Dr. Lisa Barker from Jump Simulation in Peoria, Illinois. Dr. Barker led an exciting session exploring the calculation of Return on Investment (ROI) in healthcare simulation.

Our fellows and staff considered prioritization of programs, as well as methodologies and approaches to simulation education that demonstrate the true value to the system. Rounding out the year, we were honored to have Dr. Dimitrios Papanagnou present on Advanced Topics in Feedback. Our team enjoyed thinking about how self-reflection and effective listening impact our ability to offer feedback to others. We look forward to next year's workshops to continue developing our faculty and fellows with new and exciting outside perspectives.



Dr. Dimitrios Papanagnou is welcomed by Dr. Michael Meguerdichian.



Dr. Barker leads a session exploring Return on Investment (ROI) in healthcare simulation.



Dr. Cate Nicholas discusses simulation from the patient perspective.



Dr. Betsy Hunt giving her workshop on Rapid Cycle Deliberate Practice.