

UCI School of Medicine
Medical Education Simulation Center

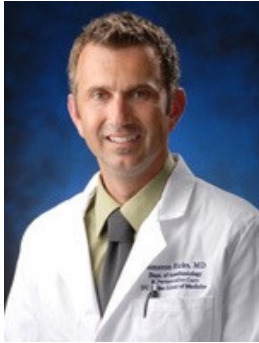
Annual Report

2019-2020



Courtesy University of California, Irvine

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Director Summary

Academic year 2019-2020 marks the center's ninth year of service to the medical students, residents and clinicians of UC Irvine School of Medicine and UC Irvine Health. Shortly, we will be celebrating the 10th year anniversary – a decade of service to fulfill the center's core mission to develop, deliver, and evaluate pre-clinical, graduate, and inter-professional medical simulation education and training activities.

COVID-19 put a damper in the simulation center operations, but because of the dedicated staff, the center remained open for simulation and workshop sessions the entire time. This is a true testament of the dedication that the 2nd floor staff has for medical education.

Overall **simulation center average utilization was 48%**. The utilization was down modestly by 2% percent this year mainly due to a higher than normal cancellation rates due to COVID-19. Additionally, two MOCA courses were cancelled for because of COVID-19.

Total utilization for the academic year:

- School of Medicine – UME represented 60.1%
- School of Medicine – GME represented 17.1%
- School of Nursing – Pre-clinical represented 10.4%

Overall **simulation center average staff utilization was 80%**. The utilization was down by 8% this year due to the same reasons listed above.

The academic year brought over 6,200 learners to the simulation center during 516 different sessions amounting to over 17,000 participant hours.

I look forward to the 10th anniversary of the simulation center and an upcoming year of simulation curriculum even though this year may look different as in years' past.

A handwritten signature in black ink that reads "C. Ricks".

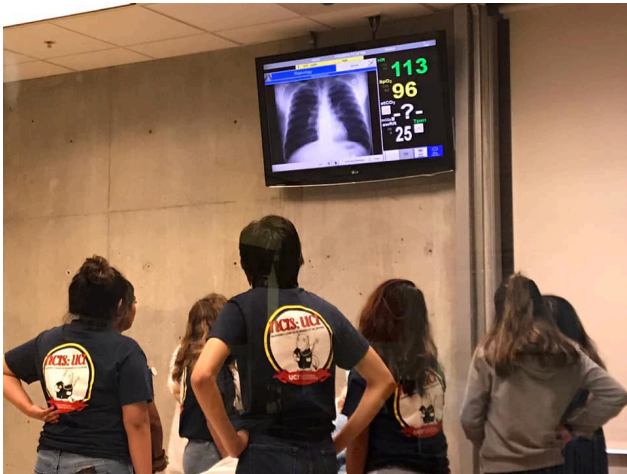
Cameron Ricks, MD



Dr. Al-Khofi's going away luncheon



UC Simulation Consortium meeting at UCSF.



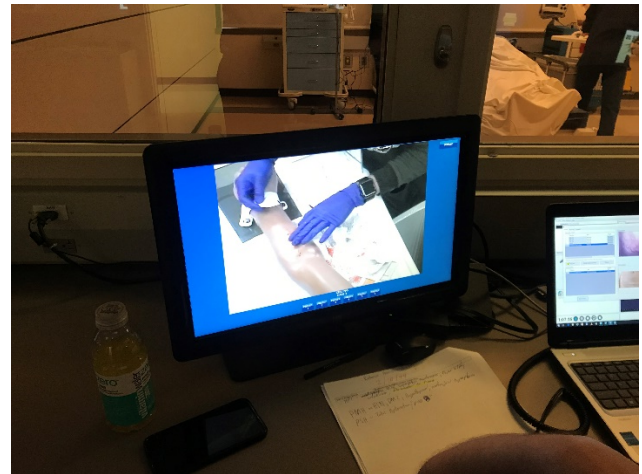
School of Nursing Summer Camp session



School of Nursing participating simulations in the simulation center. John, Simulation Specialist, in the foreground



Anesthesia resident training



Monitoring IV insertion skills from the control room



A little simulator maintenance



Simulation Instructor Training Course (SITC)



Ryan, Simulation Specialist, providing an orientation to the simulator during a medical student simulation session



The simulation center was full for a joint Internal Medicine and Emergency Medicine simulation session



Inter-professional simulation session



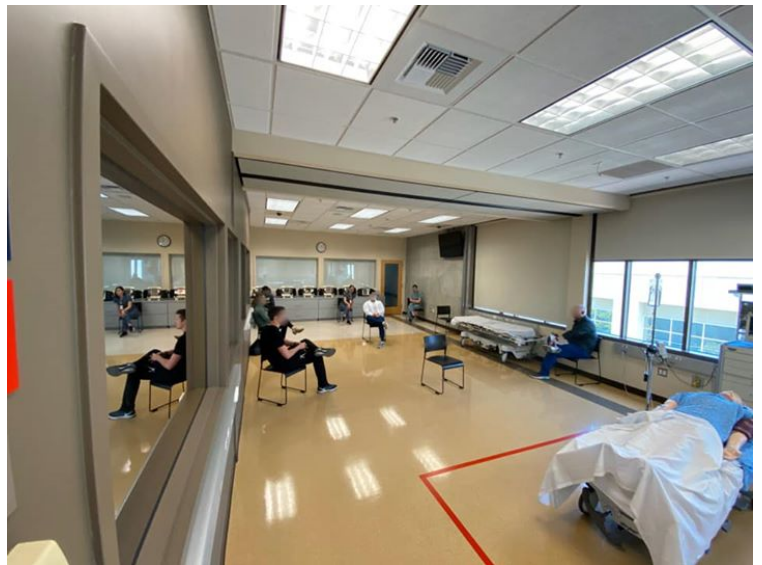
Danica with the Mars 2020 rover "Perseverance" at JPL



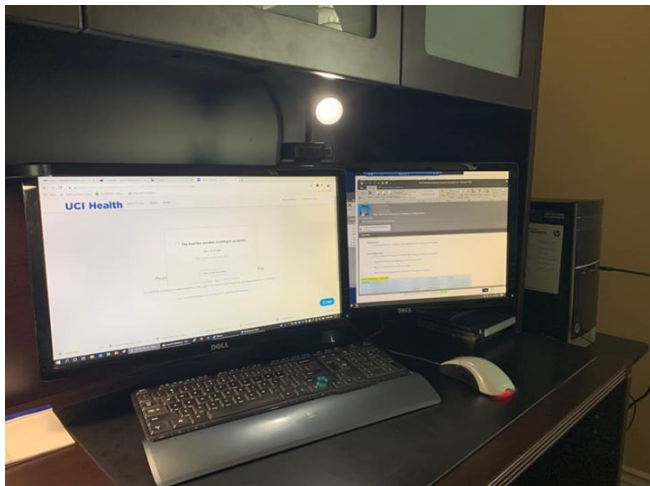
The Simulation staff doing some team building with a tour at JPL



Orange County Fire Authority stopped by to see some simulation training



Social distancing in the simulation center



The new reality; interviewing prospective medical students from a far



Ryan, Simulation Specialist, ensuring social distancing applies

Staff & Operational Model

Center Operations

The Medical Education Simulation Center has 4.0 FTE assigned for staffing and operations.

An additional 0.4 FTE is assigned to Dr. Ricks to provide program oversight and instruction to the medical students.

Simulation Fellows

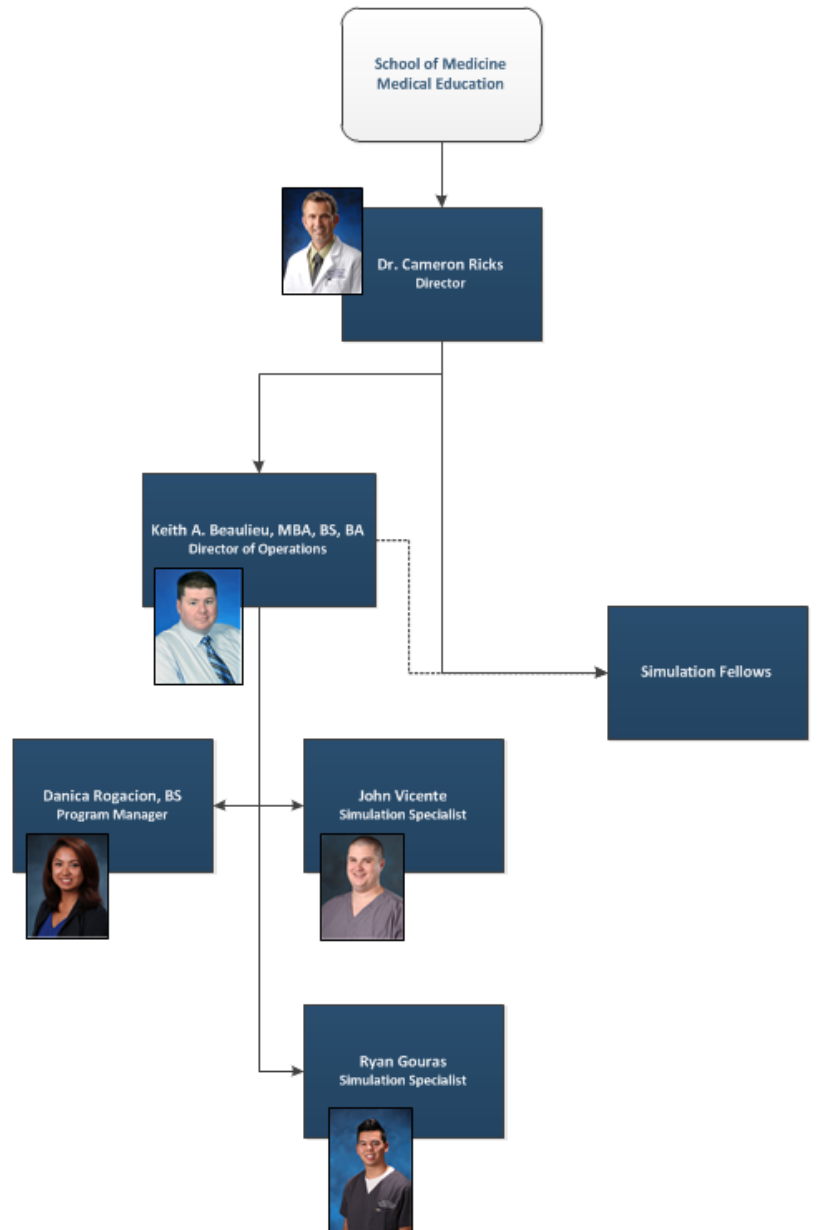
The Medical Education Simulation Center seeks to attract simulation fellows on a yearly basis. This provides additional physician availability in scheduling instructors for core MS simulation sessions.

International Fellow

This year we did not have an international simulation education fellow

Emergency Medicine.

Dr. Walla Alfaraj and Dr. Miguel Martinez-Romo were available from the Emergency department and were utilized 31.9% for core medical student instruction.



Medical Student Core Instructors (2019-2020)

41.7 %

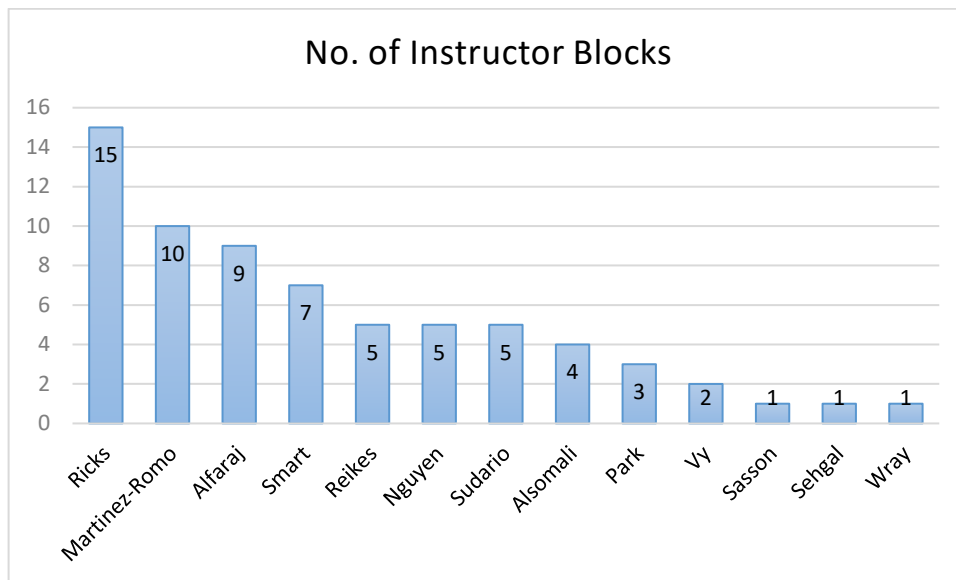
supplied from the Dean’s Scholars or others

31.9 %

supplied from the Department of Emergency Medicine Simulation Fellows

20.8 %

supplied by Dr. Ricks as Medical Director of the Simulation Center.



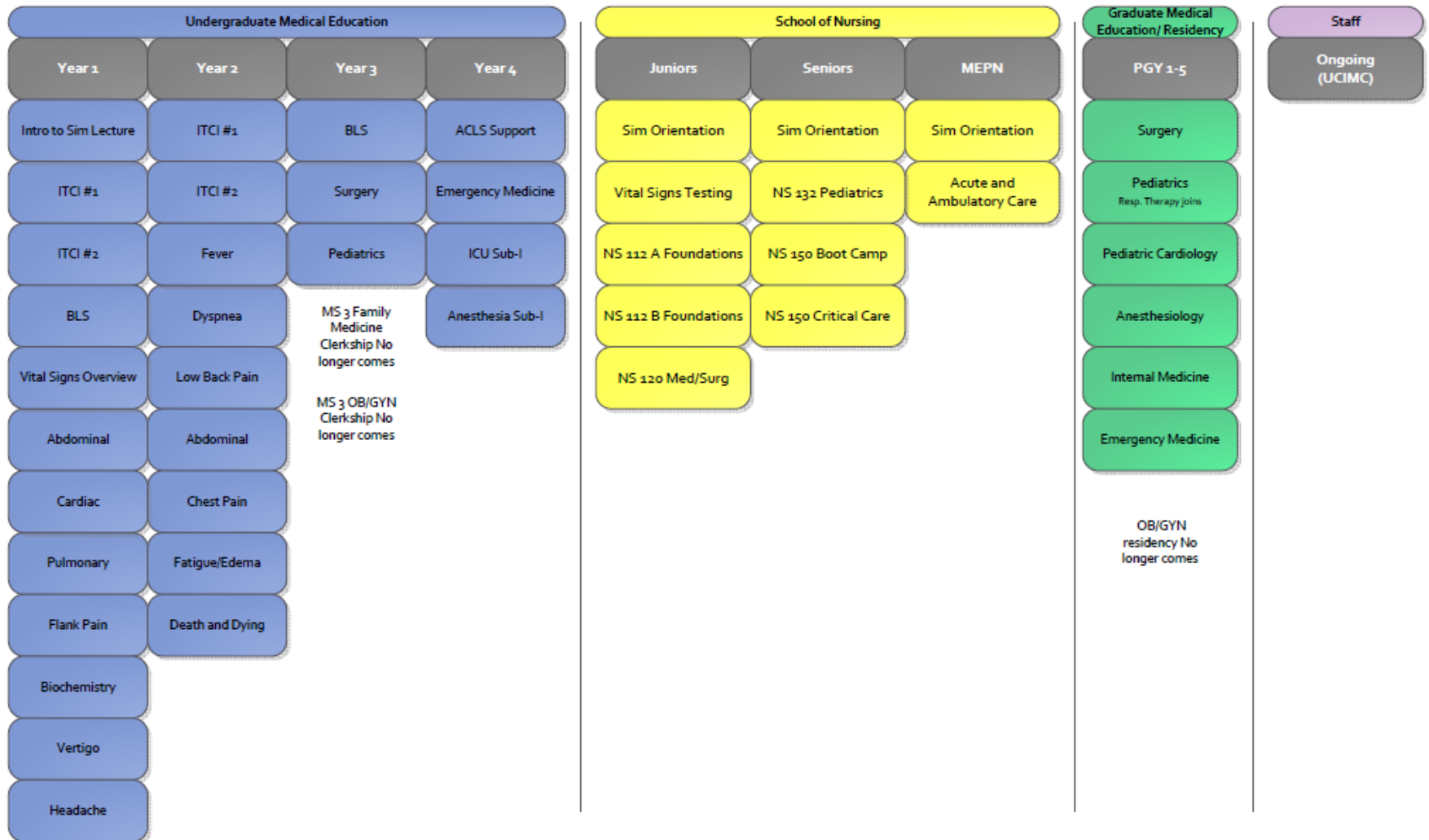
**Note – this is for CORE medical simulation courses and does not include instructors for augmented reality (AR) sessions.*

**Note – three (3) simulation courses were canceled this year due to COVID.*

Curriculum




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Simulation Curriculum Academic Year 2019-2020



2019-2020 Simulation Sessions

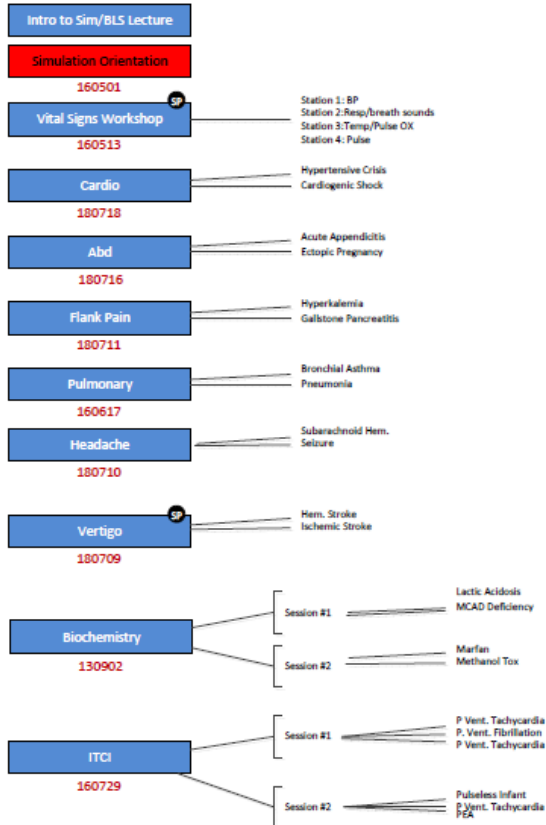
July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	Intro to Sim/BLS	CARDIO	ABD	PULMONARY		HEADACHE	VERTIGO		ITCI #2	BIO #1	
	Sim Orientation			ITCI #1						BIO #2	
	Vital Signs			FLANK PAIN							
	ITCI #1	FEVER	FATIGUE/ EDEMA	CHEST PAIN	DYSPNEA	ABD	LBP				
			ITCI #2			Death & Dying					
	NS 262	NS OB Boot Camp	NS Orientation			NS 150 Boot Camp	NS 150		NS 120		
			NS 112				NS 112		NS Preceptorship		
			NS 130								
			NS 132								

- MS 1 Simulation Sessions 
- MS 2 Simulation Sessions 
- School of Nursing 

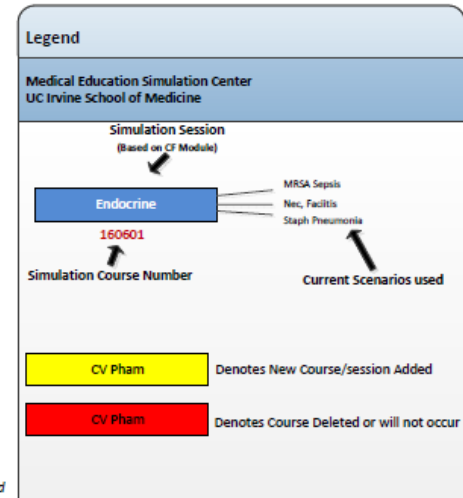
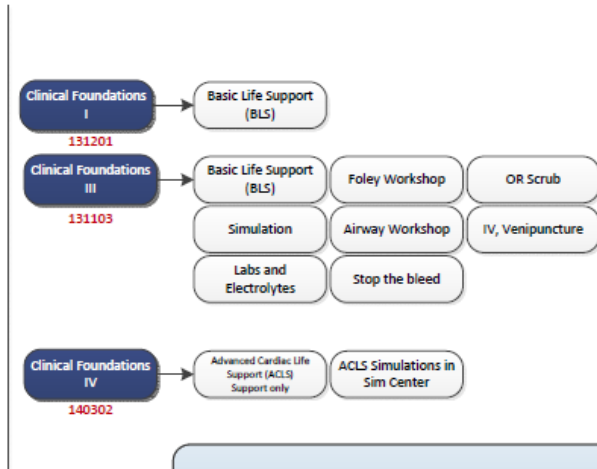
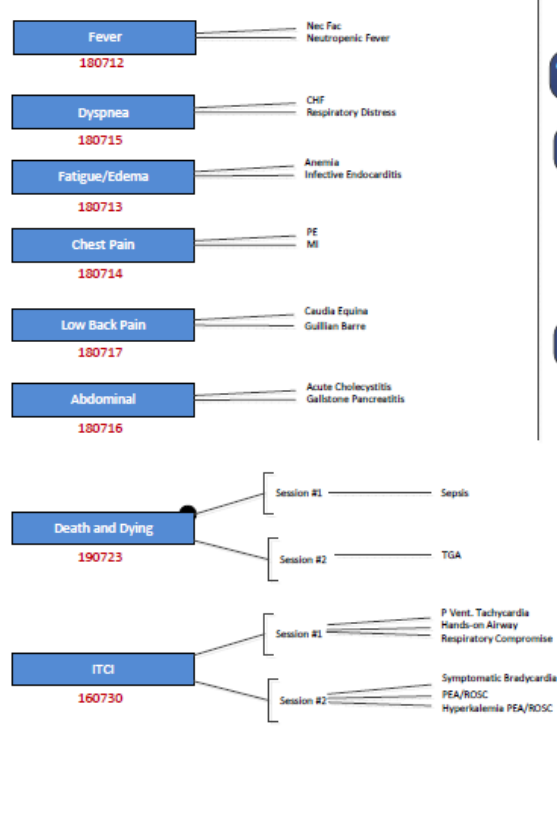
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 Medical Education Simulation Center

Simulation Curriculum Academic Year 2019-2020

Clinical Foundations 1 / MS 1 Simulation



Clinical Foundations 2 / MS 2 Simulation



Note: MS 3 & MS 4 Clerkships are not listed

School of Medicine

SOM

Hours directly attributed to operational simulation.

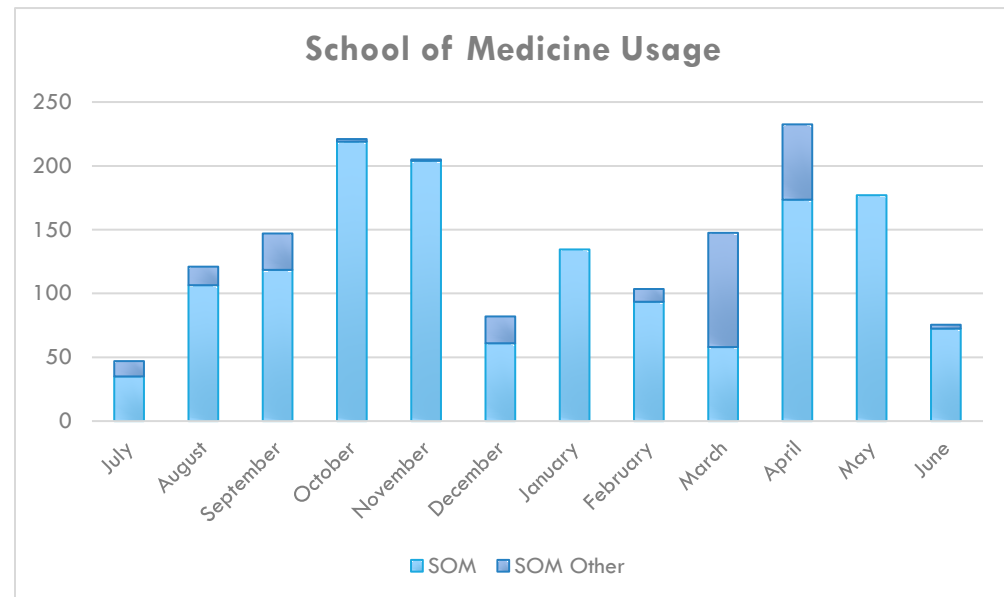
(Examples: MS 1 – MS 4 simulation sessions and CF sessions)

SOM Other

Hours attributed to operational aspects of the center under the SOM.

(Examples include tours, simulation maintenance, meetings)

Month	SOM	SOM Other	
July	35	12	
August	106.5	14.5	
September	118.5	28.5	
October	219	2	
November	204	1	
December	61	21	
January	134.5	0	
February	93.5	10	
March	58	89.5	
April	173.5	59	
May	177	0	
June	72.5	3	
			TOTAL
TOTALS	1453	240.5	1693.5

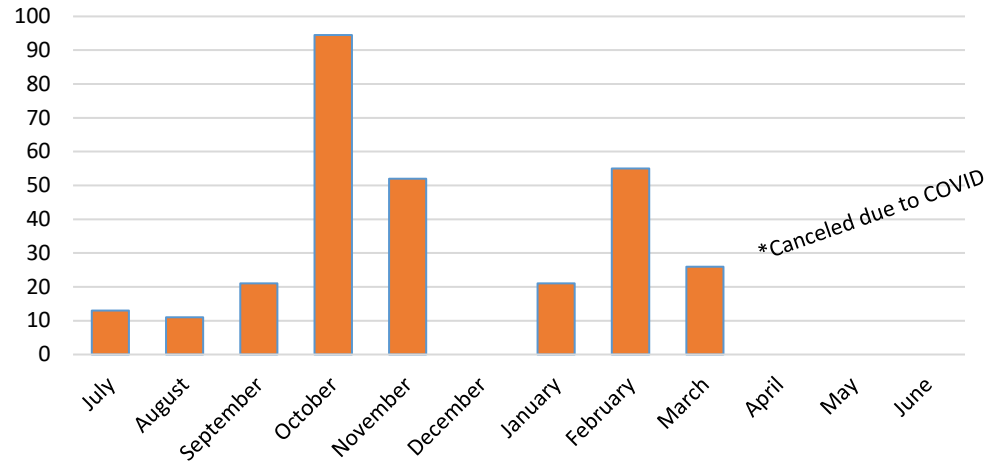


*COVID had an impact on data

School of Nursing

TOTAL TIME	SON Nursing
Month	
July	13
August	11
September	21
October	94.5
November	52
December	0
January	21
February	55
March	26
April	0
May	0
June	0
TOTALS	293.5

School of Nursing Nursing Usage: Total Hours



*COVID had an impact on data

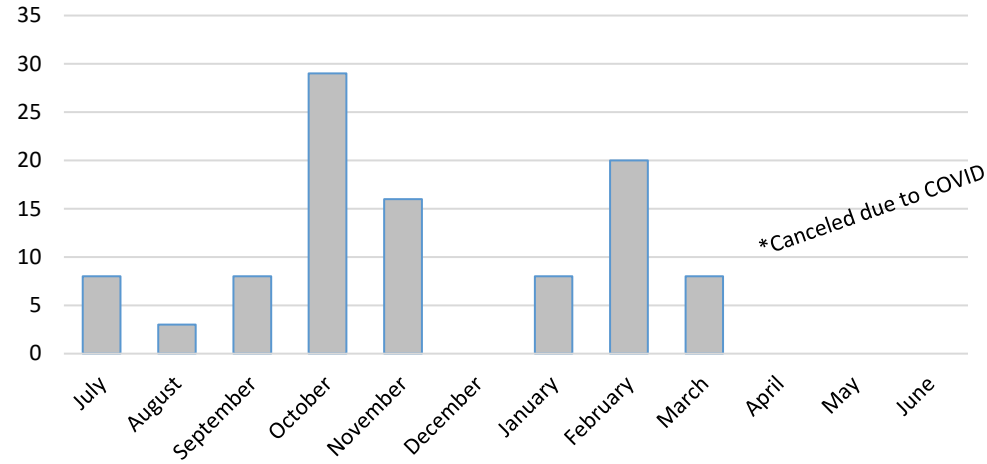
Total time accounts for operational, administrative, and prep time.

OPERATIONAL TIME

Month	SON Nursing
July	8
August	3
September	8
October	29
November	16
December	0
January	8
February	20
March	8
April	0
May	0
June	0

TOTALS	100
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**School of Nursing
Nursing Usage: Operational Hours**

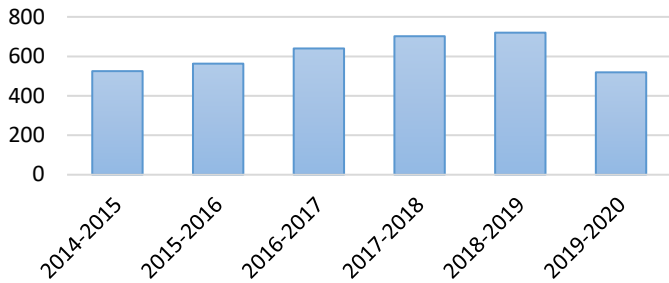


*COVID had an impact on data

Operational time reflect only the amount of time in the simulation center for the course and the session.

Operations

Simulation Sessions Per Year

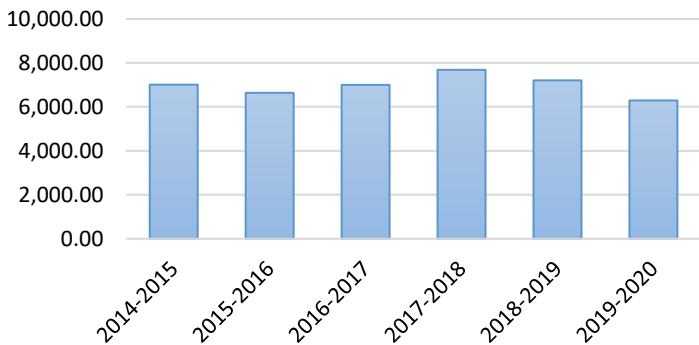


*COVID had an impact on data

516

Sessions

Total Learners Per Year

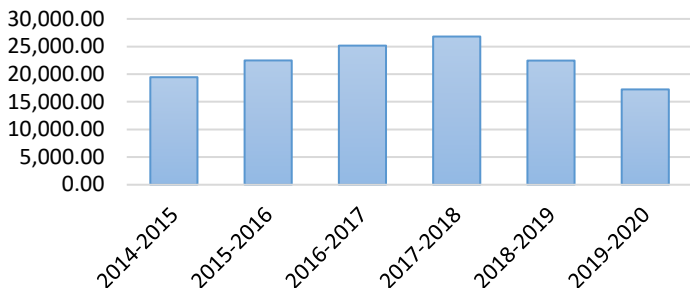


*COVID had an impact on data

6,293

Participants

Total Learner Hours Per Year



*COVID had an impact on data

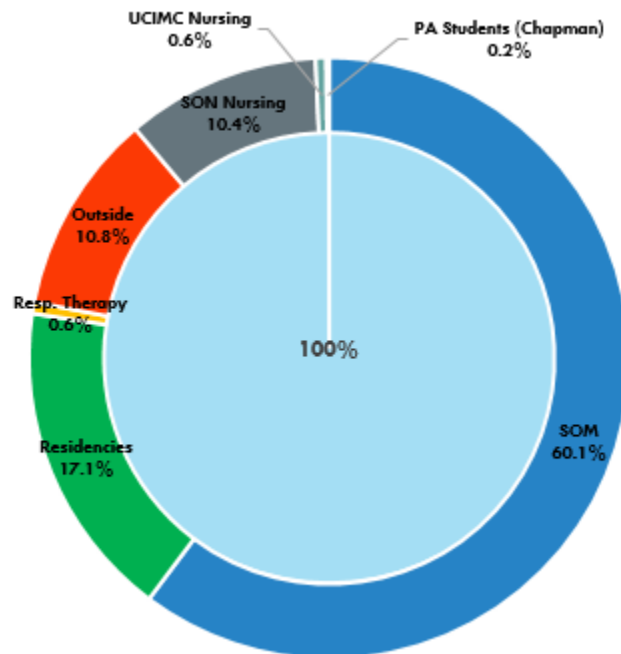
17,245

Learner Hours

Month	Number of Participants	Total Participant Hours	Avg. Time/Part.
July	397	984	2.48
August	568	550	0.97
September	566	711	1.26
October	983	2235	2.27
November	684	1101	1.61
December	367	624	1.70
January	539	1226	2.27
February	508	1471	2.90
March	133	372	2.80
April	539	3421	6.35
May	607	2826	4.65
June	402	1727	4.30
Average	524	17245.50	33.55

Utilization of the Simulation Center...

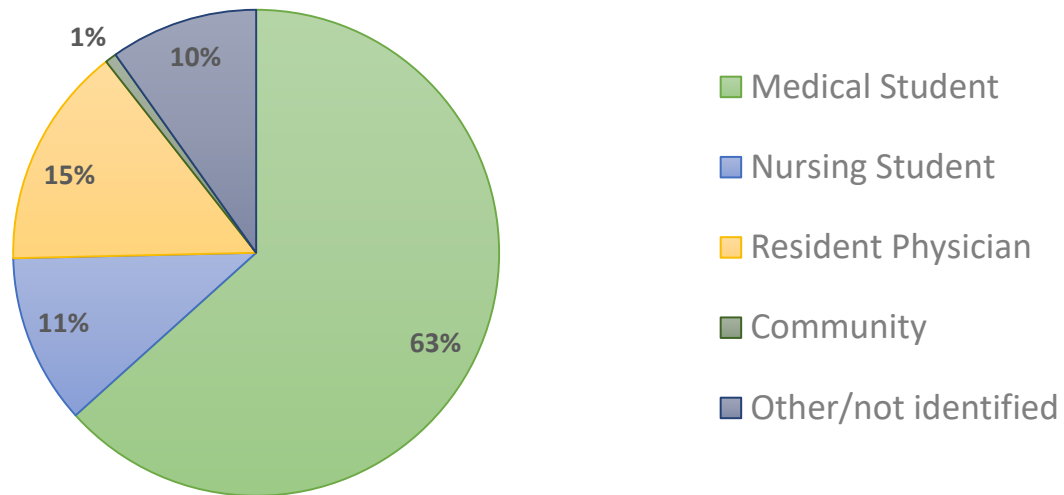
Running Percentage Total	
SOM	60.1%
Residencies	17.1%
Resp. Therapy	0.6%
Outside	10.8%
SON Nursing	10.4%
UCIMC Nursing	0.6%
PA Students (Chapman)	0.2%
PharmD (Chapman)	0.3%
TOTAL	100%



Total Time by Department

Month	SOM	Anes	SOM Other	EM	Hospital	IM	SOM Nursing	Outside	Surgery	Pediatrics	Peds Cardiology	Family Med	Resp. Therapy UCIMC	UCIMC Nursing	PA Student Chapman	Chapman (PharmD)	OB/GYN	Neurology	Total
July	35	0	12	15	0	0	13	88.5	0	6.5	6.5	0	1	0	0	0	0	0	177.5
August	106.5	10.5	14.5	9	0	0	11	29	13	5.5	0	0	3	3	0	8	0	0	213
September	118.5	21	28.5	0	0	0	21	9	0	6.5	6.5	0	6.5	6.5	0	0	0	0	224
October	219	0	2	19.5	0	0	94.5	4	0	6.5	6.5	13	0	6.5	0	0	0	0	371.5
November	204	0	1	0	0	0	52	22	0	6.5	6.5	0	0	0	0	0	0	0	292
December	61	0	21	13	0	0	0	2	0	6.5	13	0	6.5	0	0	0	0	0	123
January	134.5	13	0	14	0	26	21	45.5	0	19.5	0	0	0	0	4.5	0	0	0	278
February	93.5	26	10	0	0	0	55	6	0	13	6.5	0	0	0	0	0	0	0	210
March	58	0	89.5	0	0	11.5	26	4	0	0	13	0	0	0	0	0	0	0	202
April	173.5	0	59	0	0	0	0	18	0	13	0	0	0	0	0	0	0	0	263.5
May	177	0	0	0	0	0	0	11.5	0	13	6.5	0	0	0	0	0	0	0	208
June	72.5	45.5	3	22	0	21	0	65	0	6.5	0	0	0	0	0	0	0	21	256.5
TOTALS	1453	116	240.5	92.5	0	58.5	293.5	304.5	13	103	65	13	17	16	4.5	8	0	21	2819

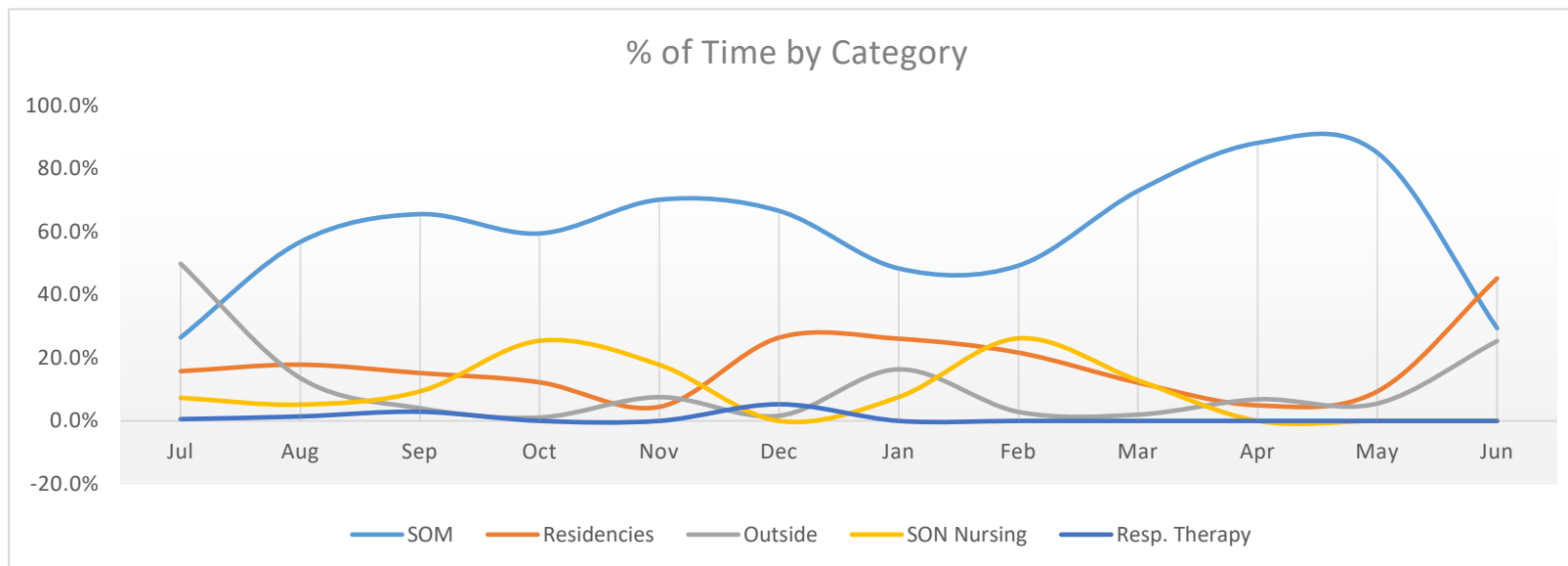
Participant Types



Total Utilization Hours by month

Percentage by Month

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
SOM	26.5%	56.8%	65.6%	59.5%	70.2%	66.7%	48.4%	49.3%	73.0%	88.2%	85.1%	29.4%
Residencies	15.8%	17.8%	15.2%	12.2%	4.5%	26.4%	26.1%	21.7%	12.1%	4.9%	9.4%	45.2%
Outside	49.9%	13.6%	4.0%	1.1%	7.5%	1.6%	16.4%	2.9%	2.0%	6.8%	5.5%	25.3%
SON Nursing	7.3%	5.2%	9.4%	25.4%	17.8%	0.0%	7.6%	26.2%	12.9%	0.0%	0.0%	0.0%
Resp. Therapy	0.6%	1.4%	2.9%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
UCIMC Nursing	0.0%	1.4%	2.9%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PA Students (Chapman)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
PharmD (Chapman)	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



Utilization Comparison

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Center Users

unit = hours

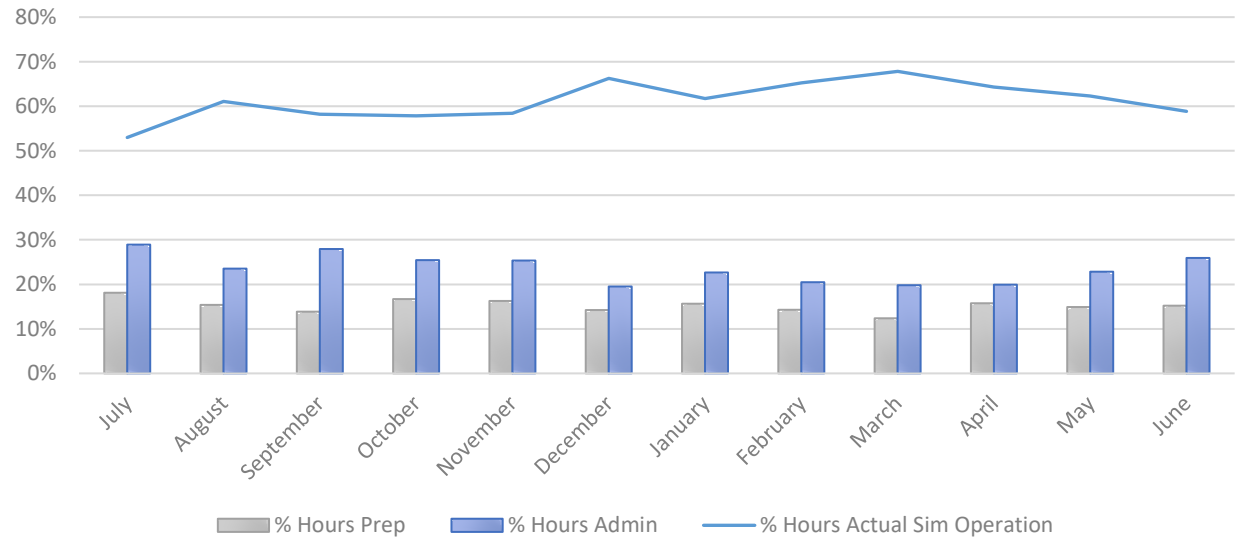
School of Medicine	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average
School of Medicine	2318.75	1860.55	2000.45	2036	1810.25	1693.5	1953.25
<i>Percentage of Time of overall Operations</i>	60.0%	51.4%	61.0%	59.6%	56.8%	60.1%	
Departments	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average
Anesthesia	179.1	132.5	116	130	146	116	136.60
Emergency Medicine	132.25	58.5	103.2	51	117	92.5	92.41
Pediatrics	209.5	229.7	142	115	100.5	103	149.95
Pediatrics Cardiology	0	58	59	58.5	78	65	63.70
Internal Medicine	36.5	46	40	42	27	58.5	41.67
Family Medicine	0	44.15	36	35	31.5	13	31.93
Surgery	62.25	46	34.75	43	33.5	13	38.75
Neurology	0	0	0	0	21	21	21.00
OB/GYN	0	6	20	2.5	0	0	9.50
<i>Percentage of Time of overall Operations</i>	19.0%	26.0%	18.2%	17.0%	17.1%	17.1%	
Hospital	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average
Code Training	107	384.5	125	104	0	0	180.125
Respiratory Therapy (participation with Peds Residency)	0	74.2	62	40.5	19	17	42.54
Staff Nurses	0	0	0	17	0	0	17
<i>Percentage of Time of overall Operations</i>	3.0%	10.6%	4.0%	3.0%	0.6%	0.6%	
School of Nursing	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average
School of Nursing (all courses)	64.35	43.25	22.45	213.5	410	293.5	174.50833
<i>Percentage of Time of overall Operations</i>	2.0%	1.2%	0.7%	6.2%	12.6%	10.4%	
Other	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average
<i>Percentage of Time of overall Operations</i>	16.0%	10.8%	16.1%	14.2%	12.9%	11.8%	

Overall operations includes simulation session time, preparation, teardown, and administrative work by the simulation specialists

Operations in comparison with admin and prep hours

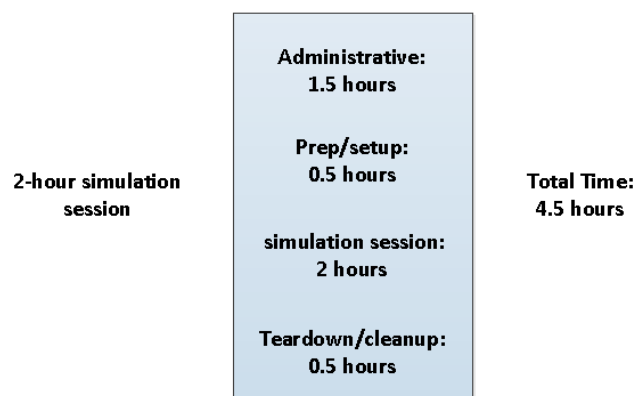
Month	% Hours Actual Sim Operation	% Hours Prep	% Hours Admin
July	53%	18%	29%
August	61%	15%	24%
September	58%	14%	28%
October	58%	17%	25%
November	58%	16%	25%
December	66%	14%	20%
January	62%	16%	23%
February	65%	14%	20%
March	68%	12%	20%
April	64%	16%	20%
May	62%	15%	23%
June	59%	15%	26%

61% 15% 24%



Actual in session simulation time only tells part of the operations story. In medical simulation, there is a fair number of tasks and background work that needs to be accomplished so the session goes well. Of the total hours spent on medical simulation each month, an average of 61% was directly attributable to session operations, while an average of 15% represented the setup/teardown, and an average 24% represented the background administrative work in preparing for the sessions.

Example:



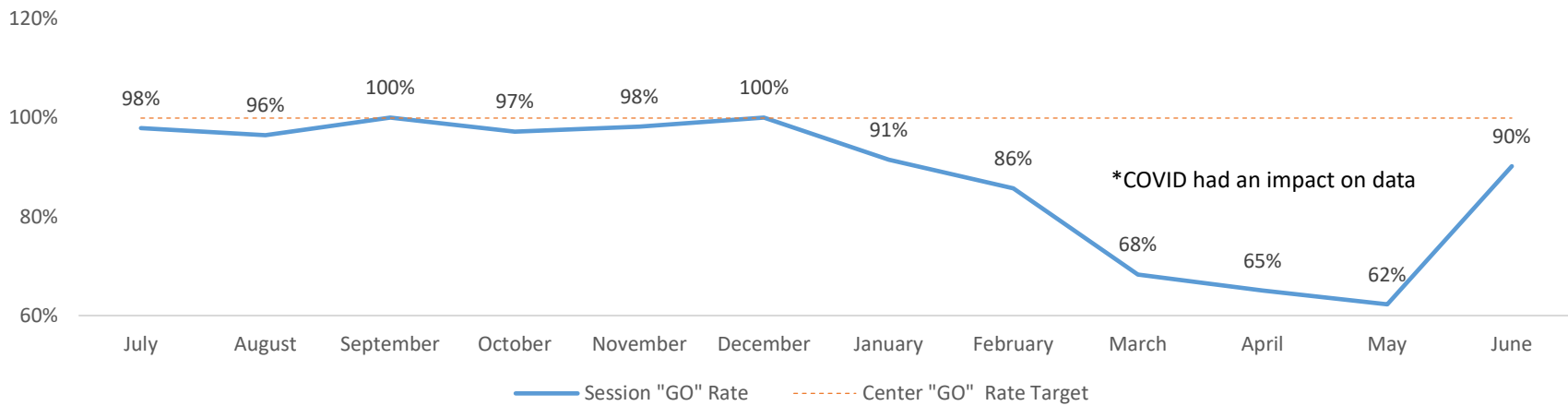
Administrative and prep/teardown do vary based on the type of session. Workshops will have more prep time added due to the number of task trainers that need to be set up for the session.

For standard medical student simulation sessions – we have adopted a standard 1 hour of prep and 1.5 hour administrative for all sessions.

Simulation Center Go Rate

The simulation Center “Go” rate is the difference between the scheduled sessions and the actual sessions that took place. The “go” rate will decrease, as a result, of cancelled sessions for numerous reasons including, but not limited to: instructor no-show, instructor availability, cancelled tours/outreach, and cancelled simulation sessions.

As a center, we strive to be between 95% - 100%. This affords the best possible scheduling solutions for students, residents, and other activities.





Transactional Operations

The simulation center had...

288 Separate transactions

78.4% represented American Heart Association related courses

10.2% represented Continuing Medical Education

11.4% represented non-UCI activities

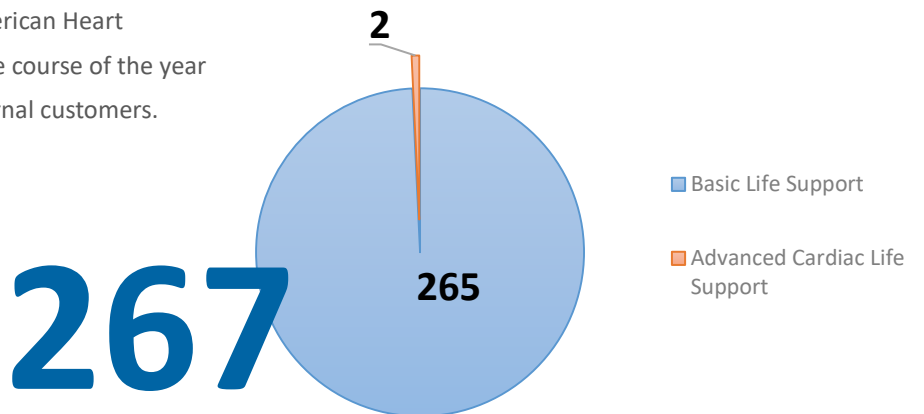
62.3% were credit card transactions

37.7% were recharge transactions

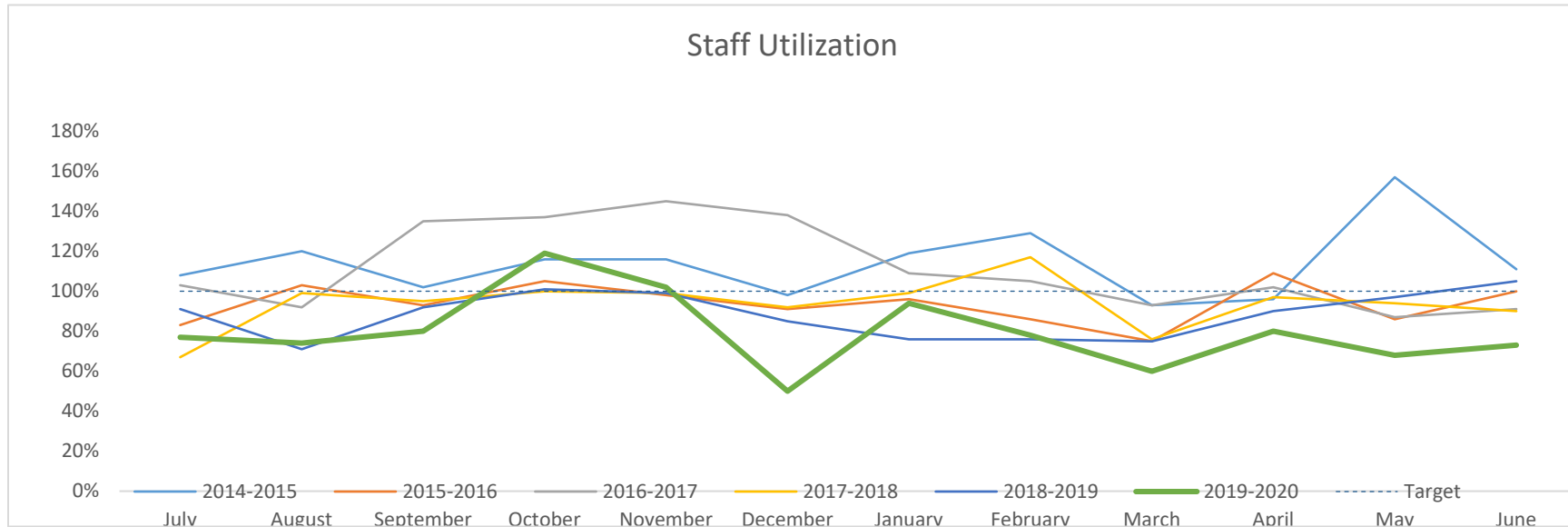


Basic Life Support

The center supported a total of 267 American Heart Association certifications throughout the course of the year for students and both internal and external customers.



*The simulation Center does not do ACLS any longer, the numbers reflected on the pie chart represent ACLS that was already started and needed to be complete by learner.



The ideal staffing utilization for the simulation center is to have the staff 100% utilized. Over the year, this utilization has fluctuated a bit based on operational activities and the number of simulation specialists available. Overall, the average staff utilization from 2013 to present is 99%.

**Average Staff Utilization
July 2013 – June 2019**

99%

**Average Staff Utilization
3 Previous years**

87%

Number of total months > 75% utilization	74
Total Months	84
% of Staff Utilization >75%	88%
Number of total months > 85% utilization	65
Total Months	84
% of Staff Utilization >85%	77%
Number of total months > 90% utilization	58
Total Months	84
% of Staff Utilization >90%	69%

Feedback

Medical Student Year 1 Simulation Sessions (Clinical Foundations 1) Student Feedback

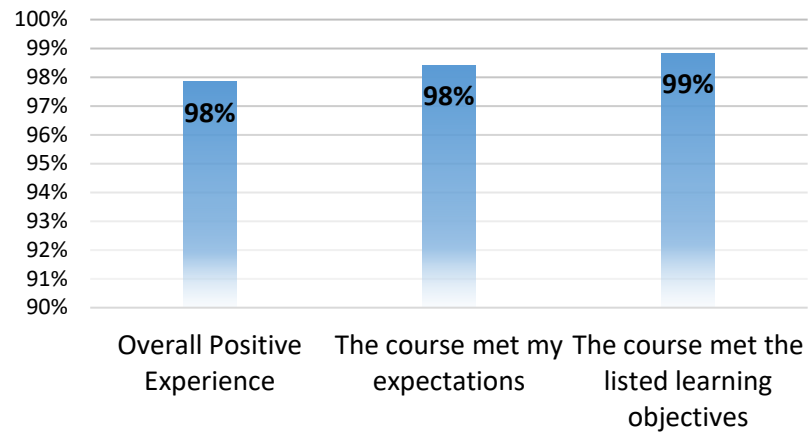
MEDICAL STUDENT YEAR 1	Vital Signs	Cardio	Abd	Pulmonary	Renal	Headache	Vertigo	Bio #1 Bio #2	Average
This was a Positive Learning Experience	97.8%	96.1%	99.0%	97.0%	100.0%	95.0%	100.0%		98%
The course met my expectations	97.8%	95.1%	100.0%	99.0%	100.0%	97.0%	100.0%		98%
The course met the listed learning objectives	97.8%	97.1%	100.0%	99.0%	100.0%	97.9%	100.0%		99%
I have a better understanding of the subject matter	95.6%	96.2%	98.0%	98.0%	99.0%	98.0%	100.0%	* Canceled due to COVID	98%
This was an effective use of my time	96.7%	97.1%	98.0%	96.2%	99.0%	96.0%	100.0%		98%
I felt this was a safe learning environment	97.8%	98.0%	99.0%	99.0%	100.0%	99.0%	99.0%		99%
The simulation center staff and instructors were helpful and responsive	97.8%	98.0%	100.0%	100.0%	100.0%	100.0%	100.0%		99%
The simulation center was clean/neat/organized	97.8%	98.0%	100.0%	100.0%	100.0%	100.0%	100.0%		99%
The simulation equipment was in good working order	95.6%	99.0%	100.0%	100.0%	100.0%	97.0%	99.0%		99%

Medical Student Year 2 Simulation Sessions (Clinical Foundations 2) Student Feedback

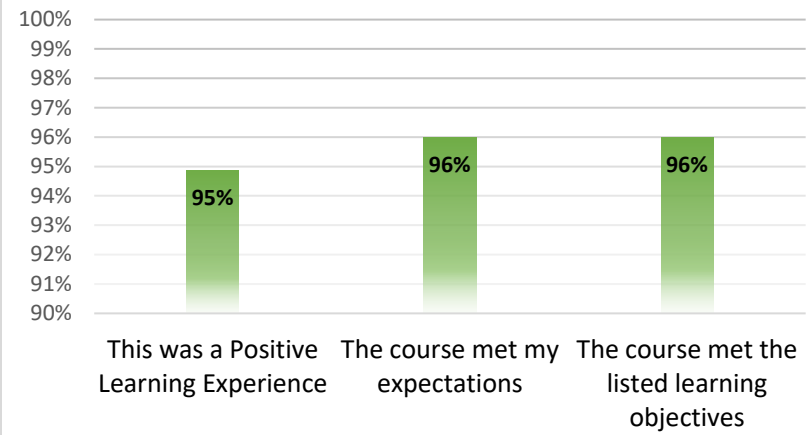
MEDICAL STUDENT YEAR 2	Fever	Fatigue	Chest Pain	Dyspnea	ABD	LBP	D&D	Average
This was a Positive Learning Experience	99.0%	100.0%	97.0%	99.0%	99.0%	100.0%	99.0%	99.0%
The course met my expectations	98.0%	100.0%	99.0%	100.0%	99.0%	96.7%	97.5%	98.6%
The course met the listed learning objectives	98.0%	100.0%	100.0%	100.0%	99.0%	98.0%	97.5%	98.9%
I have a better understanding of the subject matter	99.0%	99.0%	99.0%	100.0%	99.0%	98.4%	99.0%	99.1%
This was an effective use of my time	98.0%	100.0%	99.0%	99.0%	99.0%	98.4%	93.8%	98.2%
I felt this was a safe learning environment	99.0%	100.0%	100.0%	99.0%	99.0%	100.0%	100.0%	99.6%
The simulation center staff and instructors were helpful and responsive	99.0%	100.0%	99.0%	100.0%	99.0%	100.0%	100.0%	99.6%
The simulation center was clean/neat/organized	100.0%	100.0%	99.0%	100.0%	99.0%	100.0%	100.0%	99.7%
The simulation equipment was in good working order	98.0%	100.0%	100.0%	99.0%	99.0%	100.0%	99.0%	99.3%

* Data represents percentage of responses that were overall positive

MS 1 AVERAGES ACROSS ALL SIMULATION COURSES

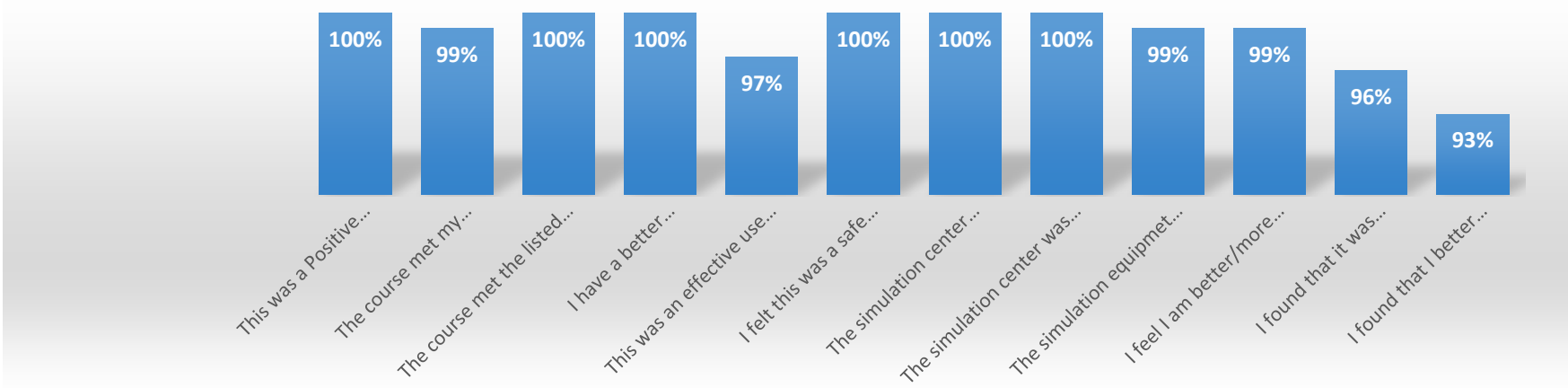


MS 2 AVERAGES ACROSS ALL SIMULATION COURSES



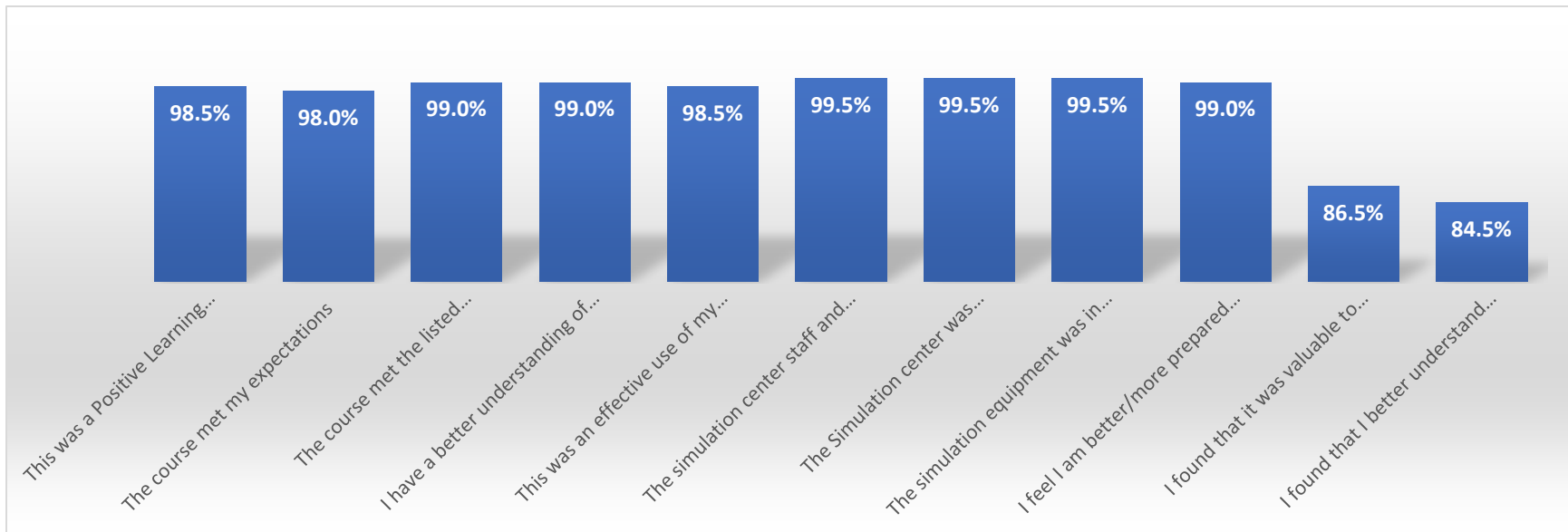
MS 1 Inter-professional Training Critical Incident (ITCI) Training

MS 1 ITCI STATISTICS 2019-2020	Mean Overall Positive
This was a Positive Learning Experience	100%
The course met my expectations	99%
The course met the listed learning objectives	100%
I have a better understanding of the subject matter	100%
This was an effective use of my time	97%
I felt this was a safe learning Environment	100%
The simulation center staff and instructors were helpful and responsive	100%
The simulation center was clean/neat/organized	100%
The simulation equipment was in good working order	99%
I feel I am better/more prepared to assist someone in BLS/ACLS	99%
I found that it was valuable to have this training with nursing students	96%
I found that I better understand the role of a nurse in emergency situations	93%



MS 2 Inter-professional Training Critical Incident (ITCI) Training

MS 2 ITCI STATISTICS 2018-2019	Mean Overall Positive
This was a Positive Learning Experience	98.5%
The course met my expectations	98.0%
The course met the listed learning objectives	99.0%
I have a better understanding of the subject matter	99.0%
This was an effective use of my time	98.5%
The simulation center staff and instructors were helpful and responsive	99.5%
The Simulation center was clean/neat/organized	99.5%
The simulation equipment was in good working order	99.5%
I feel I am better/more prepared to assist someone in BLS/ACLS	99.0%
I found that it was valuable to have this training with nursing students	86.5%
I found that I better understand the role of a nurse in emergency situations	84.5%



Research

UCI School of Medicine Medical Education Simulation Center		Simulation Center Research - Current	
Subject	Are Heel compressions as Effective as Tradition Chest Compressions	Current	Yes
IRBNumber	2019-5119	Closed	No
LastName	Ricks	Funding	Non-funded
FirstName	Cameron		
Co-Investigators	Al-Khofi, Beaulieu, Keith; Rogacion, Danica; Vicente, John; Gouras, Ryan		
Description	<p>Performance of chest compressions with the foot was reported in 1978. Three other papers also try to answer this question before. It was obvious how the heel method might be helpful for rescuers who could not get down on the floor next to the victim or for those who had problems pushing the chest with their hands.</p> <p>Hypothesis: Heel compressions could be useful as manual compressions for the bystander or more effective.</p> <p>the objective of this study to measure and compare the effective chest compression by two methods "heel vs. manual" by measure high-quality CPR include Compression, depth, rate, cardiac output, and perfusion, allowing chest recoil by using high fidelity simulation manikin.</p>	Notes	<p>Note: This IRB is being held in the Department of Anesthesiology</p> <ul style="list-style-type: none"> -IRB app started 1/7/2019 -IRB application acceptance 4/17/2019 -IRB still in queue 5/16/2019 -IRB determination as Activities that do not constitute Human Subjects Research, and cleared to proceed. 6/28/2019 -Research meeting 7/25/2019 -Research pilot 8/21/2019 -No new information. 7/1/2020

The Medical Education Simulation Center is currently directly involved with one (1) simulation-related research activity. This research is being administratively managed through the Department of Anesthesiology and Perioperative.

Strategic Planning

The Simulation Center is two (2) years into the Strategic Plan.

Strategic Plan progress halted for COVID operations

Strategic Goals

Provide a safe simulated environment for learning, where quality patient care and professionalism is emphasized, through the utilization of evidence-based clinical decision-making and evaluation methods to ensure best practice

Foster simulation research to improve healthcare education, processes, and outcomes

Develop new ways to integrate inter-professional scenarios in the simulation curriculum to enrich multidisciplinary learning

Maintain transparency, communication, efficiency and feedback to guarantee high quality stakeholder satisfaction

Create simulation-based educational programs to assist in maintenance of certification, to improve and enhance learner competence, and to serve as outreach to professional organizations

Quality Initiatives

Internal (within department/Medical Education)

Policy and Procedures

Internally we have updated the department's policies and procedures to reflect current policies and procedure.

Student post-simulation Surveys

We review the student surveys and make changes to the curriculum and scenarios. We provide the instructors copies of the surveys as well.

Simulation Operations Database

Director of Operations maintains an operational database to store and track key operational and historical data.

Course reviews yearly

We review each course through the request and preparation of the simulation session.

External (Hospital/CME)

Simulation Instructor Training Course

Held (1) course for both internal and external

Maintenance of Certification in Anesthesia (MOCA)

MOCAs have been canceled due to COVID

American Society of Anesthesiologists (ASA)

Maintain Simulation Education Network (SEN) endorsement

American College of Surgeons Accredited Education Institute

Maintain accreditation

American Society of
Anesthesiologists®
— Endorsed Program
Simulation Education Network



Outreach

This year, the Medical Education Simulation Center opened its doors and participated in the following outreach organizations:

UCI Alumni Events

UCI Post-Bacc Program

World of Medicine

EMIG Activities

ASIG Activities

Simulation Interest Group Activities

Publications & Presentations

Manuscript Publications

1. Anne Beissel, Christian Bauer, Marc Lilot, Keith Beaulieu, Baptiste Balanc, Thomas Rimmelé, Cameron Ricks. A Trans-Atlantic High-Fidelity Mannequin Based Telesimulation Experience. *Anaesthesia Critical Care & Pain Medicine*, Volume 36, Issue 4, August 2017, Pages 239-241 <http://www.sciencedirect.com/science/article/pii/S2352556816301680>.
2. Raphael D, Lin S, Canales C, Beaulieu K, Ricks C. Obstructive Mucus Plug in the Prone Position. *MedEdPORTAL Publications*; 2015. Available from: <https://www.mededportal.org/publication/10016> http://dx.doi.org/10.15766/mep_2374-8265.10016
3. Abdelshehid, C, Quach, S, Nelson, C, Graversen, J, Lusch, A, Zarraga, J, Alipanah, R, Landman, J, McDougall, E. High-Fidelity Simulation-Based Team Training in Urology: Evaluation of Technical and Nontechnical Skills of Urology Residents During Laproscopic Partial Nephrectomy. *Journal of Surgical Education*, September/October 2013, Volume 70/Number 5.
4. Shbeeb, A, Nelson, C, Strom, S, Mecca, R. Postanesthesia Care Unit Simulation: Acute Upper Airway Obstruction Secondary to Laryngospasm. *Case Report. Simulation in Healthcare*, Vol. 8, Number 2, April 2013
5. Gavazza, P, Rosenbaum, A, Canales, C, Kudrick, N, Lin, S. Intraoperative Rhabdomyolysis: Simulation Case Scenario. *Simulation in Healthcare*, Oct 2011; 6(5): 304-9. PMID: 21979829
6. Chun D, Gavazza P, Hollister C, Canales C, Lin S. Simulation Scenario- Myocardial Ischemia in a Patient with a Cardiac Transplant after Subarachnoid Block . *MedEdPORTAL*; 2011. Available from: www.mededportal.org/publication/9029.
7. Cannesson, M., Pestal G., Ricks, C., Hoeft, A., Perel, A. "Hemodynamic Monitoring and Management in Patients Undergoing High Risk Surgery: A Survey among North American and European Anesthesiologists." *Crit Care*. 2011 Aug 15: 15(4)

Book/Chapter Publication

1. Ricks, C. "Addison's Disease," Chapter 6, *Essence of Anesthesia Practice*, 3e, 2010.

Abstract Publications

1. Cameron Ricks; Jereme Brammeier; Keith Beaulieu; Ryan Field, Esther Banh; Danica Rogacion; Corey Nelson; Joe Rinehart MD. Ventriculostomy Management Training: Computer Based Training vs Simulation Training. Accepted to be presented at ASA 2019.
2. Cameron Ricks, Michael Ma, Keith Beaulieu, Danica Rogacion, Razan Duella, Joseph Rinehart. Asynchronous Learning/Simulation Assessment and Procedural Confidence. Presented at Presented at American Society of Anesthesiology (ASA). October 2018.
<http://asaabstracts.com/strands/asaabstracts/abstract.htm?year=2018&index=15&absnum=5032>
3. Ricks, C; Brammier, J; De Los Santos, Joseph; Beaulieu, K; Field, R; Nelson, C; Rogacion, D; Rinehart, J. Computer-based Training and Simulation for Ventriculostomy Management Training. Presented at ASA 2017.
4. Beaulieu, Keith; Rogacion, Danica; Vicente, John; Ricks, Cameron. Integration of Simulation in Undergraduate Medical Education as an Elective Course. Presented at IMSH 2017. Published in Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare, December 2016 (11:6), Pg. 452.
5. Anne Beissel, Christian Bauer, Marc Lilot, Keith Beaulieu, Baptiste Balanc, Thomas Rimmelé, Cameron Ricks. Pitfalls of International Telesimulation. Presented at IMSH 2016. Published in Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare, December 2015 (10:6), Pg. 399.
6. Keith Beaulieu, Cris Hanacek, John Vicente, Anne Beissel, Charlene Beaulieu, Cameron Ricks. Foley Skills Competency for 2nd Year Medical Students. Presented at IMSH 2016. Published in Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare, December 2015 (10:6), Pg. 447.
7. Keith Beaulieu, Cris Hanacek, John Vicente, Cameron Ricks. Emesis During Simulation: A Low Cost Apparatus. Presented at IMSH 2016. Published in Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare, December 2015 (10:6), Pg. 461.
8. Rola Abdulrahman Alrabah; Anne Beissel; Cris Hanacek; Cecelia Canales; Keith A. Beaulieu; John Vicente; Julie Sayegh; Christopher McCoy; Cameron Ricks. Residents as Teachers: A Randomized Controlled Non-inferiority Trial. Presented at IMSH 2016.

9. Ricks, C., Beaulieu, K., Gohil, S., Rahman, A. High Fidelity Medical Student Microbiology Simulation. Presented at IMSH 2015. Published in *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare*, December 2014 (9:6), Pg. 464.
10. Ricks, C., Lin, S., Canales, C., Nelson, C., Strom, S. Evaluation of Simulation Education using Anesthesia Information System. Presented at IMSH 2014. Published in *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare*, December 2013, Pg. 581.
11. Charlotte Lee, Bernie Milbury, Maureen Movius, Cameron Ricks, Ryan Lombardi, Kenneth Seiff. Interprofessional Communication and Teamwork for Improving Clinical Outcomes. Presented at the "Magic in Teaching" Conference, Irvine, California. November 13, 2013.
12. Suzanne Strom, Luanna Yang, Cecilia Canales, Ryan Abrego, Jamie Gould, Mark Langdorf. Resuscitation Reality Check: Using High-Fidelity Simulation to Evaluate Graduating 4th Year Medical Students' Resuscitation Skills for Curricular Assessment. Presented at IMSH 2012.
13. Jason Y. Lee*, Phillip Mucksavage, Neil Shah, Cecilia Canales, Elspeth M McDougall, Sharon Lin. High Fidelity Team-based Simulation Training: Laparoscopic Renal Vein Injury Scenario. Presented at the 29th World Congress of Endourology and SWL (WCE2011) in Kyoto, Japan December 2011.
14. Cameron J. Ricks, M.D., Neil S. Shah, M.D., Cecilia Canales, M.P.H., Jason Lee, M.D., Sharon L. Lin, M.D. Assessment of Anesthesiology Resident Non-Technical Skills Using a High-Fidelity Simulated Renal Vein Injury Model. Presented in Chicago Oct 2011 to be published at *Anesthesiology* October 2011. A170
15. Darren R. Raphael, M.D.,M.B.A., Cecilia Canales, M.P.H., Zeev N. Kain, M.D.,M.B.A., Suzanne L. Strom, M.D., Sharon Lin, M.D. Simulation-Based Interviews Identify Outlier Anesthesiology Residency Candidates. Presented in Chicago. Oct 2011 to be published at *Anesthesiology* October 2011. A170
16. Cecilia Canales, Sharon Lin, Suzanne Strom, Jason Lee, Zeev Kain. Surgical Simulation Training Enhances Anesthesiology Resident Communication in the Operating Room. Presented at 2011 ACGME Annual Educational Conference, Nashville Tennessee.
17. Lin, S, Raphael, D, Canales, C, Strom, S, Kain, Z. Simulation-Based Interviews for Selection of Anesthesiology Residency Candidates. *Anesthesia & Anesthesiology*. 2011 S-146. Presented at IARS 2011 in Vancouver.

Workshop Presentations

1. McCoy C., Alrabah R., Beaulieu, K., Sayegh, J., Vicente, J., Ricks, C. Telesimulation: Blazing a New Trail in Medical Education. Podium Presentation, International Meeting for Simulation in Healthcare, January 2016.
2. Ricks, C., Ahearn, S., Beaulieu, K., Abrego, R., Strom, S. Integrating High-Fidelity Simulation into your OSCEs. Podium Presentation 2014 International Meeting for Simulation in Healthcare, January 2014.
3. Park C, Strom S. *Milestones: Patient Care 1*. Workshop presented at the Society for Education in Anesthesia (SEA) Meeting, SEA Simulation Committee, June 2013, Salt Lake City, UT.
4. Park C, Pardo M, Littlewood K, Navedo A, Strom S. *Simulation Instructors Course: Preparation for MOCA. Preconference workshop* presented at the Society for Education in Anesthesia (SEA) Meeting, SEA Simulation Committee, May 2013, Salt Lake City, UT.
5. Kacmar R, Theilken L, Jasper L, Park C, Strom S. *Simulation Design and Debriefing for Dummies*. Workshop presented at the International Meeting for Simulation in Healthcare, January 2013, Orlando, FL.
6. Arciaga P, Banerjee A, Blevins A, Campbell C, Dean L, Hatch D, Hwang J, Kacmar R, Levy R, Lighthall D, Lipman S, Liu L, Mclvor W, Pardo M, Park C, Ross V, Shimabukuro D, Steigler M, Strom S, Thomas J, Torsher L, Wald S, Weigner M. *Simulation LIVE! Workshop* presented at the 2012 annual meeting for the American Society of Anesthesiologists, October 2012, Washington, D.C.
7. Park, CS, Strom, SL, Littlewood, KE, Pardo, MC. *Incorporating Simulation to Meet the ACGME Simulation Requirement*. Workshop presented at Society for Education in Anesthesia (SEA) Meeting, June 2012, Milwaukee, WI.
8. Cecilia Canales, MPH, Corey Nelson, MD; Ryan Abrego; Jamie Gould, BS; Cameron Ricks, MD; Suzanne Strom, MD. *Simulation Beyond the Manikin*. Workshop presented at the American Association of Medical Colleges, Western Group on Educational Affairs Meeting, Monterrey, CA, April 2012.
9. Suzanne Strom, Cecilia Canales. *How to integrate medical simulation into all four years of the medical school curriculum in six months or less*. Presented at WGEA for AAMC in Stanford, CA on May 2011.

10. Cecilia Canales, Jamie Gould, Ryan Abrego, Cameron Ricks. *Contingency Planning for Confederates*. Presented at the First Regional meeting on Simulation at Loma Linda, CA on April 2011
11. Sharon Lin, MD; Suzanne Strom, MD; Cecilia Canales, MPH; Ela Cudilo, MD; Levina Tran, MD; Shelby Walters, MD; Elena Paik Chung, MD; Stephanie Cha, MD; Ryan Abrego. *"An Evening of Simulation."* Presented at the American Association of Clinical Directors (AACD) Perioperative Leadership Summit. March 2011.
12. Sharon Lin, MD; Suzanne Strom, MD; Cecilia Canales, MPH; Jason Lee, MD and Zeev Kain, MD, MBA. *Impact of Cross-Training on Perspectives in the Operating Room: Surgical Simulation for Anesthesiology Residents*. Presented at International Meeting on Simulation in Healthcare (IMSH) January 2011
13. Suzanne Strom, MD; Cecilia Canales, MPH; Sharon Lin, MD. *MOCA Preparation: Simulation Based Training in Critical Incident Management and Teamwork*. Presented at the American Society of Anesthesiologists Annual Meeting, October 16, 2010

Grants Submitted

Ricks C, Beaulieu K. (2013) *Inter-professional Team Critical Incident (ITCI) Training*. Josiah Macy Jr. Board Grant

Ricks C, Beaulieu K (2014) *Inter-professional Team Critical Incident (ITCI) Training*. UniHealth Foundation

Ricks C, et al. (2014) UC Simulation Consortium. University of California Office of the President.

Center History

MEDICAL DIRECTOR

2010-2011	Dr. Sharon Lin
2011-2013	Dr. Elizabeth McDougal
2013-Present	Dr. Cameron Ricks

DIRECTOR OF OPERATIONS

2010-2013	Cecilia Canales, MPH
2013-present	Keith Beaulieu, MBA, BS, BA

SIMULATION SPECIALISTS

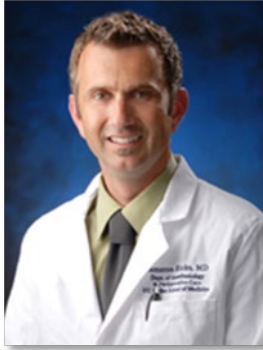
2010-2014	Ryan Abrego (Lombardi)
2010-2014	Jamie Gould (Martin), BS
2013-2015	Cris Hanacek, BS
2013-present	John Vicente
2015-2016	Eilene Tellez
2017-present	Ryan Gouras, BS

ADMINISTRATIVE ASSISTANT/PROGRAM MANAGER

2012-2013	Geneva Rangel
2013-2015	Catarina De Carvalho
2015-present	Danica Rogacion, BS

FIRST SIMULATION

2 September 2010



CAMERON RICKS, MD
DIRECTOR



KEITH A. BEAULIEU, MBA, BS, BA
DIRECTOR OF OPERATIONS



DANICA ROGACION, BS
PROGRAM MANAGER

Contact Information

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