

UCI University of
California, Irvine

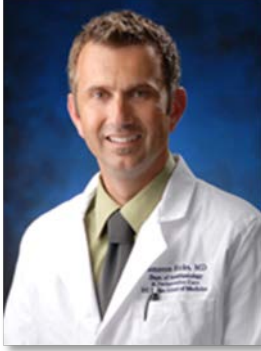
Medical Education
Simulation Center



ANNUAL REPORT

FY 2016-2017

Director Summary



OPERATING HIGHLIGHTS

As operations for the 2016-2017 academic year come to a close, **the simulation center accomplished 2,000 hours of simulation activities and 25,000 hours of total participant hours to a total of 7,000 participants.**

School of Medicine medical student simulation activities represented 61% of the total time, residency activities represented 18.2%, UCIMC code training activities represented 4%, School of Nursing represented 0.7%, and outside activities, such as AHA BLS and ACLS and MOCA represented 17.6%.

Overall **simulation center average utilization was 68%** (↑15% from 2015-2016). This represents a very efficient operation and in line with industry standards. Our **staffing average utilization was 111%** (↑ 17% from 2015-2016). This over-utilization was mainly due to a simulation specialist staffing shortage from September to January.

We were lucky enough to have Dr. Rheem Almhizai from Saudi Arabia, as an international simulation fellow for the year, and Dr. Kimberly Sokol, as the Emergency Medicine simulation fellow.

We presented **one (1) research abstract**, which was published in the Simulation in Healthcare Journal, December 2016.

We had **one (1) manuscript accepted** to be published in *Anaesthesia Critical Care & Pain Medicine* on the topic of telesimulation.

CURRICULUM HIGHLIGHTS

Simulation curriculum underwent a lot of changes this year. Most of the simulation activities were moved out of the basic sciences into the Clinical Foundations courses. Biochemistry and Neuroscience simulation activities remained unchanged. This was also the first year for the CSI (clinical skills immersion) model, which carried the topics/modules from clinical skills and ultrasound to simulation. The simulation center **added an additional 7 simulation sessions including a simulation orientation session** for the incoming MS 1 students. In addition to changing the curriculum, **22 scenarios were written.**

As director, I am also **involved in Clinical Practice Exams.** This experience will not only help drive future simulation sessions but also begin the process in assessment with simulation-type activities in the school

FINANCIAL HIGHLIGHTS

We continue to operate on a lean budget; however, the center was allocated funding for much needed pediatric simulator and replacement gurneys

LOOKING AHEAD

As we look ahead into next academic year, there will be less dramatic sweeping simulation session changes but rather finessing the curriculum established this year. **We have been asked to take on a projected additional 128 hours** that the School of Nursing requested.

We are looking to continue to represent UCI at international conferences for simulation. We currently have 3 research abstract submitted for 2018 International Meeting for Simulation in Healthcare. If accepted, our staff will present our research and ideas.

Finally, **our staff continues to represent UC Irvine in the most professional manner possible.** Our Director of Operations, is part of numerous committees in the Society for Simulation in Healthcare. He is a council member and site reviewer for the Accreditation Council and has visited numerous simulation center across the country looking at best practices in simulation. Last year he was part of the inaugural committee to enact the SSH Academy, the inaugural cohort of fellows for the academy was selected in January. He has also completed his certification in Healthcare Simulation Operations Specialist. Looking ahead, We hope to have the simulation specialist attend and present their research poster at IMSH, our Director of Operations will be attending I/ITSEC modeling and simulation conference, myself and the Director of Operations will be representing UC Irvine at the fall UC Simulation Consortium Meeting, in October, at UCLA, and we all hope to attend the International Meeting for Simulation in Healthcare (IMSH) also held in Los Angeles.



Cameron Ricks, MD
Director

Highlights

Medical Student Simulation Curriculum Change

- Most of the simulation activities were moved out of the basic sciences into the Clinical Foundations courses. Biochemistry and Neuroscience simulation activities remained unchanged.
- This was the first year for the CSI (clinical skills immersion) model, which carried the topics/modules from clinical skills and ultrasound to simulation.
- The simulation center added an additional 7 simulation sessions including a simulation orientation session for the incoming MS 1 students. In addition to changing the curriculum, 22 scenarios were written.

International Meeting on Simulation in Healthcare (IMSH)

- 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.

Accepted/Published Article

- 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 [In Press]
<http://www.sciencedirect.com/science/article/pii/S2352556816301680>.

Certification in Healthcare Simulation Operations

- Keith Beaulieu completed the requirements for the Healthcare Simulation Operations Specialist certification. This just solidifies his expertise and experience in healthcare Simulation.



Representative in International Simulation Organization

- Accreditation Counsel (Society for Simulation in Healthcare)
 - Keith Beaulieu is a voting member of the Society for Simulation in Healthcare (SSH) Accreditation Counsel
 - Keith Beaulieu given the role of "Team Lead" Site Reviewer
 - Keith Beaulieu has been active in the expansion of the Society for Simulation in Healthcare (SSH) Accreditation program through his participation in the development of the accreditation standards' companion guides.
 - Keith Beaulieu has represented UC Irvine on six (6) accreditation site reviews.
- Academy (Society for Simulation in Healthcare)
 - Keith Beaulieu wrote the original business plan
 - Keith Beaulieu remains a subject matter expert for business operations for the academy as the program grows

Staffing and 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.

Medical Student Instructors (2016-2017)

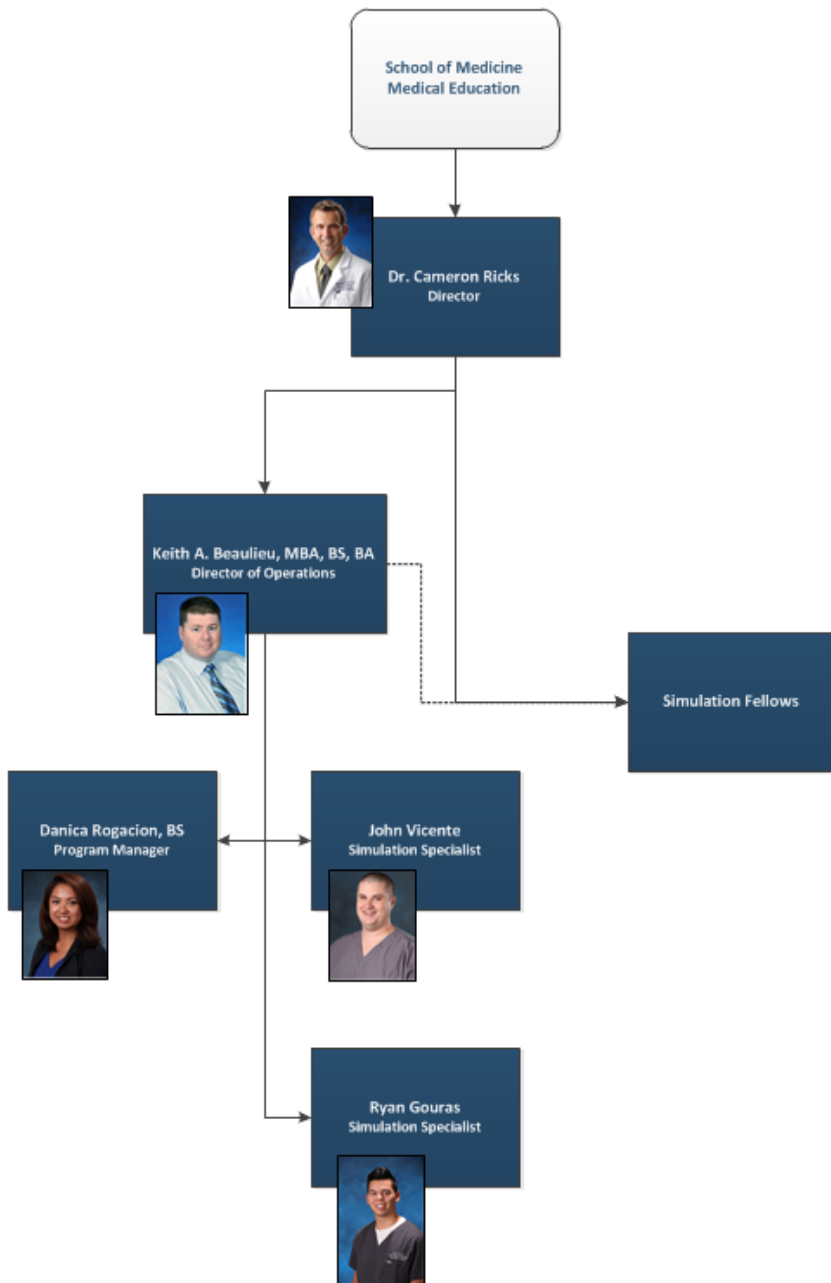
32% is supplied from the Anesthesiology Department through a stipend.

28% is supplied by Dr. Ricks. This percentage fluctuates based on instructor availability year to year.

17% is supplied from the MedEd Simulation Fellow.

13% is supplied from the Emergency Department, through the EM fellows.

4% is supplied from the Simulation Staff (Simulation Specialists and/or Director of Operations).



2016-2017

Core Undergraduate Medical Education was taught by..

qryTaught2016_2017				
LastName	FirstName	Credentials	Department	Sessions Taught in 2016-2017
Sokol	Kimberly	MD	Department of Emergency Medicine	MS 1 Respiratory MS 2 Infection MS 1 ABD MS 1 ABD MS 2 Hematology MS 2 ITCI #2 MS 1 ITCI #1 MS 2 Neuro/psych SBTT - Code Training
Vicente	John	Simulation Specialist	SOM - Medical Education	Simulation Orientation
Gouras	Ryan	Sim Specialist	SOM - Medical Education	Simulation Orientation
Ricks	Cameron	MD	Department of Anesthesiology and Perioperative Care	Intro to Sim MS 2 ITCI #1 MS 2 ITCI #1 MS 2 Infection MS 2 Infection MS 2 Respiratory MS 1 Hyper/hypotension MS 2 Hematology MS 1 Renal MS 1 Renal MS 2 ITCI #2 MS 2 ITCI #2 MS 2 ITCI #3 MS 2 ITCI #3 MS 1 MSK MS 1 MSK MS 1 ITCI #1 MS 2 Endocrine MS 1 Neuro #2 MS 1 Neuro #2 MS 2 Neuro/psych MS 1 ITCI #2 MS 1 Biochemistry #1 MS 1 Biochemistry #1 MS 1 Biochemistry #2 MOCA Courses SBTT - Code Training Resident Skills Day x 4 days
Strom	Suzanne	MD	Department of Anesthesiology and Perioperative Care	MS 1 HTN MOCA courses
Mecca	Roger	MD	Department of Anesthesiology and Perioperative Care	MS 2 Respiratory MS 2 Respiratory MS 1 Hyper/hypotension

qryTaught2016_2017				
LastName	FirstName	Credentials	Department	Sessions Taught in 2016-2017
				MS 1 Hyper/hypotension MS 1 Renal MS 1 Renal MS 2 Cardio MS 2 Cardio MS 1 Respiratory MS 1 Neuro #1 MS 1 Neuro #1 MS 2 Endocrine MS 2 Endocrine MS 2 Neuro/psych MS 2 Neuro/psych MS 1 Biochemistry #2 MS 1 Biochemistry #2
Nelson	Corey	MD	Department of Anesthesiology and Perioperative Care	MS 2 ITCI #1 MS 2 ITCI #1 MS 2 Respiratory MS 2 Cardio MS 2 Cardio MS 2 ITCI #3 MS 2 ITCI #3 MS 1 ITCI #1 MS 1 ITCI #1 MS 1 ITCI #2 MS 1 ITCI #2 MOCA Courses

Resident Instructors

Residencies provide their own instructors. Per Medical Education Simulation Center Policy, all instructors must have taken our Simulation Instructor Training Course or provide documentation that they have attended a course at an approved site.

MS 3 &4 Instructors

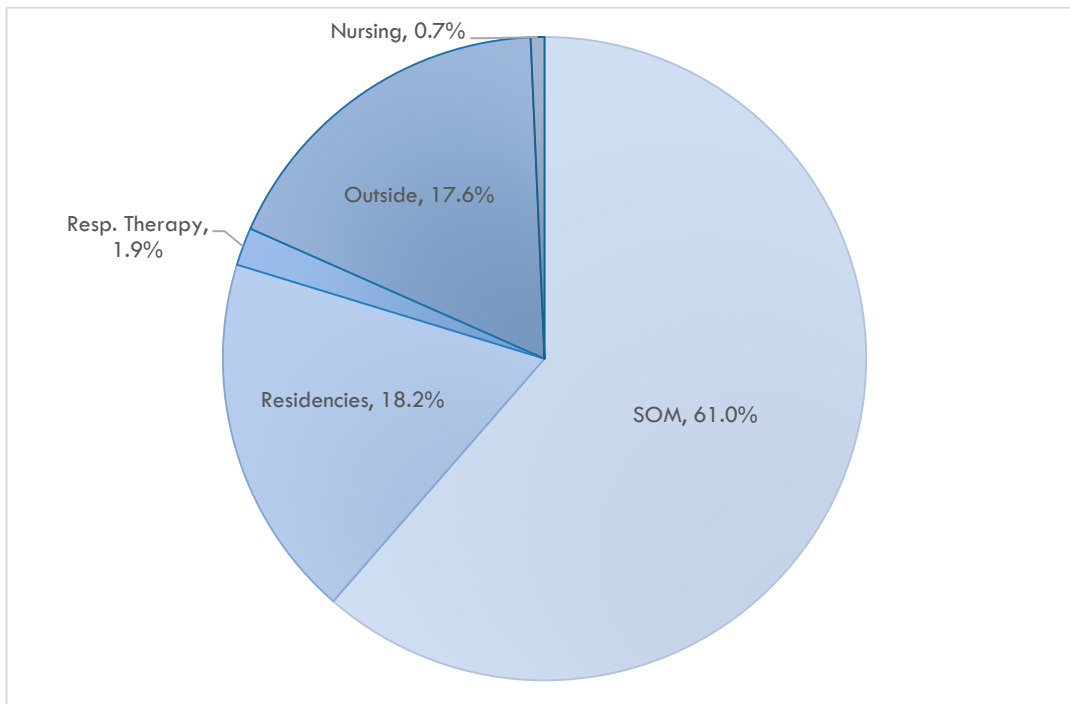
The individual medical departments provide their own instructors. Per Medical Education Simulation Center Policy, all instructors must have taken our Simulation Instructor Training Course or provide documentation that they have attended a course at an approved site.

Statistics

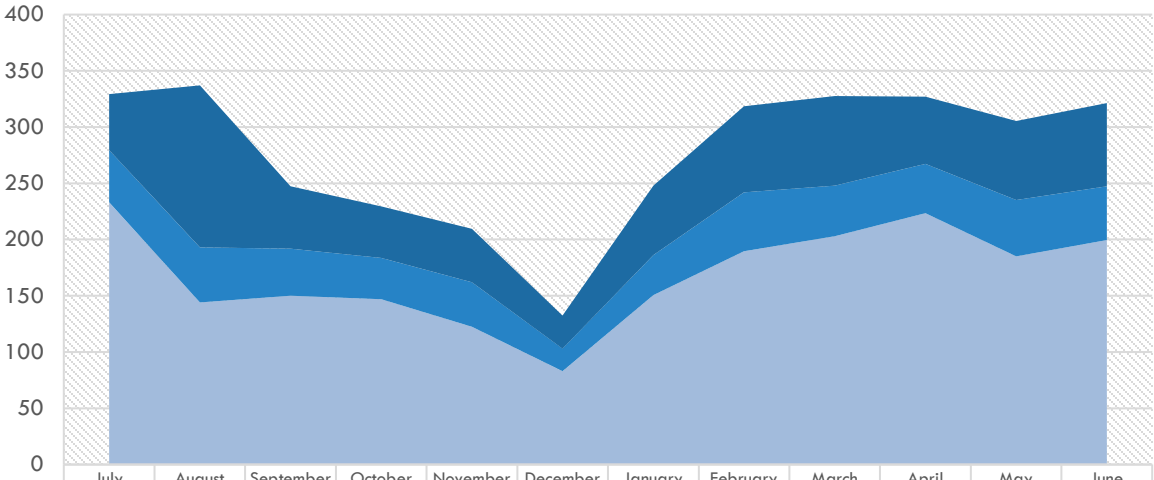
Attendance number and participation hours

Month	Number of Participants	Participant hours	Total Participant Hours	Avg. Time/Part.
July	516	124	1862	3.61
August	566	89	1265	2.23
September	608	94	1113	1.83
October	663	109	2206	3.33
November	661	120	3001	4.54
December	292	55	763	2.61
January	539	91	1362	2.53
February	695	133	1827	2.63
March	311	132	1070	3.44
April	1003	191	6250	6.23
May	601	136	2202	3.66
June	546	190	2250	4.12
7001.00	1461.20	25167.50	40.76	

Utilization between SOM/Residency/Other (AY 2016-2017)

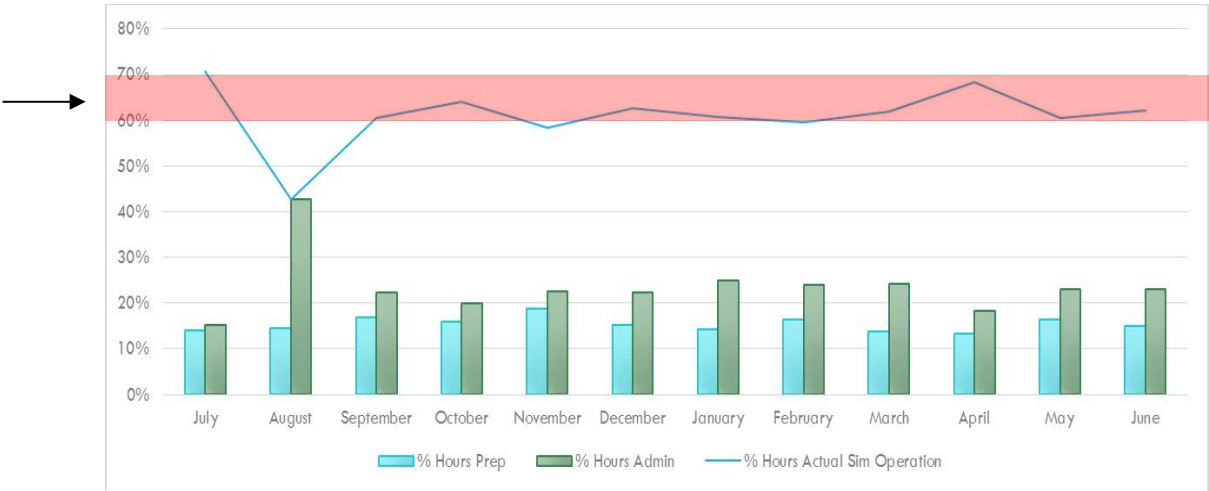


Medical Education Simulation Center Total Utilization Hours by Month AY 2016-2017

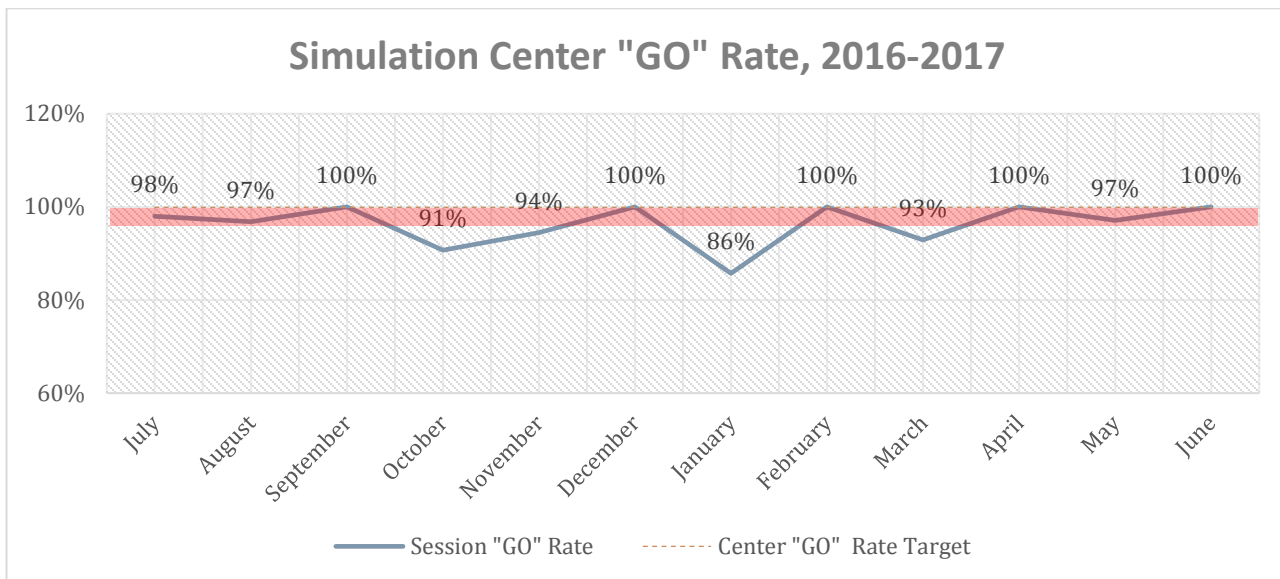


	July	August	September	October	November	December	January	February	March	April	May	June
Admin Hours	49.7	144	55.5	46	47.5	29.5	61.75	76.5	79.5	59.8	70.5	73.8
Prep hours	46.5	49.05	42	36.5	39.5	20	35.5	52.5	45	43.7	50	48
Room Hours	233	144	150	147	122.5	83	150.75	189.5	203	223.5	185	199.5

Target Range
for operational
simulation



Month	% Hours Actual Sim Operation	% Hours Prep	% Hours Admin
July	71%	14%	15%
August	43%	15%	43%
September	61%	17%	22%
October	64%	16%	20%
November	58%	19%	23%
December	63%	15%	22%
January	61%	14%	25%
February	59%	16%	24%
March	62%	14%	24%
April	68%	13%	18%
May	61%	16%	23%
June	62%	15%	23%
Average	61%	15%	24%

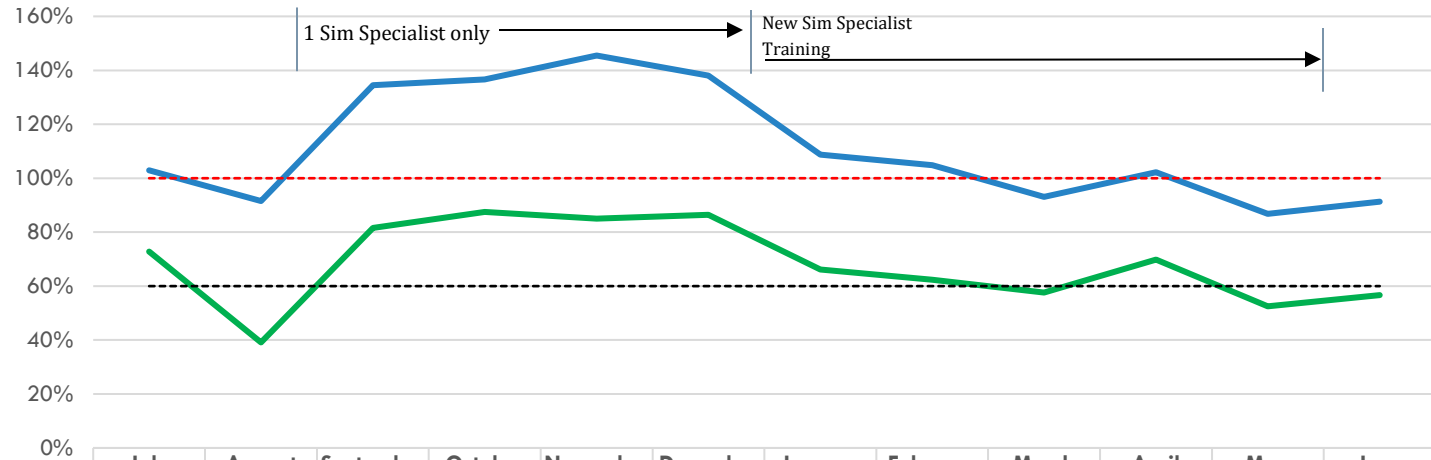


The simulation Center "Go" rate is the difference between the scheduled sessions and the actual sessions that took place. The "go" rate will decrease as a result of cancelled sessions for numerous reasons including, but not limited to: instructor no-show, instructor availability, cancelled tours/outreach,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

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

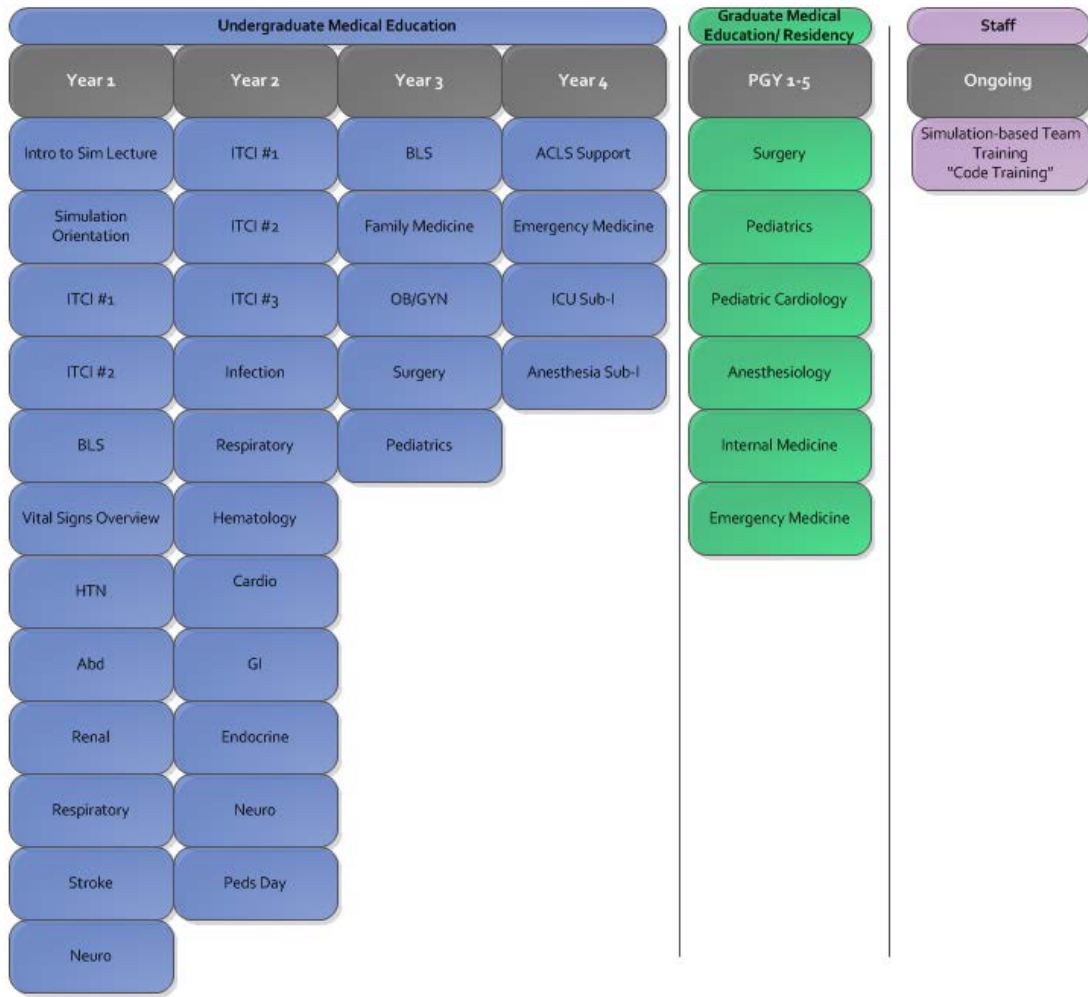
Utilization

Medical Education Simulation Center Utilization Comparison AY 2016-2017



	July	August	September	October	November	December	January	February	March	April	May	June
Center	73%	39%	82%	88%	85%	86%	66%	62%	58%	70%	53%	57%
Staffing	103%	92%	135%	137%	145%	138%	109%	105%	93%	102%	87%	91%
Center Target %	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Staffing Target %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

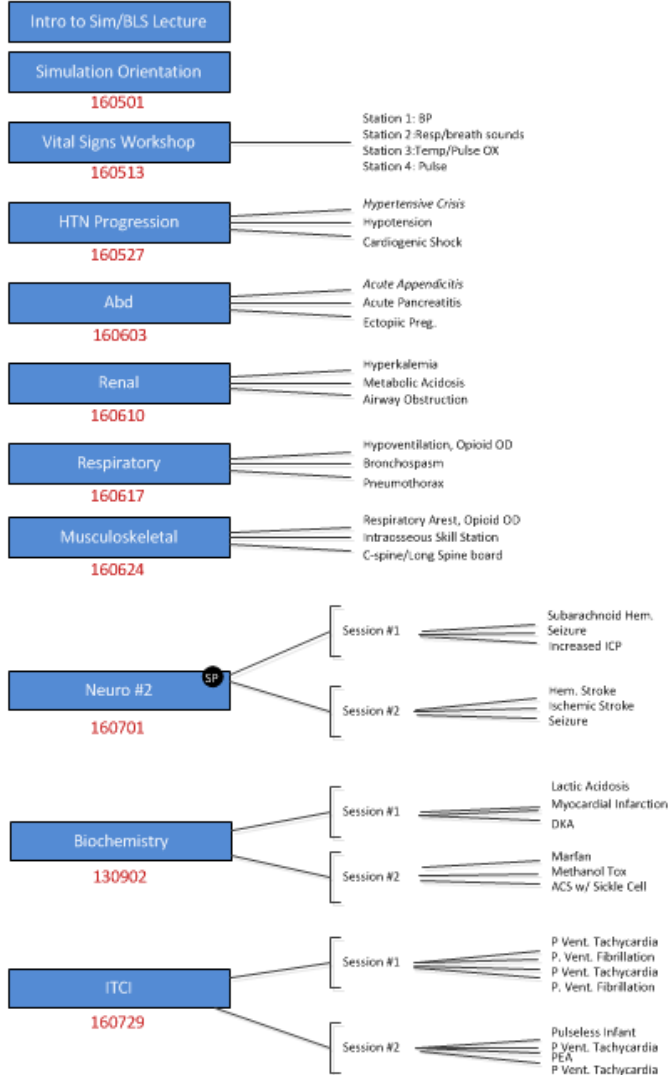
Where does Simulation Fit into the Curriculum?



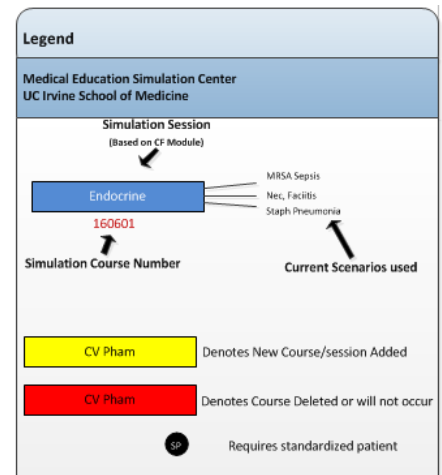
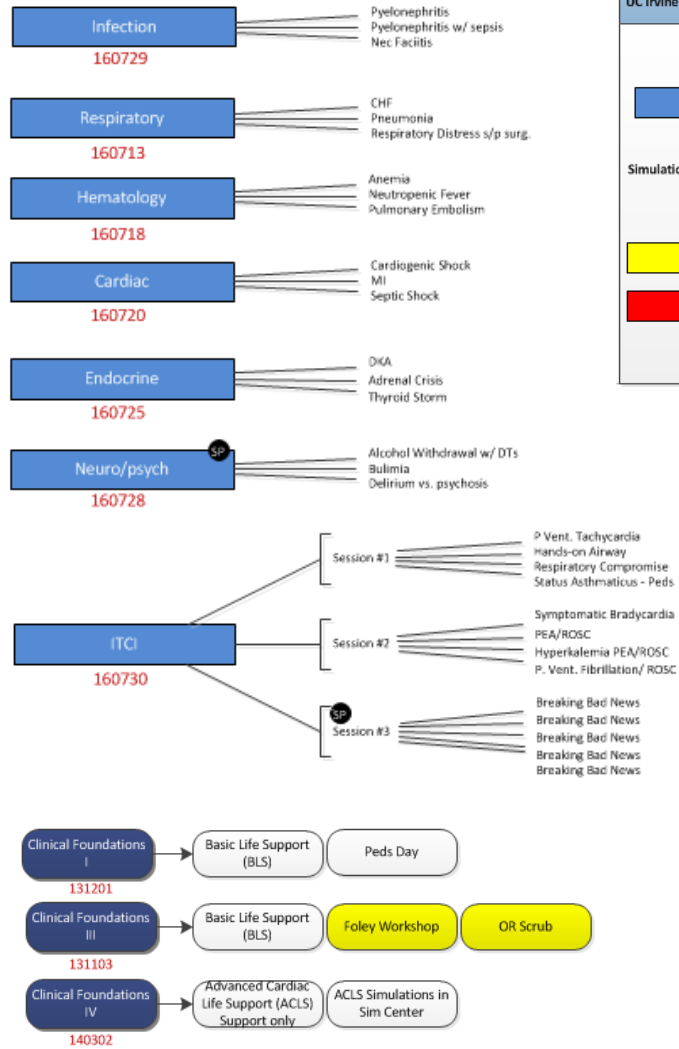
School of Nursing will be ADDED next academic Year

Curriculum Mapping 2016-2017

Clinical Foundations 1 / MS 1 Simulation



Clinical Foundations 2 / MS 2 Simulation



School of Medicine Usage (by Month)

Month	SOM	SOM Other	Total
July	164.4	45.1	209.5
August	133	98.3	231.3
September	163.5	31	194.5
October	105.25	10.5	115.75
November	124.5	1.25	125.75
December	80.5	4	84.5
January	140	24.25	164.25
February	196.5	25	221.5
March	121.5	84.5	206
April	179.5	21.4	200.9
May	136.5	27	163.5
June	45.5	37.5	83
TOTALS	1590.65	409.8	2000.45

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 guise of SOM.

(Examples include tours, simulation maintenance, meetings)

School of Medicine Usage vs. All Other Departments (by Month)

Month	SOM	Anes	SOM Other	EM	Hospital	IM	Nursing	Outside	Surgery	Pediatrics	Family Med	Resp. Therapy	OB/GYN	Total
July	164.4	0	45.1	18.7	0	0	0	100	0	5.5	0	1	0	334.7
August	133	11	98.3	2.5	7	0	0	32.25	11	12	0	6.5	0	313.55
September	163.5	7.5	31	0	8.5	0	0	27.5	6.5	6.5	6.5	0	0	257.5
October	105.25	12	10.5	6.5	35	0	0	42.75	0	11	0	6.5	0	229.5
November	124.5	0	1.25	6.5	19.5	0	1.25	30	0	19.5	0	7	0	209.5
December	80.5	0	4	13	0	0	0	14.5	0	13	0	7.5	0	132.5
January	140	13	24.25	13	0	0	19	10	1.75	13	6.5	7.5	0	248
February	196.5	10.5	25	13	13	0	0	33.5	6.5	13	0	7.5	0	318.5
March	121.5	19.5	84.5	6.5	13	0	0	48.5	0	10.5	13	0	0	317
April	179.5	0	21.4	6.5	0	0	2.2	82.4	9	18.5	0	7.5	0	327
May	136.5	8.5	27	4.5	13	0	0	58	0	10.5	4.5	6.5	0	269
June	45.5	34	37.5	12.5	16	40	0	96.8	0	9	5.5	4.5	20	321.3
TOTALS	1590.65	116	409.8	103.2	125	40	22.45	576.2	34.75	142	36	62	20	3278.1

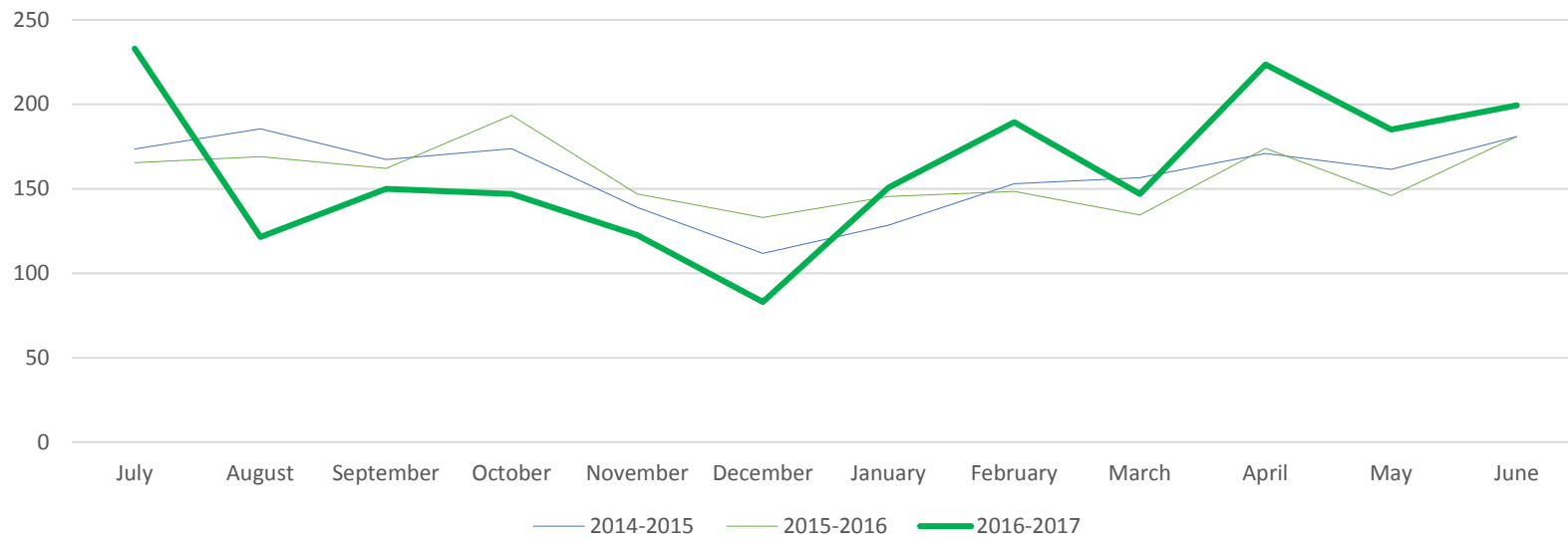
Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
SOM	62.6%	73.8%	75.5%	50.4%	60.0%	63.8%	66.2%	69.5%	65.0%	61.4%	60.8%	25.8%
Residencies	7.2%	13.9%	13.8%	28.1%	21.7%	19.6%	19.1%	17.6%	19.7%	10.4%	15.2%	42.6%
Outside	29.9%	10.3%	10.7%	18.6%	14.3%	10.9%	4.0%	10.5%	15.3%	25.2%	21.6%	30.1%
Nursing	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	7.7%	0.0%	0.0%	0.7%	0.0%	0.0%
Resp. Therapy	0.3%	2.1%	0.0%	2.8%	3.3%	5.7%	3.0%	2.4%	0.0%	2.3%	2.4%	1.4%
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%

Historical Simulation Hours (by Year)

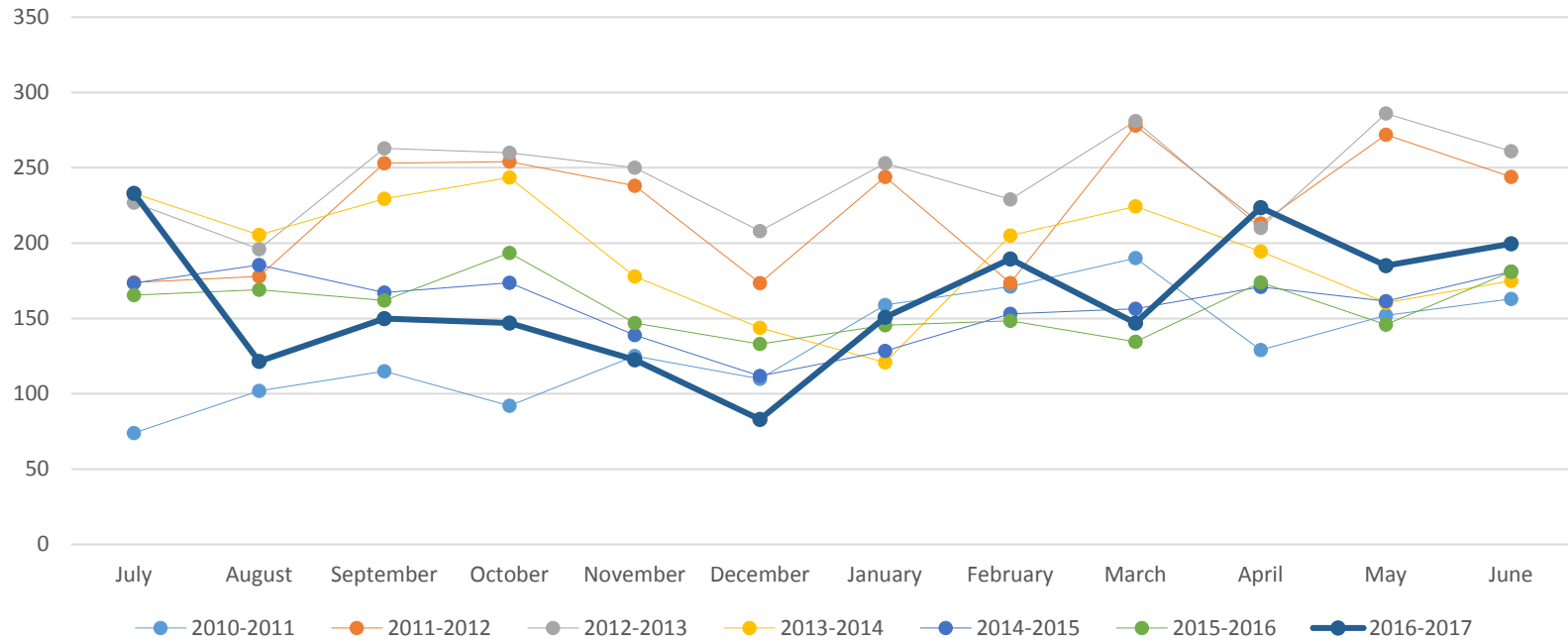
Simulation Hours (Does not include administrative and prep hours)

	July	August	September	October	November	December	January	February	March	April	May	June	Totals	Var Total
2010-2011	74	102	115	92	125	110	159	171.25	190	129	152	163	1582.25	0
2011-2012	174	178	253	254	238	173.5	244	173.5	278	213	272	244	2695	1112.75
2012-2013	227	196	263	260	250	208	253	229	281	210	286	261	2924	229
2013-2014	233.1	205.4	229.4	243.49	178	143.9	120.79	205.01	224.5	194.5	160.5	175	2313.59	-610.41
2014-2015	173.5	185.5	167.25	173.75	139	111.75	128.5	153	156.5	171	161.5	181	1902.25	-411.34
2015-2016	165.5	169	162	193.5	147	133	145.5	148.5	134.5	174	146	181	1899.5	-2.75
2016-2017	233	121.5	150	147	122.5	83	150.75	189.5	147	223.5	185	199.5	1952.25	52.75
Avg	182.87	165.34	191.3786	194.82	171.3571	137.5929	171.649	181.394	201.6	187.9	194.7	200.6		

Simulation Hours - 3 Year Trend



Simulation Hours - Since Inception



Simulation Survey Statistics

MEDICAL STUDENT YEAR 1	Sim Orientation	Hyper/Hypotension	ABD	Renal	Respiratory	MSK	Neuro #1	Neuro #2	Bio #1	Bio #2	Average
This was a Positive Learning Experience	100%	96%	99%	88%	98%	100%	94%	100%	99%	94%	97%
The course met my expectations	99%	98%	97%	84%	97%	100%	94%	97%	99%	96%	96%
The course met the listed learning objectives	95%	93%	97%	87%	98%	100%	99%	98%	99%	99%	97%
I have a better understanding of the subject matter	--	97%	99%	86%	98%	99%	99%	100%	98%	98%	97%
This was an effective use of my time	100%	94%	95%	80%	91%	98%	88%	99%	97%	93%	94%
I felt this was a safe learning environment		97%	100%	96%	100%	100%	98%	99%	--	--	99%
The simulation center staff and instructors were helpful and responsive	100%	99%	100%	96%	99%	100%	100%	99%	99%	98%	99%
The simulation center was clean/neat/organized			100%	99%	99%	100%	100%				100%
The simulation equipment was in good working order			97%	100%	100%	100%	100%				99%
The resources found on Canvas for this session were helpful	48%										48%
I found that it was valuable to have this orientaiton	99%										99%

*Data represents percentage of responses that were overall positive

Min	48%	93%	95%	80%	91%	98%	88%	97%	97%	93%
Max	100%	99%	100%	100%	100%	100%	100%	100%	99%	99%
Mean	92%	96%	98%	91%	98%	100%	97%	99%	99%	96%
Var	0.0372	0.0005	0.0003	0.0052	0.0007	0.0001	0.0017	0.0001	0.0001	0.0006
Std. Dev.	0.1929	0.0214	0.0179	0.0719	0.0273	0.0071	0.0411	0.0107	0.0084	0.0242

MEDICAL STUDENT YEAR 2	Infection	Respiratory	Hematology	Cardio	Endocrine	Neuro/Psych	Average
This was a Positive Learning Experience	100%	95%	97%	100%	99%	88%	96.5%
The course met my expectations	98%	95%	94%	99%	98%	85%	94.8%
The course met the listed learning objectives	99%	96%	93%	99%	98%	92%	96.2%
I have a better understanding of the subject matter	100%	94%	96%	99%	99%	92%	96.7%
This was an effective use of my time	99%	94%	94%	99%	97%	79%	93.7%
I felt this was a safe learning environment			97%	100%		94%	97.0%
The simulation center staff and instructors were helpful and responsive	100%	99%	99%	100%	100%	96%	99.0%
The simulation center was clean/neat/organized			99%	100%		98%	99.0%
The simulation equipment was in good working order			99%	100%		97%	98.7%

** Data represents percentage of responses that were overall positive*

Min	98%	94%	93%	99%	97%	79%
Max	100%	99%	99%	100%	100%	98%
Mean	99%	96%	96%	100%	99%	91%
Var	0.0001	0.0004	0.0006	0.0000	0.0001	0.0039
Std. Dev.	0.0082	0.0187	0.0235	0.0053	0.0105	0.0622

	Mean Overall Positive	Mean Overall Negative	Mean overall No Opinion
MS 1 ITCI STATISTICS 2016-2017			
This was a Positive Learning Experience	100%	1%	0%
The course met my expectations	100%	1%	0%
The course met the listed learning objectives	99%	1%	1%
I have a better understanding of the subject matter	99%	1%	0%
This was an effective use of my time	99%	2%	0%
The simulation center staff and instructors were helpful and responsive	100%	0%	0%
I feel I am better/more prepared to assist someone in BLS/ACLS	99%	1%	1%
I feel that this type of training helps me understand the concepts of BLS/ACLS over the traditional or Heartcode versions of the course	100%	1%	0%
I found that it was valuable to have this training with nursing students	78%	2%	20%
I found that I better understand the role of a nurse in emergency situations	74%	6%	20%

	Mean Overall Positive	Mean Overall Negative	Mean Overall No Opinion
MS 2 ITCI STATISTICS 2016-2017			
This was a Positive Learning Experience	99.3%	0.3%	0.0%
The course met my expectations	98.3%	0.7%	0.3%
The course met the listed learning objectives	98.0%	0.7%	0.7%
I have a better understanding of the subject matter	99.3%	0.3%	0.0%
This was an effective use of my time	99.0%	0.3%	0.3%
The simulation center staff and instructors were helpful and responsive	99.3%	0.3%	0.0%
I feel I am better/more prepared to assist someone in BLS/ACLS	96.7%	1.0%	0.0%
I feel that this type of training helps me understand the concepts of BLS/ACLS over the traditional or Heartcode versions of the course	97.3%	0.3%	0.3%
I found that it was valuable to have this training with nursing students	84.0%	2.3%	2.3%
I found that I better understand the role of a nurse in emergency situations	87.3%	3.7%	1.3%

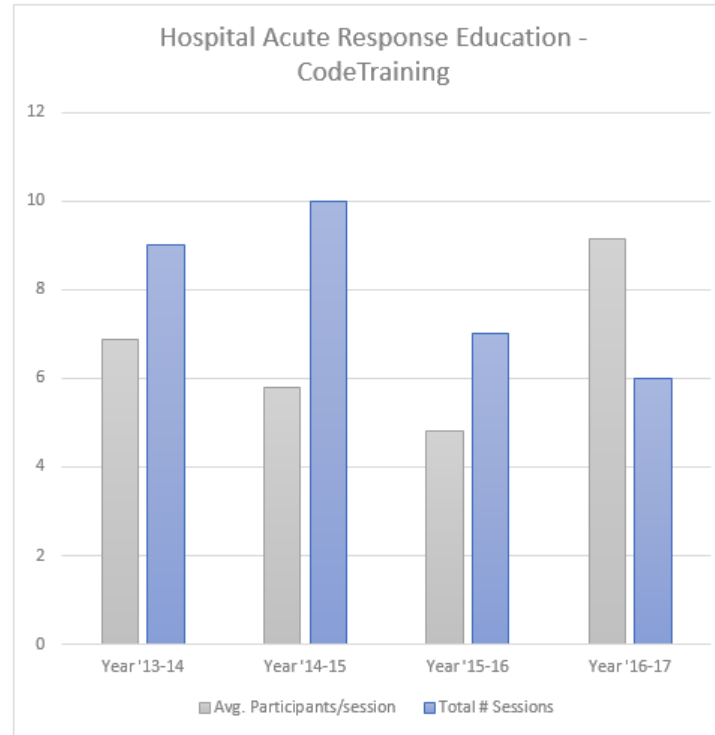
Hospital Acute Response Training (Code Training)

AY 2016-2017

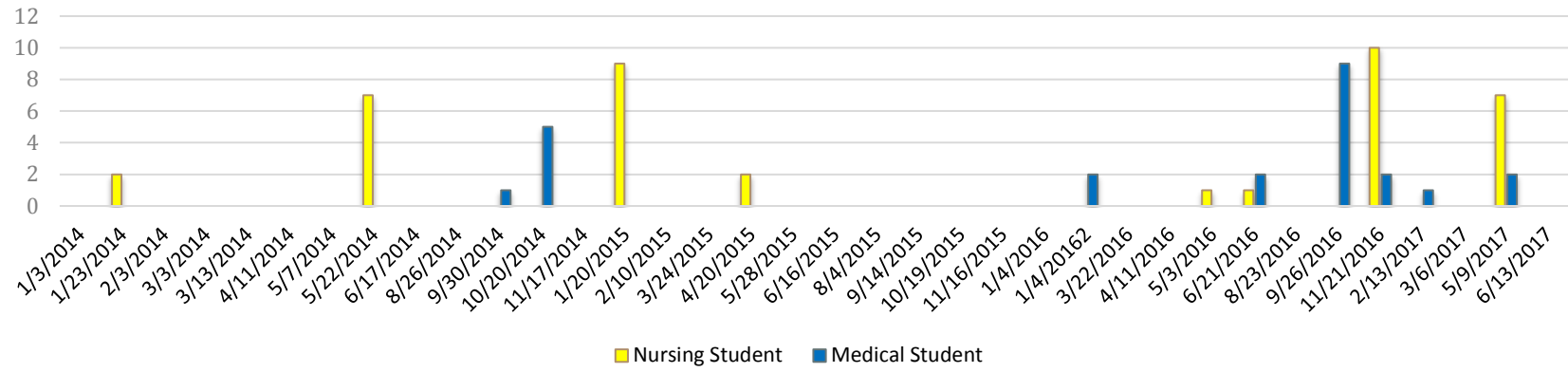
Total Participants	64
Avg Participants/session	9.1
Total Session Hours	15
Min Participants	0
Max Participants	17
Total Number of Sessions	6
Total Number of Cancellations	1

Since Inception

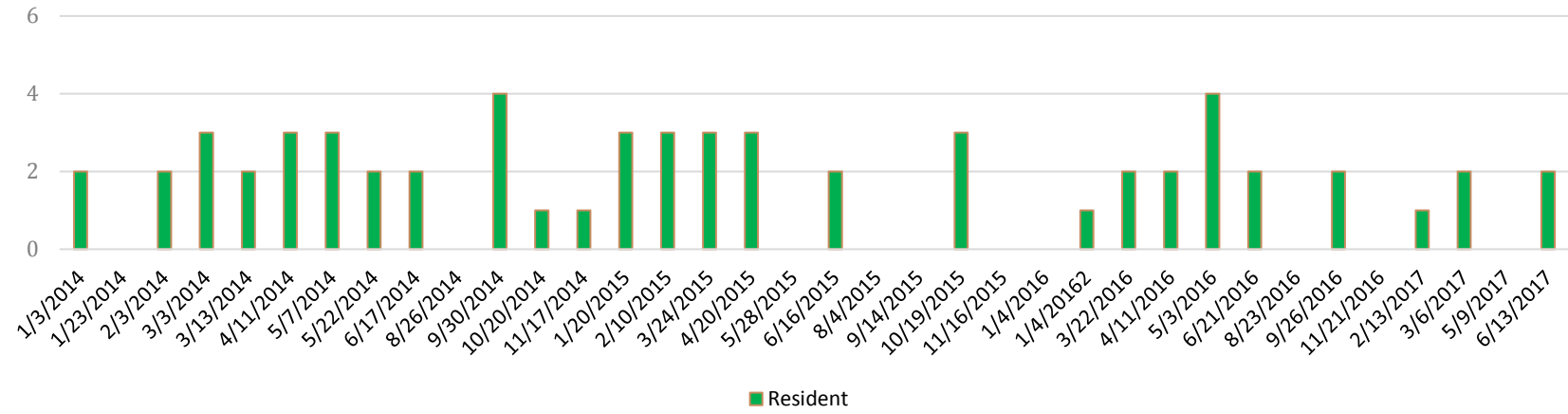
Total Number of Sessions	26
Total Participants	168
Total Session Hours	65
Total Learner Hours	420

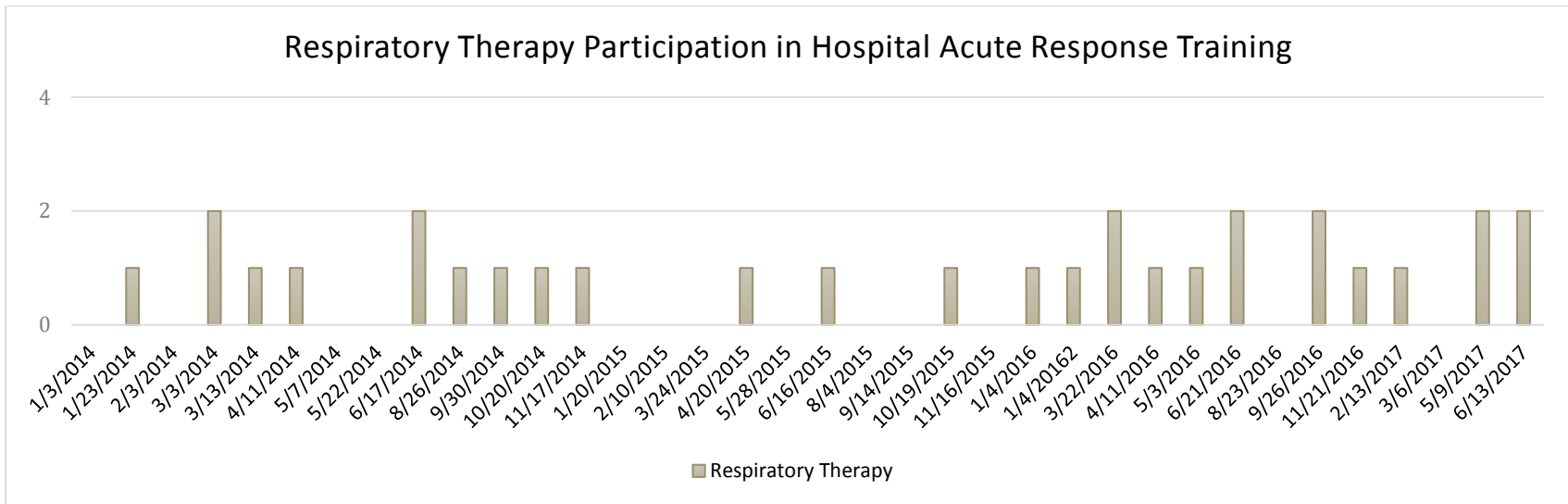
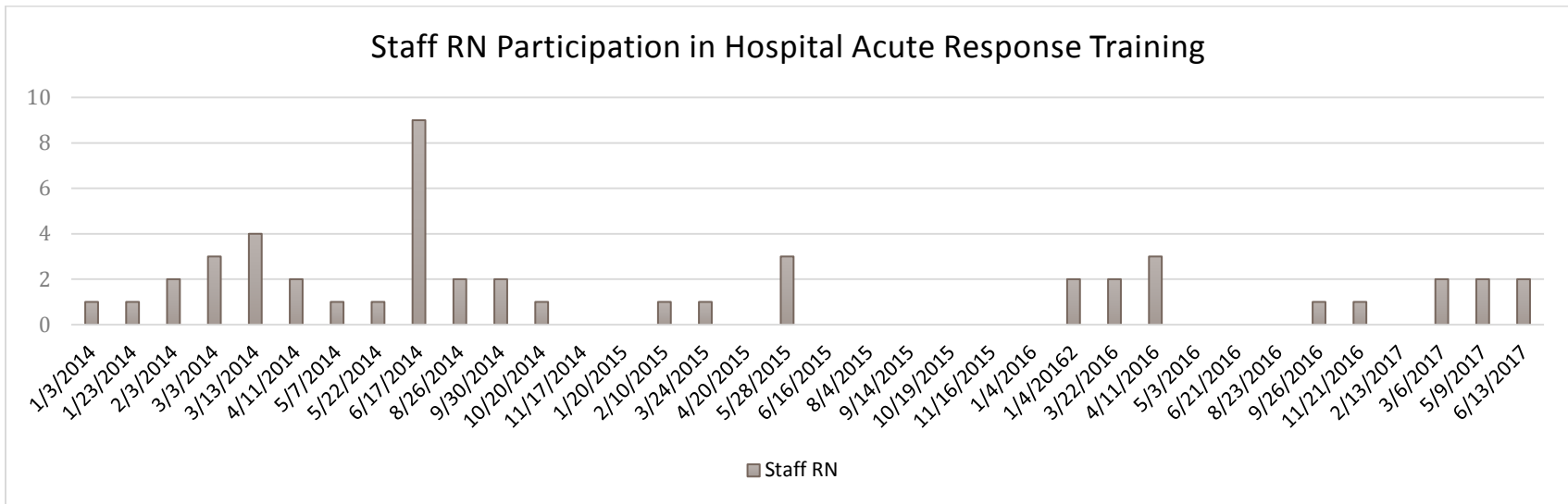


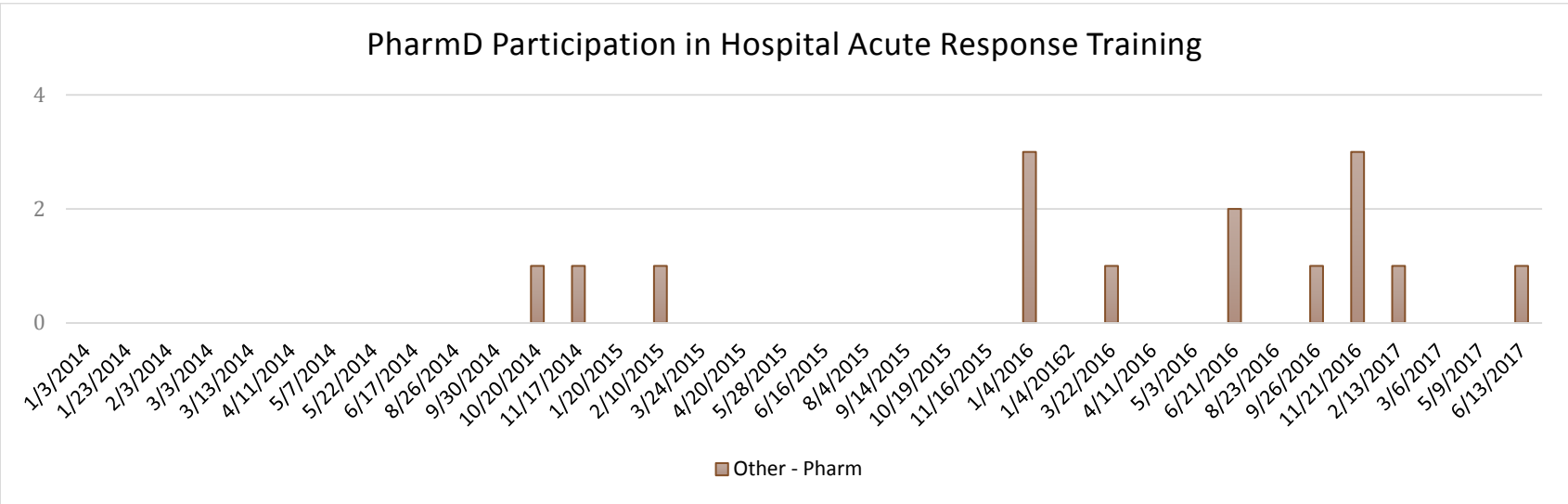
Medical Student and Nursing Student Participation in Hospital Acute Response Training



Residents participated in Hospital Acute Response Training







Current Research

Dr. Cameron Ricks, Director

IRBNumber	LastName	FirstName	Co-Investigators	Subject	Description	Notes
2010-7527	Strom	Suzanne	Rosenbaum, Abraham; Kain, Zeev; Lin, Sharon; Cannesson, Maxime; Canales, Cecilia	Health Care Practitioners and Medical Simulation: A Comprehensive Analysis	The purpose of this study is to create a database that will enable us to examine various questions regarding how healthcare practitioners with different levels of training perform on standardized case scenarios. It is hypothesized that the patient simulator will improve in the area of patient care and safety.	Blanket IRB for simulation activities Maintained by Dept. Anesthesiology and Perioperative Care
2013-9797	Ricks	Cameron	Morrison, Debra; Strom, Suzanne; Olshansky, Ellen; Canales, Celicia	Sedation Training for Clinicians - a randomized education curriculum	The purpose of this research is to examine the ability of a newly developed training program in sedation training for non-anesthesia clinicians.	IRB is maintained with the Dept. of Anesthesiology. - Participant data collect and testing complete - Manuscript started - Checklist Rating - in progress
2015-2324	Ricks	Cameron	Nelson, Corey; Field, Ryan; Beissel, Anne; Beaulieu, Keith; Banh, Esther	Assessment of a Simulation-Based Ventriculostomy Management Training Program for Anesthesiology Residents	1. The purpose of the research is to examine the ability of a simulation-based training program in improving ventriculostomy management competency in anesthesiology residents at the UC Irvine Department of Anesthesiology & Perioperative Care.	- IRB will be maintained/managed in Anesthesiology Dept. - IRB submitted 9/1/2015 - Participant video taping 11/2015 - 4/2016 - Manuscript started - Blinded grading/rating of videos 6/2016 - 7/2016 - Data collation for statistical analysis 7/2016
2017-3631	Ricks	Cameron	Ricks, Cameron; Rogacion, Danica; Vicente, John; Gouras, Ryan	Program Administration: Sustainability	The purpose of this project is to ascertain the core domains of simulation program sustainability and confirm the hypothesis that there are common domains across all programs/centers that are required to achieve long-term sustainability.	e-App for IRB (exempt) submitted 4/21/2016 IRB approval on 5-23-2017 Submitted abstract for IMSH 2018

Quality Improvement/Quality Assurance

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

Evaluation of Simulation Instructors

The Director or designee evaluates all active simulation instructor yearly

External (Hospital/CME)

Inter-professional, multi-disciplinary Critical Events Training on behalf of the Acute Response Committee

Provided 64 learners the opportunity to practice their crisis resource management principles

Maintenance of Certification in Anesthesia (MOCA)

Held 6 MOCA courses; trained 48 Anesthesiologists

American Society of Anesthesiologists (ASA)

Maintain Simulation Education Network (SEN) endorsement

American College of Surgeons Accredited Education Institute

Maintain accreditation through record keeping



Outreach

COSMOS

Pre-Med Camp

Summer Surgery

University Extension Program

TVT Biomedical Immersion Program

UCI Post-Bacc Program

World of Medicine

Ultrafest

EMIG Activities

ASIG Activities

Simulation Interest Group Activities

Medical Education Simulation Center Publication and 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* [Ahead of Print]
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. 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.
2. Anne Beissel, Christian Bauer, Marc Lilot, Keith Beaulieu, Baptiste Balanc, Thomas Rimmele', 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.
 3. 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.
 4. 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.
 5. 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.
 6. 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.
 7. 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.
 8. 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.
 9. 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.
 10. 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.
 11. 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

12. 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
13. 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.
14. 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

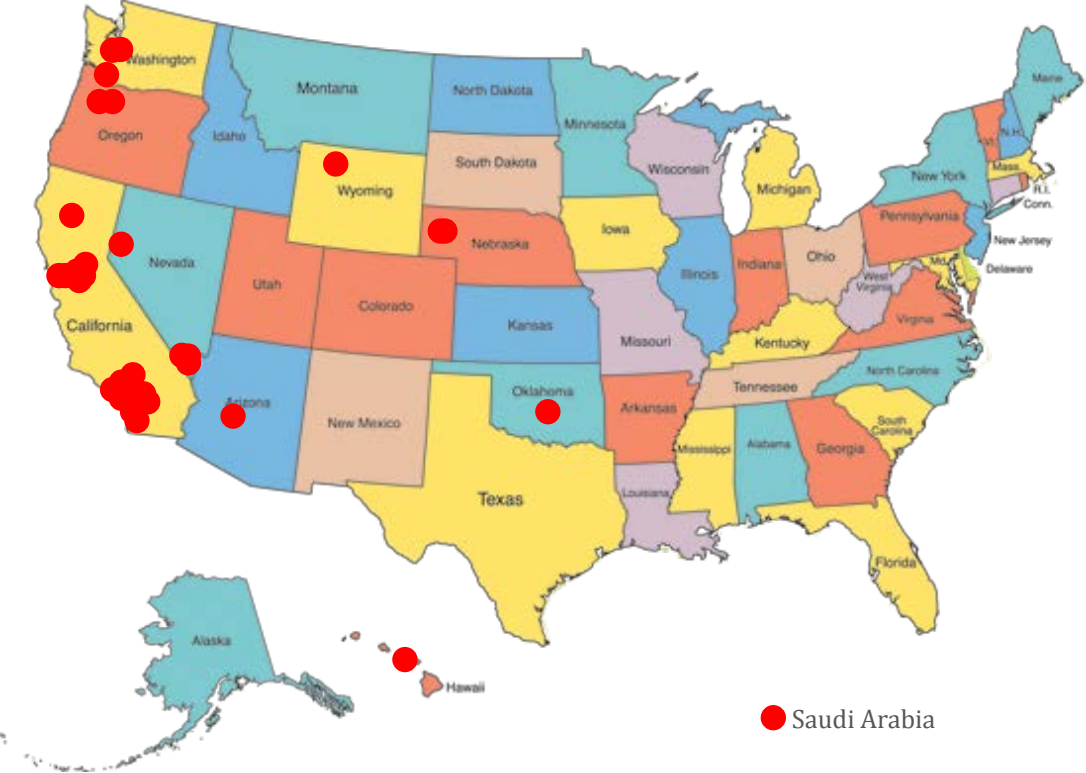
Grants Submitted

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.

MOCA Participant Locations 2016-2017



UC Irvine Simulation 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

UC Irvine Simulation Curriculum History

ACADEMIC YEAR 2010-2013

Academic year 2010-2013 saw the creation of an increase of the use of simulation in the basic science courses from 0 courses/session to 18 courses that were tied to the basic science course for the first and second year medical students.

ACADEMIC YEAR 2013-2014

Academic Year 2013-2014 saw no change in the curriculum

Core MS 1 & 2 Courses/Sessions Added	

Core MS 1 & 2 Courses/Sessions Dropped	

Total Instructor Blocks Needed: 36
 Total number of scenarios developed: unknown

ACADEMIC YEAR 2014-2015

Academic Year 2014-2015 saw the addition of Inter professional Team Critical Incident (ITCI) training in the first 2 years of medical school. This a rapid-cycle deliberate practice simulation modality. It included 4 sessions in the MS 1 year that focused on BLS and team dynamics. MS 2 year had a total of 4 sessions focused on BLS, elements of ACLS, and breaking bad news.

Core MS 1 & 2 Courses/Sessions Added	
MS 1 ITCI #1	MS 2 ITCI #1
MS 1 ITCI #2	MS 2 ITCI #2
MS 1 ITCI #3	MS 2 ITCI #3
MS 1 ITCI #4	MS 2 ITCI #4

Core MS 1 & 2 Courses/Sessions Dropped	

Total Instructor Blocks Needed: 70
 Total number of scenarios developed: 36

ACADEMIC YEAR 2015-2016

Academic Year 2015-2016 saw the addition of an extra biochemistry and Neuroscience session respectively. This year also saw the reduction of MS 1 ITCI from 4 sessions down to 2.

Core MS 1 & 2 Courses/Sessions Added	
MS 1 Biochemistry #2	
MS 1 Neuroscience #2	

Core MS 1 & 2 Courses/Sessions Dropped	
MS 1 ITCI #3	
MS 1 ITCI #4	

Total Instructor Blocks Needed: 72
 Total number of scenarios developed: 6

ACADEMIC YEAR 2016-2017

Academic year 2016-2017 saw a dramatic shift in the simulation curriculum away from the basic science module footprint of the past. The simulation sessions were derived largely from a clinical foundation module standpoint. New course titles and course numbers were derived.

Core MS 1 & 2 Courses/Sessions Added	
MS 1 Simulation Orientation	MS 2 Respiratory
MS 1 Vital Signs Workshop	MS 2 Hematology
MS 1 Hyper/Hypotension	MS 2 Cardio
MS 1 Abdominal	MS 2 Endocrine
MS 1 Renal	MS 2 Infection
MS 1 Respiratory	MS 2 Neuro/Psych
MS 1 Musculoskeletal	
MS 1 Neuro #1	
MS 1 Neuro #2	

Core MS 1 & 2 Courses/Sessions Dropped	
MS 1 CV Physiology	MS 2 Microbiology
MS 1 Renal Acid-Base Physiology	MS 2 Cardiovascular Physiology
MS 1 Respiratory Physiology	MS 2 Inhaled & IV Anesthetics
MS 1 Neuroscience	MS 2 Sedatives and Narcotics

Total Instructor Blocks Needed: 90
 Total number of scenarios developed: 22

ACADEMIC YEAR 2017-2018

Academic year 2017-2018 remained relatively the same. There was some movement in the courses: MS 2 GI was added, MS 1 Musculoskeletal was dropped, and MS 2 Neuro/psych was converted to just neuro by taking out the psych curriculum.

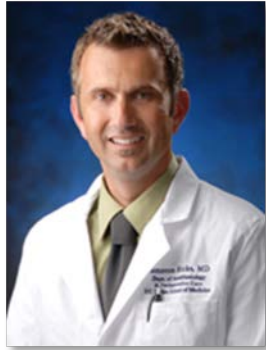
Note: This year is the first year that School of Nursing will be a utilizer

Core MS 1 &2 Courses/Sessions Added	
	MS 2 GI

Core MS 1 &2 Courses/Sessions Dropped	
MS 1 Musculoskeletal	

Total Instructor Blocks Needed: 90
Total number of scenarios developed: 5

Contact Information



CAMERON RICKS, MD
DIRECTOR



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



DANICA ROGACION, BS
PROGRAM MANAGER

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