UC Irvine School of Medicine

Medical Education Simulation Center



ANNUAL REPORT

FY 2015-2016

Director Summary



OPERATING HIGHLIGHTS

As operations for the 2015-2016 academic year come to a close, the simulation center accomplished 1,900 hours of simulation activities and 22,400 hours of total participant hours to a total of 6,600 participants.

We **presented two (2) podium presentations** at the International Meeting for Simulation in Healthcare and **presented five (5) research abstracts**, 4 of which were published in the Simulation in Healthcare Journal, December 2015.

We took the lead in designing and project managing UCI Medical Center's **first ever Mobile**Medical Education unit. That project was completed in June 2016 and is now an operational asset for UCIMC and the Chief Medical Officer, Dr. Douglas Merrill.

FINANCIAL HIGHLIGHTS

Through financial reform and working with Medical Education, we are now able to correctly quantify and assess the overall operations in regard to utilization percentage. The residency programs continue to drive the center's deficit as a function of operations. Additionally, our unit was asked to look at our financial operations to find ways to slender the budget. We have **cut our travel budget by 42% and supplies by 30%** resulting in an **overall budget cut of 9.6%**; through that work, I now believe that we operate a lean operation.

Furthermore, we have been working with the Advancement team to seek out donors for ongoing and expansive operations in the future.

STRATEGIC HIGHLIGHTS

This year we added additional simulation sessions in Neuroscience, Microbiology, and Biochemistry; that increased the total MS 1 simulation hours by 4 hours/student and MS 2 simulation hours by 2 hours/student

Our department's strategic plan, which was collaboratively built by key stakeholders (2013), is approximately 90% complete. This represents 100% of achievable activities currently within the span of control of the simulation center. As we press toward the future with re-accreditation of the School of Medicine and new leadership, we will anticipate and look forward to creating a new strategic plan to drive operational and strategic goals and objectives in the future.

We continued to provide monthly code training on behalf of the Acute Response Committee. This year we has a total of **48** staff/residents trained

This year we took on **lead campus for the UC system wide Simulation Consortium**. We held a one-day summit in October of last year to, not only showcase our facility, but also discuss topics such as; research, status of simulation in medical schools system wide, and operations. This endeavor has led to a **grant proposal that has been submitted to UCOP Risk Management** to train teams on critical incidents system wide. If approved, this could infuse \$18,000 per UC School into the program.

LOOKING AHEAD

As we look ahead into next academic year, we will be making a rather groundbreaking curriculum model change to align more readily with the clinical threads in the clinical foundations modules versus the individual courses. The new initiative, Clinical Skills Immersion, will focus on pairing the functions of Clinical Skills, Ultrasound, and Simulation in with those Clinical Foundations modules. All said, this will likely significantly increase the amount of patient medical simulation contact that the students receive (anticipated \uparrow 33% for MS 1, \uparrow 11% MS 2)

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

Finally, Our staff continues to represent UC Irvine in the most professional manner possible. This is proven in the amount of research that was completed and presented last year at an international conference level. Our Director of Operations, is part of numerous committees in the Society for Simulation in Healthcare. He is a committee member for the Accreditation Committee and the SSH Academy. In fact, he had submitted the business plan to get the SSH academy off the ground, this January will see the first cohort of academy fellows. Our Director of Operations is also a seasoned and team leader for simulation center site reviews for accreditation. Looking ahead, the simulation specialists will be representing UC Irvine at this year's SIMGHOST (simulation specialist specific conference) in Peoria, IL. I will be representing UC Irvine at the fall UC Simulation Consortium Meeting in October, and our Director of Operations will be representing UC Irvine at the International Meeting of Simulation in Healthcare.

Cameron Ricks, MD

ORuch

Director

Highlights

Increased Medical Student Core Simulation Sessions

• This last year we added an additional Microbiology, Biochemistry, and Neuroscience simulation session. This increases the MS 1 simulation/small group time by four (4) hours per student and MS 2 simulation/small group time by two (2) hours.

International Meeting on Simulation in Healthcare (IMSH)

- Podium Presentations
- Abstract Presentations

UCI Health Mobile Simulation Lab

- Created the business plan and design of mobile simulation lab
- Overall project management and consulting for entire evolution of project

Submitted for Publication

Residents as Teachers Case Study (awaiting acceptance)

Open Research/IRB

See Report

Medical Simulation Interest Group

- Monthly/quarterly meetings
- Halloween Event

Representative in International Simulation Organization

- Accreditation Committee (Society for Simulation in Healthcare)
 - Keith Beaulieu is a voting member of the Society for Simulation in Healthcare (SSH)
 Accreditation Committee
 - o 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 three (3) accreditation site reviews, all programs were accredited.
- Academy Committee (Society for Simulation in Healthcare)
 - Founding member of the committee
 - Created current business plan

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 management 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.

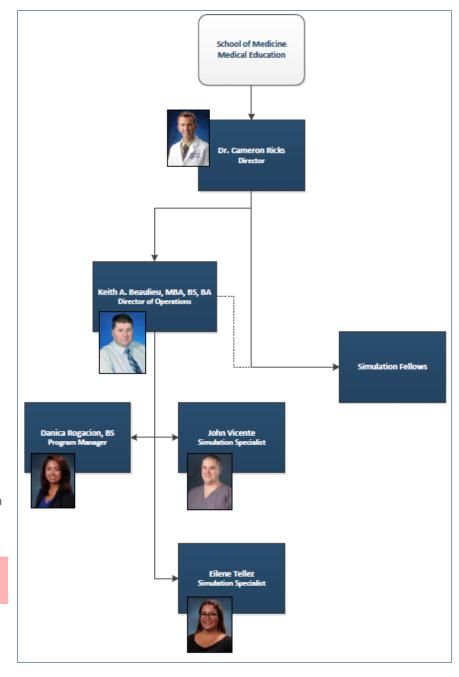
Medical Student Instructors

46% is supplied from the Anesthesiology Department through a stipend.

21% is supplied via third party instructor (prior simulation fellow) with funds carved out from the center's annual budget.

This has been removed for Fiscal Year 2016-2017

14% is supplied from the Emergency Department, primarily through the EM fellows



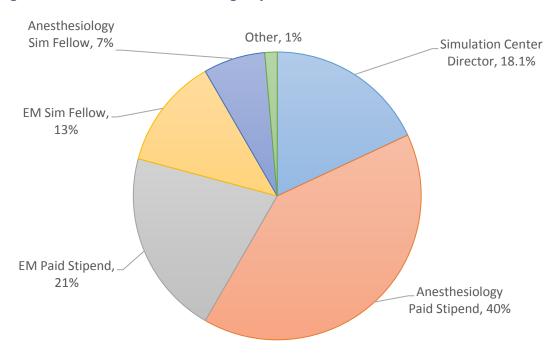
12% is supplied by Dr. Ricks. This percentage fluctuates based on instructor availability year to year.

^{*7%} is supplied from the Anesthesia Simulation Fellow.

^{*}Note: The simulation fellow co-instructs the first 6 months of fellowship, and percentages are factors based on solo instruction.

2015-2016

Core Undergraduate Medical Education was taught by...



Cost Breakdown (Core Undergraduate Medical Education)



*Note: The third party instructor is EM faculty (prior simulation fellow) and stipend is routed through department.

Note: The simulation Center currently does not pay for EM Simulation Fellows, or Anes. Simulation Fellows.

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

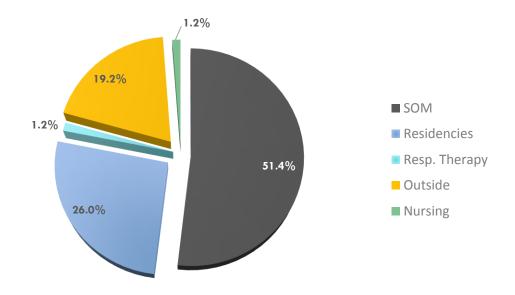
The individual medical departments provide their own instructors. Per Medical Education Simulation Center Policy, all instructors must have taken our Simulation Instructor Training Course or provide documentation that they have attended a course at an approved site.

Dashboard

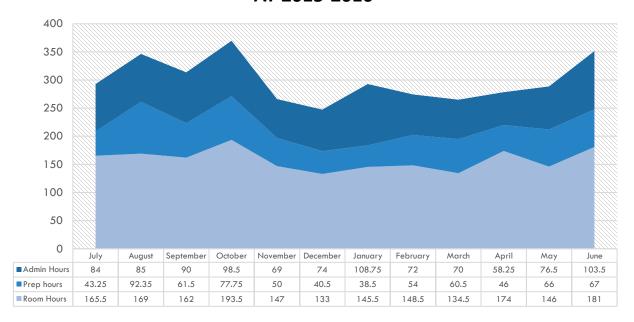
Attendance number and participation hours

Month	Number of Participants	Participant hours	Total Participant Hours
July	637	142	2241
August	598	153	1958
September	r 733	77	1505
October	844	133	2659
November	462	95	1227
December	447	88	1043
January	494	112	2061
February	469	98	1205
March	377	108	948
April	732	141	4127
May	407	101	2199
June	439	137	1314
	6639.00	1385.50	22484.50

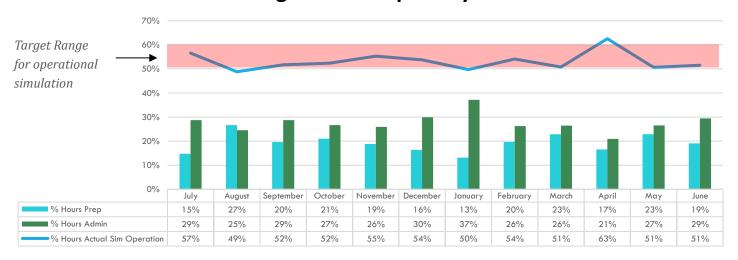
Utilization between SOM/Residency/Other



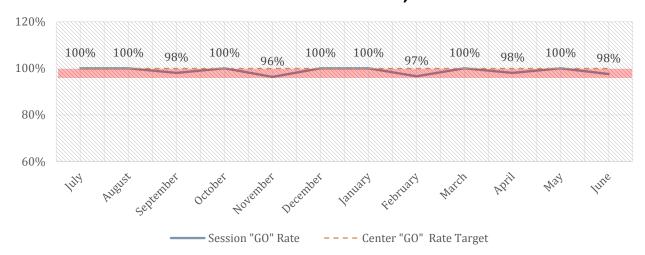
Medical Education Simulation Center Total Utilization Hours by Month AY 2015-2016



Percentage of Time Spent by Month



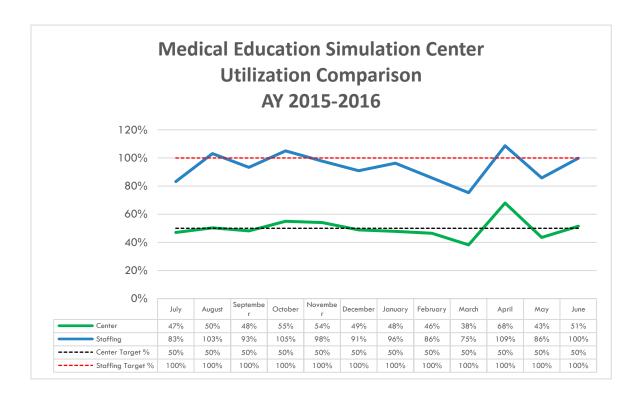
Simulation Center "GO" Rate, 2015-2016



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

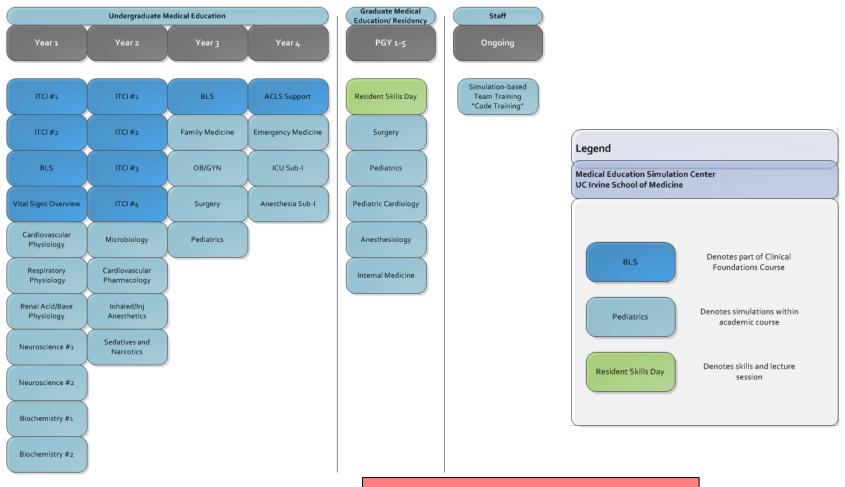


Utilization by Month

Month	Center	Staffing
July	47%	83%
August	50%	103%
September	48%	93%
October	55%	105%
November	54%	98%
December	49%	91%
January	48%	96%
February	46%	86%
March	38%	75%
April	68%	109%
May	43%	86%
June	51%	100%

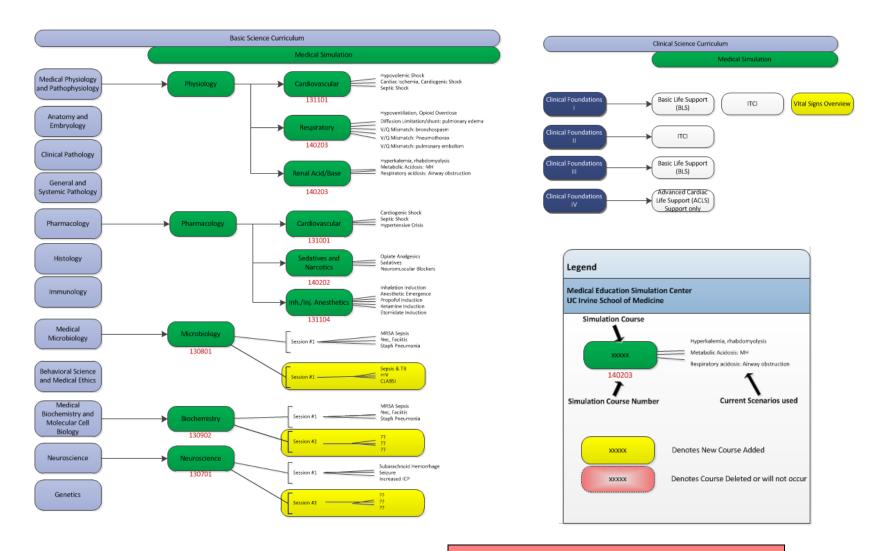
Overall Avg	50%	94%

Where does Simulation Fit into the Curriculum?



NOTE: Curriculum mapping will be re-evaluated and changed for the upcoming year.

Curriculum Mapping



NOTE: Curriculum mapping will be re-evaluated and changed for the upcoming year.

School of Medicine Usage (by Month)

Month	SOM
July	90.5
August	130
September	156.5
October	151.5
November	82.5
December	156.75
January	100
February	124.25
March	94
April	150.5
May	92.75
June	130.5
TOTALS	1459.75

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

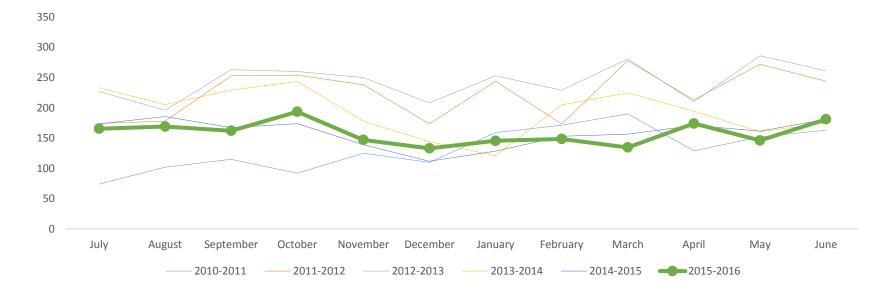
Month	SOM	Anes	SOM Other	EM	Hospital	IM	Nursing	Outside	Surgery	Pediatrics	Family Med	Resp. Therapy	OB/GYN	Total
July	90.5	35.5	8	23.5	0	0	0	115.75	0	19.5	0	0	0	292.75
August	130	16.5	11.3	0	23	0	0	95.25	26	26.7	16.4	1.2	0	346.35
September	156.5	4.5	36	0	79.5	0	0	20	0	13	0	4	0	313.5
October	151.5	11.5	43	0	57	0	20	69.75	0	13	0	4	0	369.75
November	82.5	4.5	22.25	0	65	0	1.25	55.5	5.5	13	6.5	10	0	266
December	156.75	0	33	16.5	0	0	0	61.5	0	41.25	0	10	0	319
January	100	0	81	0	23	0	22	37	0	26.75	0	10	0	299.75
February	124.25	17.5	26.5	18.5	27	0	0	16	14.5	21.75	8.25	12	0	286.25
March	94	16.5	41.5	0	6	0	0	11	0	16.5	13	12	0	210.5
April	150.5	0	31.75	0	21	0	0	58.5	0	11	0	5.5	0	278.25
May	92.75	5.5	46	0	21	0	0	104	0	13.75	0	5.5	0	288.5
June	130.5	20.5	20.5	0	62	46	0	52.5	0	13.5	0	0	6	351.5
TOTALS	1459.75	132.5	400.8	58.5	384.5	46	43.25	696.75	46	229.7	44.15	74.2	6	3622.1

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
SOM	33.6%	40.8%	61.4%	52.6%	39.4%	59.5%	60.4%	52.7%	64.4%	65.5%	48.1%	43.0%
Residencies	26.8%	31.4%	30.9%	22.0%	35.5%	18.1%	16.6%	37.6%	24.7%	11.5%	14.0%	42.1%
Outside	39.5%	27.5%	6.4%	18.9%	20.9%	19.3%	12.3%	5.6%	5.2%	21.0%	36.0%	14.9%
Nursing	0.0%	0.0%	0.0%	5.4%	0.5%	0.0%	7.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Resp. Therapy	0.0%	0.3%	1.3%	1.1%	3.8%	3.1%	3.3%	4.2%	5.7%	2.0%	1.9%	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%

Historical Simulation Hours (by Year)

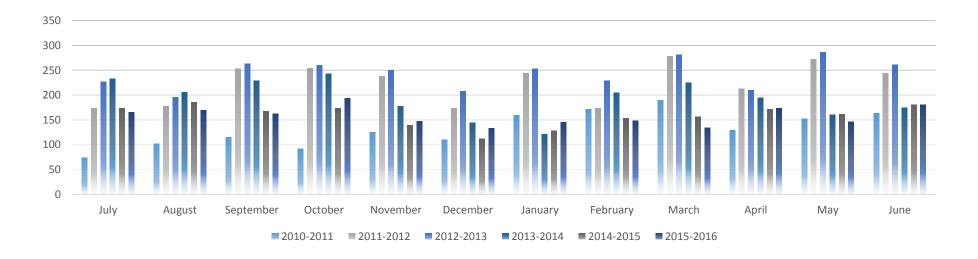
Simulation Hours (Does <u>not</u> include administrative and prep hours)

	July	August	September	October	November	December	January	February	March	April	May	June	Totals
2010-2011	74	102	115	92	125	110	159	171.25	190	129	152	163	1582.25
2011-2012	174	178	253	254	238	173.5	244	173.5	278	213	272	244	2695
2012-2013	227	196	263	260	250	208	253	229	281	210	286	261	2924
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
2014-2015	173.5	185.5	167.25	173.75	139	111.75	128.5	153	156.5	171	161.5	181	1902.25
2015-2016	165.5	169	162	193.5	147	133	145.5	148.5	134.5	174	146	181	1899.5

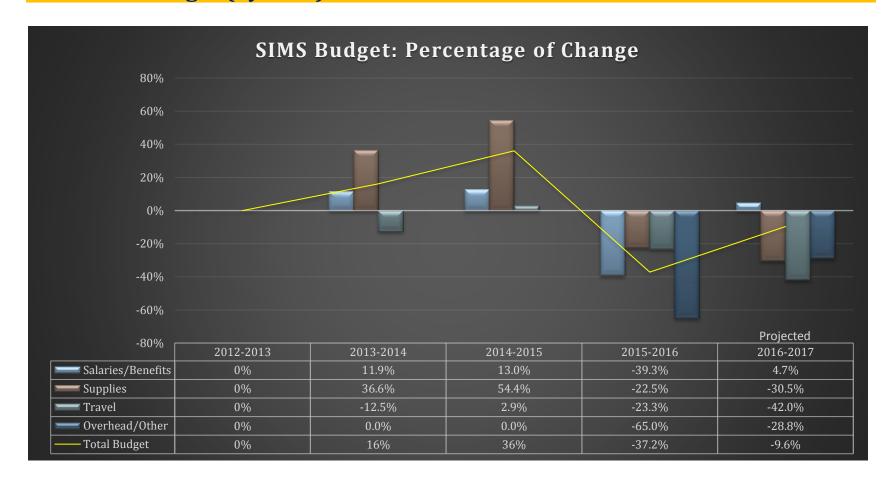


Simulation Hours Variance Report (Does <u>not</u> include administrative and prep hours)

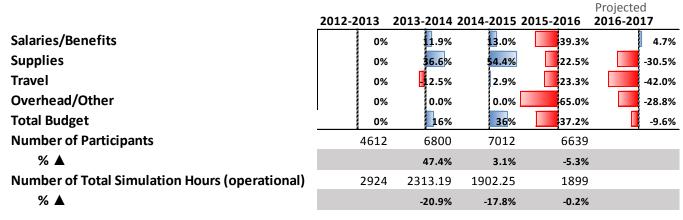
	July	var.	August	var.	September	var.	October	var.	November	var.	December	var.	January	var.	February	var.	March	var.	April	var.	May	var.	June	var.	Totals	Var Total
2010-2011	74		102		115		92		125		110		159		171.25		190		129		152		163		1582.25	0
2011-2012	174	100	178	76	253	138	254	162	238	113	173.5	63.5	244	85	173.5	2.25	278	88	213	84	272	120	244	81	2695	1112.75
2012-2013	227	53	196	18	263	10	260	6	250	12	208	34.5	253	9	229	55.5	281	3	210	-3	286	14	261	17	2924	229
2013-2014	233.1	6.1	205.4	9.4	229.4	-33.6	243.49	-16.51	178	-72	143.9	-64.1	120.79	-132.21	205.01	-23.99	224.5	-56.5	194.5	-15.5	160.5	-125.5	175	-86	2313.59	-610.41
2014-2015	173.5	-59.6	185.5	-19.9	167.25	-62.15	173.75	-69.74	139	-39	111.75	-32.15	128.5	7.71	153	-52.01	156.5	-68	171	-23.5	161.5	1	181	6	1902.25	-411.34
2015-2016	165.5	-8	169	-16.5	162	-5.25	193.5	19.75	147	8	133	21.25	145.5	17	148.5	-4.5	134.5	-22	174	3	146	-15.5	181	0	1899.5	-2.75
Avg	174.52	24.875	172.65	13.4	198.275	9.4	202.79	20.44	179.5	3.5	146.6917	0.438	175.132	-7.625	180.043	-4.55	210.8	-11.1	181.9	9	196.3	-1.2	200.8	3.6	2283.42	
Total (hours)	1047.1	99.5	1035.9	67	1189.65	47	1216.74	81.75	1077	14	880.15	1.75	1050.79	-30.5	1080.26	-22.75	1265	-55.5	1092	45	1178	-6	1205	18	13316.59	

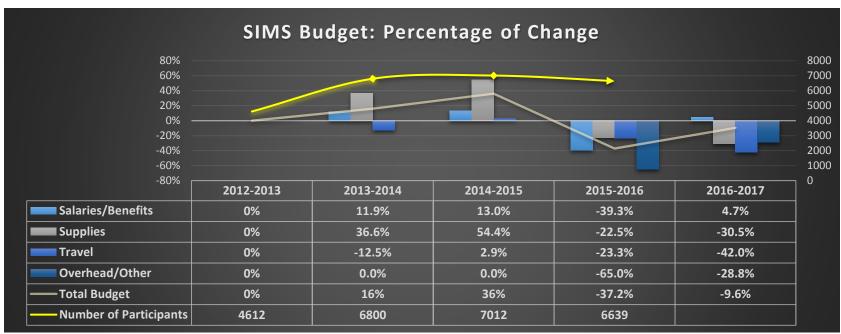


Historical Budget (by Year)



Historical Budget Compared to Number of Participants (by Year)





Staff Hourly Overtime (by Year)

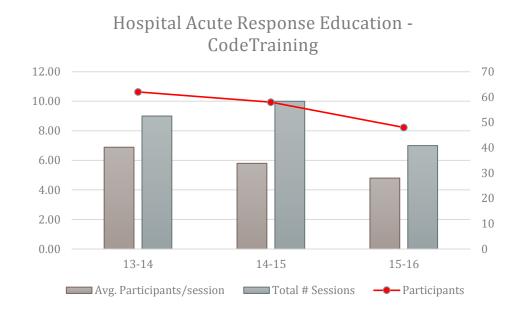


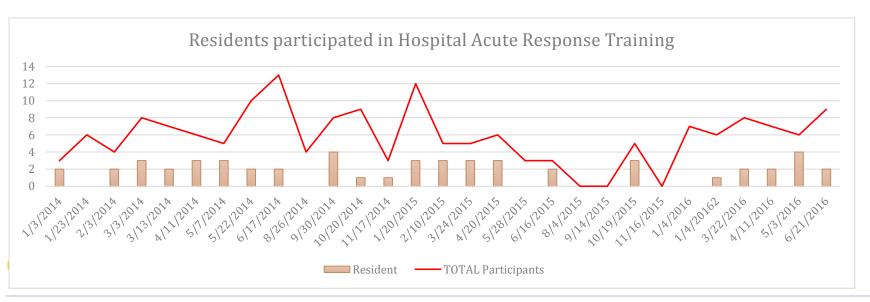


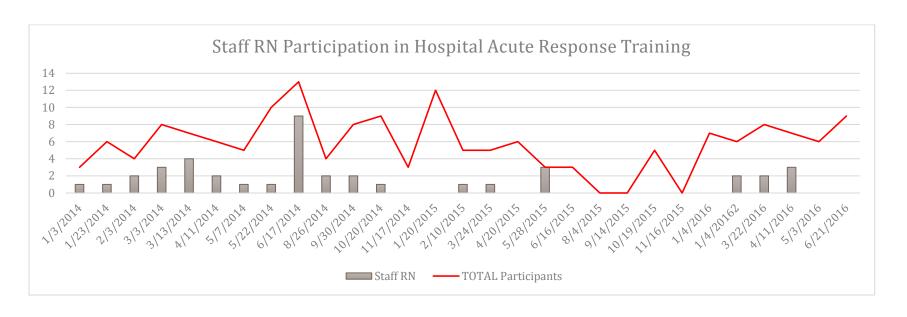


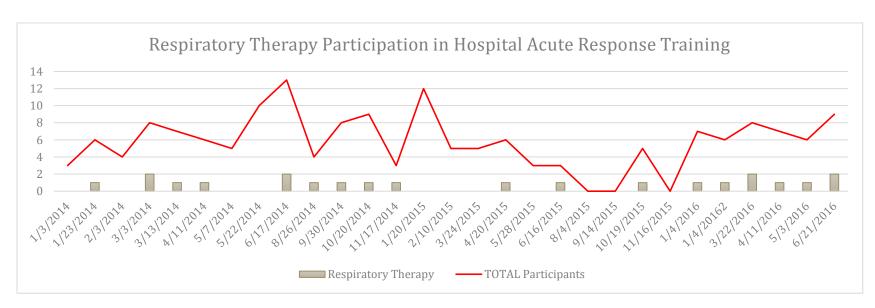
Hospital Acute Response Training (Code Training)

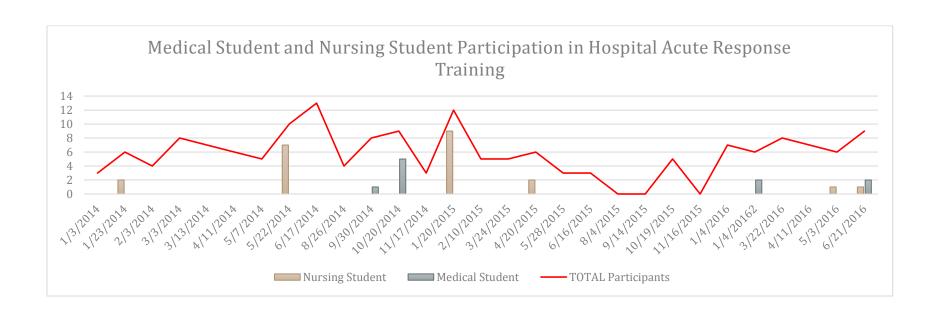
AY 2015-2016	
Total Participants	48
Avg Participants/session	4.8
Total Session Hours	17.5
Min Participants	0.0
Max Participants	9.0
Total Number of Sessions	7
Total Number of Cancellations	3
Since Inception	
Total Number of Sessions	26
Total Participants	168
Total Session Hours	65
Total Learner Hours	420











Research



Medical Education Simulation Center Current Research Report

Dr. Cameron Ricks, Director

Report Printed: Monday, July 18, 2016 1:50:35 PM

	Dr. Cameron Ricks, Director R. Number - Funding - Di Lost - Di First - Co Investigators - Title / Subject - Description											
IRB Number	Funding	PI Last Name	PI First Name	Co-Investigators	Title/Subject	Description	Notes					
N/A	Non- funded	Beaulie u	Keith	Ricks, Cameron; Rogacion, Danica; Vicente, John	Integration of Simulation in Undergraduate Medical Education as an Elective Course	The project's goal was to create and implement an elective for senior medical students who demonstrate interest in expanding their simulation knowledge and experience.	- IRB not needed and/or falls under blanket IRB - Retrospective analysis of simulation fellowship integration in UME. - Abstract submitted to IMSH 2017 (June 2016)					
N/A	Non- funded	Beaulie u	Keith	Hanacek, Cris; Vicente, John; Ricks, Cameron	Emesis During Simulation: A Low Cost Apparatus	To improve the fidelity of this scenario, we developed a low-cost apparatus to increase the fidelity of our simulation. Our objective was to have the participant witness the patient vomiting, and be able to physically manage the episode.	- IRB not needed (technology innovation only) - Abstract submitted to IMSH 2016 (6/1/2015) -Abstract approved 9/2015 -Abstract presented at IMSH 2016 -Abstract published in SiH Journal, December 2015					
2010-7527	non- funded	Strom	Suzanne	Rosenbaum, Abraham; Kain, Zeev; Lin, Sharon; Cannesson, Maxime; Canales, Cecilia	Health Care Practioners 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					
2013-9858	non- funded	Ricks	Cameron	Beaulieu, Keith; Rahman, Asif; Gohil, Shruti; Canales, Cecilia	A Retrospective Analysis of Learning Decay: Medical Education	The purpose of this retrospective observational research is to evaluate the impact of simulation based medical education on medical students using pre-test, post-test, and satisfaction surveys. The hypothesis is that medical students will perform better on post test examinations following participation in a simulation session.	-IRB Approved "Exempt" -Abstract submission - 2015 IMSH (won 2nd place in Program Innovation) -Manuscript in works 1/2015 -Manuscript conversation w/ Gohil re: data 5/27/2015 -Requested evaluation information from Medical Education 5/27/2015 -Request to Close IRB (November 2015) -closing of report was confirmed on 2/10/2016					

IRB Number	Funding	PI Last Name	PI First Name	Co-Investigators	Title/Subject	Description	Notes
2014-1719	non-funded	Ricks	Cameron	Beaulieu, Keith; Beissel, Anne; Sayegh, Julie; Canales, Cecilia; Cannesson, Maxime; Desebbe, Olivier	Residents as Teachers: A Randomized Controlled Non-inferiority Trial	The purpose of this study is a comparative analysis of students' Basic Life Support skills acquisition after they underwent faculty or resident led cardiac resuscitation trainign during high fidelity simulation session. The hypothesis is that resident led sessions are not inferior to those led by faculty.	IRB Team D, Pending approval as of 1/4/2015 "Expedited Review" -IRB approved 3/6/2015 - Data Collection and study commencing 4/1/2015 - Operational study concluded 6/17/2015 - Data analysis commencing 6/17/2015 - Abstract submitted for IMSH 2016 - Manuscript in work - Abstract was presented at IMSH 2016 - IRB closure has been submitted. The draft Closing Report has been assigned number 2690 (7/1/2016)
N/A	non- funded	Ricks	Cameron	Beaulieu, Keith; Beissel, Anne; Sayegh, Julie; Cannesson, Maxime; Desebbe, Olivier	A Trans-Atlantic High Fidelity Mannequin Based Tele Simulation Experience: a pilot study	The purpose of this study is to show that a trans-Atlantic high fidelity tele simulation experience is feasible. We also want to offer anesthesia residents an intercontinental high fidelity tele simulation experience and expose them to the potential national variances and norms of the two continents.	IRB number not needed. This would fall under IRB 2010-7527 - Abstract Submitted to IMSH 2016 (variation) - Abstract submitted to ASA 2015 - Abstract presented at ASA 2015 - Abstract Presented at IMSH 2016 (variation) - Abstract published in SiH Journal, December 2015 - Manuscript written and submitted to "Anesthesia and Analgesia Case Reports" 5 August 2015 (article refused 11/23/2015) - All data collection complete requested to be closed.
2015-2482	non- funded	Ricks	Cameron	Beaulieu, Keith Ricks, Cameron Beissel, Anne Hanacek, Cris Vicente, John Beaulieu, Charlene	Foley Competency in Undergraduate Medical Education	We aimed to explore developing Foley-specific competency curriculum, discover barriers, and acquire strategies for a successful educational model that can be scalable to other skill competencies.	-Data collection complete 6/3/2015 -Abstract submitted for IMSH 2016IRB in Work IRB Approved 1/4/2016 -Abstract accepted: IMSH 2016 - Abstracted presented at IMSH 2016 -Abstract published in SiH Journal, December 2015 - Request IRB closure, draft Closing Report has been assigned number 2587

IRB Number	Funding	PI Last Name	PI First Name	Co-Investigators	Title/Subject	Description	Notes
2015-2324	non- funded	Ricks	Cameron	Nelson, Corey; Field, Ryan; Beissel, Anne; Beaulieu, Keith; Banh, Esther	Assessment of a Simulation-Based Ventriculostomy Management Training Program for Anesthesiology Residents	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
2013-9797	funded	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

\\\END\\\

Quality Improvement/Quality Assurance/

Internal (within department/Medical Education)

Policy and Procedures

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

Course reviews yearly

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

Prep-sheets for all courses

The simulation specialist have created preparation sheets for each of the simulation course to aid and assist in better management of prep time and completeness of task.

External (Hospital/CME)

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

Provided 48 learners the opportunity to practice their crisis resource management principles

Maintenance of Certification in Anesthesia (MOCA)

Held 5 MOCA courses; trained 40 Anesthesiologists

<u>American College of Surgeons Accredited Education Institute</u>



Instrumental in receiving the American College of Surgeons' Accreditation for academic institutions

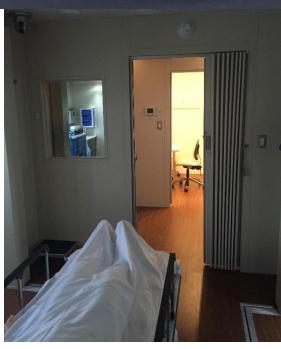
Mobile Medical Education

Designed/project managed UCIMC's first Mobile Medical Education vehicle

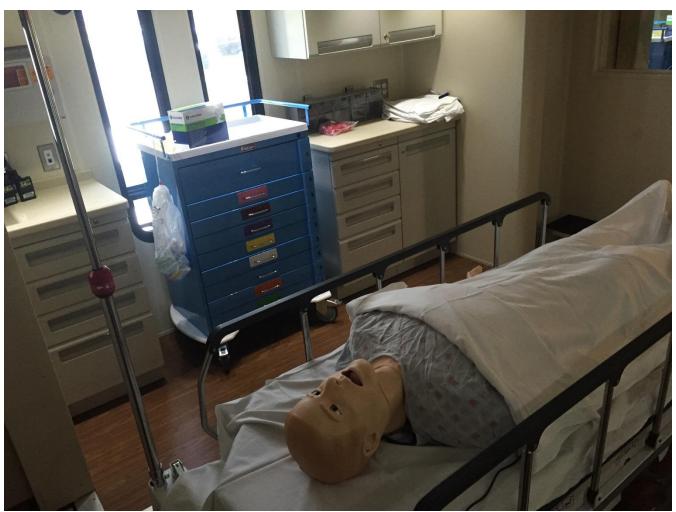
Profit and Loss Statement Maintenance of Certification in Anesthesia UC Irvine Medical Education Simulation Center REDACTED

Mobile Medical Education













First Mobile Medical Education simulation session. Acute Response Training (Code Training) 28 June 2016, three days after UCI took possession of unit.

This session was also used to test the vehicle and Audio/Visual system.

Contact Information



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