The Center for Immersive and Simulation-based Learning

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Review of Accomplishments July 2004 – July 2006

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The Stanford University School of Medicine began focusing its efforts on Immersive and Simulation-based Learning in 2004. The first step was the appointment of an Associate Dean for ISL, followed by creation of the Center for Immersive and Simulation-based Learning (CISL), a division of the School's Information Resources and Technology (IRT) organization. The Center coordinates and integrates activities among the diverse facilities and experts to meet the needs of the School and hospitals.

Looking ahead, the Center will harness the core organizational resources needed to accomplish the coordinated goals, providing a single point of focus and expertise on the use of ISL techniques in health care, based on the following mission:

To improve patient safety, patient care, education, and research through innovations in immersive and simulation-based learning techniques and tools and through embedding them throughout Stanford Medical Center's education and training programs.

This report provides an update on the activities of the Center from July 2004 to July 2006, based on the Center's ten strategic goals. These goals are:

1. Education and Training of Students and Clinical Trainees
2. Healthcare Systems Improvement
3. Assessment/testing *(not addressed in this report)*
4. Research
5. Provide ISL Learning to External Experienced Clinicians
6. Community Outreach
7. Leadership and Advocacy
8. Faculty Development
9. Sustainability
10. Management

Applications of Immersive and Simulation-based Learning

Strategic Goal 1: Education & Training of Students & Clinical Trainees

EXPANDED DEPLOYMENT OF SIMULATION OFFERINGS FOR MEDICAL STUDENTS

(see table on page 11 listing all deployed curricula)

STANDARDIZED PATIENTS: Since 2004, standardized patient encounters — actors trained to play patients with specific diseases or conditions — have been introduced in many clerkships. The obligatory end-of second year exam, called the "mini-CPX," was also introduced in the Practice of Medicine course. The mini-CPX is intended to give students a "prescription for change" — to allow students to know their areas of strength and weakness in the history, physical exam, interpersonal skills, and clinical reasoning — at the half-way point of medical school. Faculty and staff working on standardized patient activities are exploring with CISL ways to incorporate part-task simulators with these actors in hybrid exercises that challenge hands-on task skills simultaneously with appropriate physician-patient communication.

CLINICAL PROCEDURES TRAINING FACILITY (CPTF): The CPTF was established in the Modular C building in Winter Quarter, 2005. This facility allows students in the Practice of Medicine course to learn and practice clinical procedures using part-task trainers and simulators. The CISL provided new trainers and simulators, and coordinated use of the facility with Practice of Medicine faculty. In addition, CISL provided most of the funding to purchase a Pelvic ExamSIM, a pelvic examination simulator (initially developed at Stanford by SUMMIT — Stanford University Medical Media and Instructional Technology) to train medical students in the proper techniques of pelvic examination. Sustained funding of the CPTF and Practice of Medicine procedures training is now included in the budget of the Practice of Medicine course.

INTRODUCTION TO THE MANAGEMENT OF THE ILL PATIENT (IMIP) FOR PRACTICE OF MEDICINE STUDENTS: With support from the CISL, Drs. Harter and Smith-Coggins of the Division of Emergency Medicine created and deployed an intensive 3-hour ISL exercise for second year medical students in the Practice of Medicine course. Over 70 students each year participated in these exercises in groups

of 6–12 in Spring Quarter, 2005 and 2006. The after-course debriefing of students was extremely positive, and they have reported high marks for this activity in evaluations. IMIP is now funded on a regular basis through the Practice of Medicine budget.

CRITICAL CARE CLERKSHIP SIMULATION EXPERIENCE (ADULT): An intensive 4-hour ISL Simulation Training for Acute Resuscitation Skills (STARS), for all students rotating in the required Critical Care clerkships (adult, pediatric, and neonatal), was created by intensivist Geoff Lighthall, M.D., Ph.D. and has been running monthly for over a year. The post-course questionnaire data acquired to date have been extremely positive. The sustained funding for the course is currently under discussion with the clerkship director. We expect the ongoing funding of this clerkship experience to be included eventually in the teaching budget of the Department of Anesthesia/Intensive Care, supported in part by the clerkship teaching funds paid by the School.

CRITICAL CARE CLERKSHIP SIMULATION EXPERIENCE (NEONATAL AND PEDIATRIC): A 4-hour simulation experience modeled on the NeoSim and PediSim programs at CAPE (Center for Advanced Pediatric Education) for housestaff is being conducted at CAPE for critical care clerkship students, especially those doing their critical care rotation in the pediatric or neonatal ICU. This program has been extremely well received by students and planning is underway to expand this offering to all students in critical care clerkships (adult, pediatric and neonatal). First-year funding for this program was provided by CISL; CAPE currently supports this activity. We expect the ongoing funding of this clerkship experience to be included eventually in the teaching budget of the Department of Pediatrics, supported in part by the clerkship teaching funds paid by the School.

CRITICAL CARE SUBINTERNSHIP SIMULATION EXPERIENCE (NEONATAL): A 4-hour simulation experience modeled on the NeoSim program at CAPE is being conducted for students participating in the neonatal ICU subinternship. This program is designed to further enhance the cognitive, technical and behavioral skills of students in their second clinical year by immersing them in scenarios that require recall and application of content knowledge, performance of hands-on procedures, and counseling parents of critically ill neonates about difficult decisions. Planning is underway to expand this offering to students participating in the pediatric and pediatric cardiovascular ICU subinternship. We expect the ongoing funding of this clerkship experience to be included eventually in the teaching budget of the Department of Pediatrics, supported in part by the clerkship teaching funds paid by the School. CAPE currently supports this activity.

PLANNED OBSTETRICS CLERKSHIP AND SUBINTERNSHIP SIMULATION EXPERIENCES: CISL is providing seed funding for simulation activities under development by clerkship director Kim Harney, M.D. for clerkship and subinternship students in Obstetrics, starting in summer, 2006. Two sets of activities are planned: one for clerkship students, which will primarily use part-task trainers, and one for subinterns, which will be conducted at CAPE (which is contributing personnel, equipment, supplies and space) for exercises based on the OB Sim and FetalSim training programs. We expect the ongoing funding of this clerkship experience to eventually be included in the teaching budget of the Department of OB/GYN.

PLANNED SURGICAL CLERKSHIP SIMULATION EXPERIENCE: A simulation experience for students doing surgical clerkships is anticipated within a few months of the opening of the Goodman Simulation Center in Fall, 2006. We expect the ongoing funding of this clerkship experience to eventually be included in the teaching budget of the Department of Surgery.

PLANNED USE OF SIMULATION TO IMPROVE STUDENTS' PHYSICAL EXAMINATION SKILLS (PETER RUDD TASK FORCE): CISL is represented on Peter Rudd's Task Force on Physical Examination, which is expected to recommend modalities for teaching and skills assessment that utilize ISL, both with part-task trainers and simulators, as well as with standardized patients. CISL will assist with pilot testing of part-task trainers for physical examination skills and of hybrid use of part-task trainers with standardized patient actors.

INTERNAL MEDICINE PROCEDURES TRAINING FOR CLERKSHIP STUDENTS, SUBINTERNS, AND INTERNS: CISL is seed-funding a part-task simulation-based procedures course in internal medicine, under the direction of hospitalist Lisa Shieh, M.D. This began in Summer, 2006 with training on central venous cannulation (including ultrasound) and thoracentesis. Ultimately we expect the ongoing funding for this experience to be included in the teaching budget of the Department of Internal Medicine, supported in part by funds from QM/Risk Management for reduction of adverse events during and after invasive procedures (e.g. pneumothorax after central venous cannulation).

EXPANSION OF DEPLOYED SIMULATION OFFERINGS FOR HOUSESTAFF AND COMBINED TEAMS

(see table on page 11 listing all deployed curricula)

OBSTETRIC/PERINATAL SIMULATION PROGRAM: A multidisciplinary group of faculty from Obstetrics, Obstetric Anesthesia, and Neonatology, and Nursing staff from LPCH's Johnson Center have begun two projects to use ISL to improve patient safety for parturients and neonates:

Obstetric combined-team simulations and Perinatal team training (OBSIM): An ISL exercise using high fidelity simulations of perinatal emergencies is now being run on a regular basis for combined teams of obstetricians/maternal-fetal medicine specialists, obstetric anesthesiologists, labor and delivery nurses, pediatricians/neonatologists, and neonatal ICU nurses. The funds to develop OBSIM were provided by CISL, CAPE and grants from The American College of Obstetrics and Gynecology, and the Innovations in Patient Care Program at Lucile Packard Children's Hospital. CISL, CAPE, and the VA Palo Alto Simulation Center teamed together to develop this multidisciplinary training program. The LPCH Risk Management Alliance and Stanford University Medical Indemnity Trust plan to provide funding for this activity, perhaps in concert with LPCH itself.

In-Situ Drills in Labor & Delivery: In a companion project, the multidisciplinary team described above is preparing to conduct "in-situ" mannequin-based simulation drills of perinatal emergencies in the actual labor and delivery suite. CISL purchased (and the Associate Dean himself constructed!) a special mobile video cart

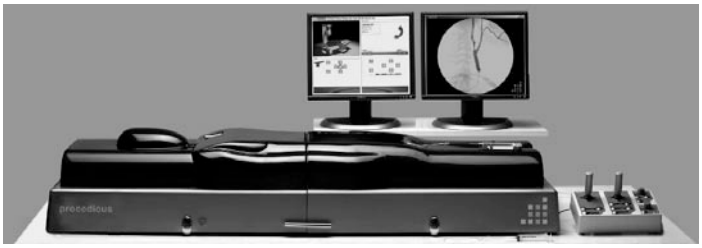
to allow audio/video capture and replay of these drills. CISL faculty are providing advice and mentoring to this project.

SURGERY – THE GOODMAN SIMULATION CENTER: The Goodman Simulation Center is located in Stanford Hospital (not far from the operating room suite), and is a project of the Department of Surgery with major participation by CISL and the Associate Dean for ISL. CISL has been assisting the facility with acquisition of simulators and clinical equipment, and working to design a state-of-the-art audio-visual system.

Laparoscopic Surgery Simulation: When the Goodman Simulation Center opens, a training program for laparoscopic surgery that will use a variety of ISL techniques and simulators will be targeted primarily to surgical interns and residents in general surgery, gynecology, and urology, but will also be applicable to other students with a high interest in surgery and experienced personnel relatively new to laparoscopic techniques.

LAPAROSCOPIC SURGERY TRAINING FOR GYN HOUSESTAFF AND FELLOWS: SUMMIT is extending its ongoing collaboration with Camran Nezhat, MD, of the Departments of Ob/Gyn and Surgery, which focuses on using simulators for training Senior Fellows in Gynecological Surgery (American Association of Gynecological Laparoscopists). Mary Jacobson, MD, director of the Gyn Surgical Skills Program, is beginning to use SUMMIT's simulators to teach housestaff the basic skills of laparoscopic and endoscopic surgery.

NEW PROGRAM IN ENDOVASCULAR SIMULATION: A major void in Stanford's otherwise world-renowned simulation activities was the lack of any endovascular simulation, despite the national prominence of this area triggered by the FDA's requirement for simulation training for the use of carotid stents. CISL assisted the Department of Vascular Surgery in its recruitment of a new faculty position with an emphasis on education. Jason Lee, MD was highly sought after by many institutions but was successfully recruited to Stanford, and will lead the endovascular simulation program. This program will be housed in the Goodman Simulation Center. This will initially target residents and provide continuing medical education in surgery. CISL is providing significant seed funds to Vascular Surgery to help initiate this program, but substantial additional funds and all the operating expenses of the program will come from the Department of Vascular Surgery, which is mobilizing funds from philanthropy and industry. The endovascular simulation program will expand beyond vascular surgery to involve housestaff and offer continuing medical education in cardiology and interventional radiology.



CARDIAC SURGERY SIMULATION: Cardiac Surgery currently conducts periodic part-task simulation exercises for its fellows, using "grocery-store" beef hearts to allow practice in various operative procedures on the heart and coronary arteries. James Fann, MD in Cardiac Surgery has obtained grant funding from the Western Thoracic Society to work with the VA Simulation Center to develop a new program on decision-making during cardiac surgery using patient simulation. This program may be conducted both for fellows in cardiac surgery and with residents/fellows in cardiac anesthesia.

TRAINING RADIOLOGISTS IN MANAGING CONTRAST REACTIONS AND OTHER EMERGENCIES: CISL is working with Terry Desser, MD in Radiology to develop a simulation training program for Radiology residents focused on managing emergencies, especially contrast reactions.

Strategic Goal 2: Healthcare Systems Improvement

DISCLOSURE OF UNANTICIPATED OUTCOMES: CAPE faculty piloted a simulation-based training program in the communication of unanticipated outcomes to patients and family members with the support of Lucile Packard Children's Hospital. This program involves the collaboration of CAPE faculty, Risk Management, the LPCH Parent Advisory Group, LPCH Administration and numerous healthcare professionals at LPCH including physicians, nurses, pharmacists and others. The successful pilot program was reported at the annual meeting of the National Association of Children's Hospitals and Related Institutions (NACHRI). Roll-out of this program is currently being planned with ongoing support anticipated from Lucile Packard Children's Hospital.

SIMULATION ESTABLISHED AS A CORNERSTONE OF THE RISK MANAGEMENT ALLIANCES: The new risk management structure for Stanford University Medical Center puts the responsibility for the clinical aspects of risk management in the hands of Risk Management Alliances for each hospital/faculty practice. Simulation-based training is one of the four explicitly articulated cornerstones of each Alliance's forward-thinking risk management strategy. This is a very important step in using immersive and simulation-based learning as a mechanism to improve patient safety and reduce claims against or payouts by the Alliances. Several projects have been identified for potential funding by the Alliances based on their assessment of existing needs:

LPCH:

- Labor & Delivery:
  - OBSIM (Sim DR (combined team simulation training for OB and NICU personnel)
  - L&D In-situ Simulation Drill
- Executives and Managers:
  - Management of adverse situations

SHC:

- Hemorrhage recognition & treatment simulation training (including rapid response team)
- Management of adverse situations for executives and managers

The plan is to develop these programs with seed funding from the Alliances, their associated insurer (Stanford University Medical Indemnity Trust – SUMIT), SUMIT's reinsurers, and some seed contributions from CISL. For FY07, Risk Management is hoping to devote significant resources to simulation activities. The majority of these funds will support simulation activities aimed at reducing liability and risk for the Risk Management Alliances.

Strategic Goal 4: Research

RESEARCH FROM CISL COMPONENT PROGRAMS: CISL faculty and staff have presented multiple papers on simulation at scientific meetings and published a number of papers and editorials in peer-reviewed journals. A particularly influential editorial was published by Drs. Dutta, Gaba, and Krummel in the Annals of Surgery, March, 2006.

INTERNAL AND EXTERNAL RESEARCH GRANTS: Various CISL components and collaborators have been successful with grant applications for development of new ISL activities. This includes:

- LPCH Innovations in Patient Care Program: Grants for Alice Edler, MD, Anesthesia; Kay Daniels, MD, OB/GYN; Kim Yaeger, RN, MEd, CAPE
- Western Thoracic Surgical Association, Donald B. Doty Education Award for James Fann, MD, Cardiac Surgery
- Wallenberg Foundation: Grants for Parvati Dev, PhD, SUMMIT; & Sanjeev Dutta, MD, Surgery

- Foundation for Anesthesia Education and Research: Alice Edler, MD, Anesthesia.
- Laerdal Foundation: Lou Halamek, MD, Pediatrics
- CISL and SUMMIT each submitted a proposal in response to The Agency for Healthcare Research and Quality (AHRQ) RFA HS-06-030 "Patient Safety Through Simulation Research." These proposals are still under review by AHRQ.

JOINT PROJECT WITH DEPARTMENT OF MANAGEMENT SCIENCE AND ENGINEERING COURSE IN ENGINEERING RISK ANALYSIS (MS&E 250B, INSTRUCTOR JAN PIETZSCH, PHD): ISL faculty were invited to participate as mentors to a student group in this course, on a project addressing the cost/benefit analysis of simulation as a strategy to improve patient safety and quality in health care. The risk analysis delineates stakeholders and pathways of investment and return for this training and assessment intervention. One of the MS&E sponsors, Swiss Re, is potentially interested in further work in this area.

JOINT PROJECT WITH MECHANICAL ENGINEERING (PROF. CARRYER): CISL provided funding for a joint project between Obstetrics (Dr. Kay Daniels) and students in Mechanical Engineering on the prototype design and production of a mannequin component to present various acute life-threatening obstetric conditions. A working device has been delivered to the OB Sim team at CAPE. This collaboration has now entered into discussions with a major simulator manufacturer about executing a collaborative research agreement to further develop and produce commercially such a product, with participation by OTL in the discussions.

Strategic Goal 6: Community Outreach

K-12 STUDENT TOURS AND PROGRAMS: CAPE, SUMMIT, and the VA Simulation Center continue to conduct tours and special programs for groups from the community from various organizations and schools.

SIMULATION TRAINING FOR RESPIRATORY THERAPY STUDENTS FROM FOOTHILL/DEANZA COLLEGE: The VA Simulation Center conducts integrated simulation training for respiratory therapy students. This gives them practice integrating the basic knowledge and skills they have learned into the management of patients with acute respiratory illness, and in working with other professionals, and prepares them to make the most of their clinical rotations.

Strategic Goal 7: Leadership & Advocacy

CISL DIRECTOR AND ASSOCIATE DEAN DAVID GABA NAMED FOUNDING EDITOR-IN-CHIEF OF PEER-REVIEWED JOURNAL – SIMULATION IN HEALTHCARE: Beginning in January, 2006, the Society for Medical Simulation (now known as the Society for Simulation in Healthcare) began publishing a peer-reviewed quarterly journal Simulation in Healthcare (SIH), published by Lippincott, Williams, and Wilkins. Dr. Gaba will donate his editor-in-chief stipend to CISL. CISL leaders Thomas Krummel, M.D., and Lou Halamek, M.D. are also on the editorial board. SIH began publishing quarterly in January, 2006. As SIH is the only peer-reviewed and multidisciplinary journal devoted to simulation in healthcare, it is likely to be indexed by Index Medicus in 2007. SIH is also an official journal of the Society in Europe for Simulation Applied to Medicine (SESAM). The international simulation community recognizes CISL and Stanford as the founding home of SIH.

NEONATAL RESUSCITATION PROGRAM: Lou Halamek, MD, a member of the Steering Committee of the Neonatal Resuscitation Program (NRP) of the American Academy of Pediatrics, is leading that program's evolution from a more traditional didactic/skills station course to a comprehensive simulation-based interactive program.

AMERICAN HEART ASSOCIATION: Dr. Halamek and Geoff Lighthall, M.D. are also working with the American Heart Association (AHA) and members of the steering committees of the Advanced Cardiac Life Support (Lighthall) and Pediatric Advanced Life Support (Halamek) training programs to assist in the development of simulation-based training programs in those fields.

JCAHO VISIT: CISL organized a special one-day visit by a delegation of senior leaders from JCAHO to educate them about simulation. This included observation of simulations at the VA Simulation Center, SUMMIT, and CAPE, and a forum with leaders from the hospitals and School of Medicine. JCAHO came to CISL because of its reputation as broad-based leader in so many forms of simulation.

MILLENIUM CONFERENCE: Every other year since 2000 a special 3-day conference on medical education for competitively invited teams of educators has been organized by the AAMC and the Carl J. Shapiro Institute for Education and Research. In April, 2005 the topic was simulation in medical education. The Stanford team, chosen by the Associate Dean for ISL, and made up of Drs. Gaba, Gesundheit, Skeff, and Wren, and medical student Pam Mosher, was one of about 11 selected to participate from around 30 applicant teams. The Stanford team played a strong leadership role at the conference.

AIMS Educating America about the Value of Medical Simulation
Advanced Initiatives in Medical Simulation

AIMS: Stanford extended its leadership role in the Advanced Initiatives on Medical Simulation (AIMS). AIMS (a 501.c.6) is an effort by a consortium of universities and other organizations to educate the federal government about the need for long-term investment in medical simulation to improve patient safety and quality of care in the nation. CISL is one of the founding contributors to AIMS. Three Stanford personnel are on the AIMS Steering Committee (Dr. Tom Krummel, Chair, Department of Surgery; Associate Dean Gaba; and Ryan Adesnik, Director of Federal Government Affairs). Dr. Gaba is also a founding member of the Board of the 501.c.6 organization. The AIMS May conference and Capitol Hill exhibition in Washington, D.C. is one of the major meetings of the year in the international simulation endeavor.

SOCIETY FOR SIMULATION IN HEALTHCARE: (formerly the Society for Medical Simulation) Stanford has strong representation on the Society's board of directors, which has become the multi-disciplinary professional society concerning simulation in healthcare. The Associate Dean, ISL was a founding board member of the society, and remains on the board as the editor-in-chief of the Society's peer-reviewed journal. Dr. Lou Halamek was elected to the Board in 2005.

SSH
Society for Simulation in Healthcare

SAFETY ACROSS HIGH CONSEQUENCES INDUSTRIES: Dr. Halamek serves on the steering committee of this new organization dedicated to facilitating the exchange of information and effective practices across industries where the risk to human life is high. While healthcare is but one of these industries and simulation-based training one component of a program in safety, the potential for this organization to expand the support for important research, development and implementation across diverse yet related industries is high.

CISL AND COMPONENTS AS ROLE MODELS FOR THE WORLD: CISL and its components (CAPE, SUMMIT, VA Simulation Center) have hosted many visitors and observers from around the world. A delegation of the Dean and Associate Deans from Northwestern University School of Medicine spent half a day with CISL. CISL is developing formal mechanisms to share visitors across all CISL components, as well as a fee structure for consultation and observation with CISL faculty and facilities.

Infrastructure

Strategic Goal 8: Faculty Development

APPLICATION WORKING GROUPS: Working groups have been established in perinatal simulation, endovascular simulation, anatomic visualization, and pediatric anesthesia simulation.

EXPANDED LECTURE SERIES ON SIMULATION IN MEDICAL EDUCATION (SiME): The SiME lecture series was begun by SUMMIT and directed by Dr. LeRoy Heinrichs. Through the CISL, the series has expanded to include sponsored lectures by nationally known speakers in addition to lectures by those already visiting Stanford for other purposes. The sponsored lecture program was slow to get off the ground in 2005-06 but is expected to take off with the recent recruitment of the CISL program director.

SUBSIDIES FOR FACULTY NEW TO ISL TO ATTEND SCIENTIFIC CONFERENCES ON SIMULATION: In a new program established by the Associate Dean for ISL, over the last 2 years approximately 17 Stanford medical faculty from seven different departments or divisions were subsidized for their first attendance at one of the three major scientific meetings on medical simulation (IMMS, MMVR, or TATRC Medical Game Conference). Many of those subsidized one time go on to become regular attendees at these meetings. This program has already helped to substantially build the cadre of faculty who are skilled in creating and conducting ISL activities and to create a collaborative CISL group.

Strategic Goal 9: Sustainability and Finances of Simulation

MATCHING FUNDS PROGRAM FOR CLERKSHIP SIMULATION EXERCISES: For FY07 the Senior Associate Dean for Medical Education has agreed to provide matching funds to assist clinical departments starting clerkship simulation exercises (departments will be asked to justify their need for funds beyond those already provided to them for clerkship education). CISL will oversee the selection of winning proposals for matching funds.

NEW SOURCES OF REVENUE FOR CISL:

Editor's Stipend, *Simulation in Healthcare*: Dr. Gaba is donating his annual editor's stipend from *Simulation in Healthcare* to CISL's operations (approximately $10,000 per annum).

Risk Management Alliances: The Risk Management Alliances have earmarked funds for CISL in 2006 and 2007.

PLANNING FOR THE IMMERSIVE LEARNING CENTER (ILC) IN THE LEARNING & KNOWLEDGE CENTER (LKC): The CISL Executive Committee and the Associate Dean, ISL have been heavily engaged in planning for the design of the ILC in the LKC. The ILC will contain 4 major components related to CISL: Simulation suite (mock clinical areas with associated control rooms, debriefing facilities, and support services), standardized patient suite (mock clinics and hospital rooms with associated support facilities), part-task and procedural training facilities, and a Virtual Reality/Visualization Suite. Sub-groups of CISL are working on the detailed planning input for each of these sites. The

Associate Dean, ISL has also been involved in the working group providing planning input on the classrooms, and in the group defining key personnel requirements for overseeing the planning, construction, outfitting, and operation of the LKC.

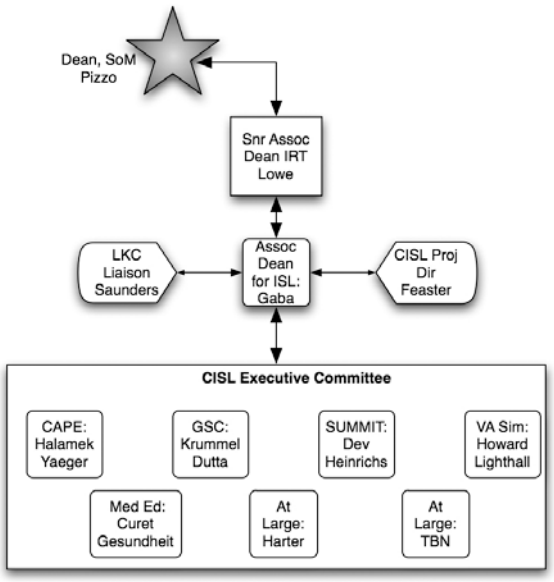
The Associate Dean, ISL is a member of: i) the LKC Coordination Committee, ii) the LKC Technology Steering Committee, iii) the LKC Resource Needs committee.

FINANCIAL MODELING: CISL has been engaged in defining organizational and financial models for simulation at Stanford. CISL commissioned a study by external consultants on high-profile simulation initiatives at other academic institutions. This revealed several different models and the realization that philanthropy from individuals and foundations contributes heavily to "bricks and mortar" but not much to ISL operating funds. Existing CISL components have wildly different financial structures and challenges. CISL has been validating aspects of the hybrid model originally shown in the CISL Strategic Plan. We expect to further develop the financial model and to engage the School's finance and administration principals in creating a set of options for discussion and decision by the School's senior leadership

Strategic Goal 10: Management

CISL PROGRAM DIRECTOR: CISL requires a high-level staff person who can deal with day-to-day coordination, marketing, public relations, and complex planning issues for the CISL Consortium. The position was approved at 50% FTE for FY2006, with the remaining 50% as program director of The Goodman Center. CISL recruited Sandra Feaster, RN, MS, MBA for this position. For FY2007 55% of the position will be devoted to CISL and 45% to the Goodman Simulation Center.

CISL EXECUTIVE COMMITTEE: The CISL Executive Committee meets monthly, and includes representation from each of the core CISL components, from the Associate Deans for Pre-clerkship and Clerkship medical education, and from at-large faculty.



CISL WEB SITE: The new CISL Web Site is being developed with the external contractor Rolling Orange, in concert with the Web site for the LKC project. The Associate Dean, ISL and CISL Executive Committee are providing input, content, and oversight to the Web development project being conducted by Michael Halaas' staff in Web services. The Web site will be important not only for the dissemination of information about CISL but also as a key component of the LKC web presence.

Deployed Curricula Using Immersive & Simulation-based Learning

Pre-Clerkship Med Students	Clerkship Med Students	Interns / Residents / Fellows		Combined Team (Housestaff, attendings, RNs, Allied Health)	CME or equivalent	Nursing or Allied Health
ONGOING						
Procedures Course – POMQ5 (Mod C)	Adult Crit Care Sims – (STARS) (VA Sim Ctr)	Anesth Novice Resident Sims (VA Sim Ctr)	EM CRM1 (VA Sim Ctr)	IMPES – ICU Combined Team CRM Simulations (VA Sim Ctr)	NeoSim (CAPE)	RT student sims – w FH College (VA Sim Ctr)
Intro to Mgmt of Ill Pt (IMIP) POMQ6 (VA Sim Ctr)	Anesth Clkship Sims (VA Sim Ctr)	ACRM1 (VA Sim Ctr)	EM CRM2 (VA Sim Ctr)	Sim DR - Perinatal Team Training (CAPE + VA)	PediSim (CAPE)	
	PICU/NICU Critical Care Clkshp (CAPE)	ACRM2 (VA Sim Ctr)	EM CRM3 (VA Sim Ctr)	Disclosure of Unanticipated Consequences (CAPE)	ECMO Sim (CAPE)	
	Neo Critical Care for NICU subinternship (CAPE)	ACRM3 (VA Sim Ctr)	Adv Resus, Eval & Decision-making (SCARED) – Int Med (VA)	Mock Drills for Cardiac Arrests (VA)	SimTrans Neonatal – neonatal critical care transport (CAPE)	
	Compassionate Deliv of Bad News for Gen Ped Clkshp (CAPE)	NeoSim I – Neo resus (CAPE)	SCARED – Surgery (VA)	Mock Drills for medical emergency team (VA)	ACRM (VA Sim Ctr)	
		NeoSim II – Neo resus (CAPE)	Sims for Card Surg fellows	Defibrillator and CPR training for nurses (VA)	Laparoendoscopic Surgery Simulation Exercises (SUMMIT + OB/GYN)	
		NeoSim III – Neo resus (CAPE)	SOS Int Med (VA)		CRM Instructor (VA Sim Ctr)	
		Pedi Sim I – Peds resus (CAPE)	Perinatal Counseling (CAPE)		CRM Instructor (CAPE)	
		Pedi Sim II – Peds resus (CAPE)	Compass. Deliv. of Bad News (CAPE)			
		OB Sim I (CAPE)	ECMO Sim (CAPE)			
PILOTED OR UNDER DEVELOPMENT						
	Pedi Critical Care for PICU subinternship (CAPE)	Pedi Anesth Sims (at LPCH w VA Sim Grp)	Endovascular procedure (cath-lab) sims (GSC)	Labor & Delivery In-Situ Drills (at Johnson Ctr (CAPE + VA)		
		Fetal Sim (CAPE)	Prenatal Diagnosis (CAPE)	Management of the Sedated Patient (CAPE)		
PLANNED						
	Int Med Invasive procedures Sims (CVP, LP, etc)	Lap Surgery Simulation Exercises (GSC)	Radiology mgmt of contrast reaxn & emergencies (planned with VA)	SHC Hemorrhage Recognition & Rapid Response Team Training (GSC + VA Sim Ctr)	Situation Mgmt Sims for Hospital Execs/ Mgrs (VA Sim Ctr + SUMMIT)	
IMIP2	Surgical clerkship sim experience (GSC)	Decision-making for Card Surg (VA)	Postpartum Emergencies (CAPE)	Pediatric CV Critical Care (CAPE)	Sentinel Event Mitigation (CAPE)	
	OB Clerkship (CAPE)		Pediatric CV Critical Care (CAPE)			

Shaded box = Program deployed after AD ISL appointed

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