

University of California, San Francisco  
Advisory Task Force

Report for the Chancellor on  
Interprofessional Health Education (IPHE)  
July 15, 2010

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**INTRODUCTION**

Our patients at UCSF expect and deserve the best. Regrettably, care can be compromised and medical errors can occur when physicians, dentists, nurses, pharmacists, and physical therapists lack an understanding and appreciation of their fellow healthcare professionals' expertise and contributions. At the extreme is the most negative consequence of all, described by Dr. Robert Wachter in his groundbreaking book *Internal Bleeding*:

“Each year, health care professionals kill nearly one hundred thousand Americans. By mistake. At the heart of many of these health and medical mistakes is a system of health care delivery built upon siloed education, professional biases, role confusion, poor communication, and even poorer listening skills.”<sup>[1]</sup>

We, the educators of UCSF, have the power and the opportunity to remedy this situation. It will not be easy. It will require that our students learn to excel both in their specific disciplines, as well as across disciplines, as effective members of interdisciplinary teams. Health care education is suboptimal in this area due, in part, to a lack of interprofessional preparation and orientation. The importance of greater interprofessional educational opportunities will only increase as health care becomes more complex and demanding. Consistent with its priority focus on education, UCSF is poised to meet this challenge or risk our current position as a leader in health care and health science education and research. All UCSF students must be expected to participate in campus-wide activities that challenge the community to collaborate, explore common health issues of concern to all, and improve individual and community health for the 21<sup>st</sup> century.

The innovative model that follows has at its foundation the existing fall and winter Interprofessional Education Day experiences. As you know, UCSF students from all schools and programs currently gather, think, and begin to work together. In order to transform these experiences into true interprofessional education, we are proposing a campus-wide initiative to investigate aspects related to a Chancellor's Challenge, an articulated focus for study.

## **CHANCELLOR’S CHALLENGE: A BOLD PLAN**

Imagine a student arriving at UCSF in 2013, listening to the Chancellor’s remarks in which she announces the latest health care challenge for the campus:

“...and when you graduate from UCSF, we fully expect you to excel not only in your specific discipline, whether clinical, research, or both, but also to be able to function as an effective member of an interprofessional team. Going forward, these skills will prove essential in all aspects of your professional lives and in the ways in which care is provided. Learning to work on these teams will require real life opportunities to understand better not only your unique roles but the strengths and perspectives the group brings to complex health problems. Therefore, I proclaim 2013-2014 to be the Year of Diabetes Treatment and Prevention. This is our common challenge. I ask you to join me in a campus-wide effort to understand this disease better from its myriad, multidisciplinary perspectives, and to learn how we can come together to make a difference in this specific area and, ultimately, to advance healthcare worldwide through a mutual commitment.”

This Chancellor’s Challenge will begin the first week of school in the form of an introductory presentation led by the Chancellor, the Deans and CMO and CEO of the Medical Center.

Throughout the year, students from the professional schools and the Graduate Division will work together to learn about physiological and clinical issues related to diabetes and will learn to work together to solve problems and care for those affected with Type 1 and Type 2 diabetes. Experts, both on campus and from around the country, will be invited to present seminars and follow up discussions by the interprofessional health education (IPHE) teams. Students will organize clinics to assist community members in understanding diabetes and its many treatment strategies.

The “challenges” themselves, will be developed by a committee of program directors with the goal of ensuring the greatest level of “buy in” across the campus. Clearly, some “challenges” will have greater relevance to and resonance with particular cohorts. The objective, however, is to create enthusiasm and participation from as wide an audience of students and faculty as possible.

As part of the cycle of challenge, we envision an event such as a Chancellor’s Celebration to showcase innovation inspired by the Challenge and to present a Chancellor’s Award for the interprofessional collaboration most likely to improve patient outcomes.

A Center for Excellence in Interprofessional Health Education will be the glue holding together the interdisciplinary teams of faculty, the student activities, and the lecture series. The Center will, itself, serve as a model of interprofessional collaboration.

Currently, our resources in the area of interprofessional planning and coordination are not robust enough to achieve the goals set forth by this bold vision. In order for the Chancellor’s Challenge to be meaningful for our students, and to prepare students to truly affect patient outcomes, we need a dedicated home – a UCSF Center for Excellence in Interprofessional Health Education. There, faculty can find staff that will provide the necessary coordination of programs and activities, build bridges to existing resources, apply for external funding, and promote the IPHE

mission and vision at every opportunity. A newly created Center for Excellence in Interprofessional Health Education will coordinate a series of activities focused on a disease or condition that plagues society. These activities will allow students and faculty from all schools, the Graduate Division, and the Medical Center, to work together on a common problem affecting patients, the care and treatment of the condition, and the research that underpins the entire endeavor. If successful, the exercise will lead to innovation in patient care, treatment protocols, and the application of research finding to improve patient outcomes.

### **OUR VISION FOR UCSF GRADUATES**

*UCSF graduates will be able to work collaboratively and interprofessionally to advance patient care, public service, and research.*

### **PROGRAM OBJECTIVES**

*Every UCSF student shall have interprofessional didactic, clinical, research, and/or laboratory experiences that facilitate an appreciation of the diversity of knowledge and perspectives inherent in interprofessional teams that enhance patient care, public service, and research.*

### **PRINCIPLES TO GUIDE IPHE EXPANSION AT UCSF**

Task force members believe the following general principles should guide the expansion of IPHE initiatives at UCSF over the next three years and beyond:

- As a result of our IPHE efforts, patient health will be improved.
- To coordinate IPHE initiatives efforts, a Center of Excellence is essential.
- To be successful, faculty must be engaged in the creation of innovative, team-based experiential learning strategies.
- IPHE must become part of the UCSF culture. The culture of collaboration and respect is enhanced through interprofessional education.
- Educational and clinical effectiveness is assessed using proven metrics.
- Faculty collaboration and scholarship is incentivized and valued by leadership
- Existing resources and learning opportunities are built upon.
- Best practices are identified through review of IPHE at peer institutions (See Appendix G)

### **RATIONALE FOR ENHANCED IPHE CURRICULUM AT UCSF**

- For UCSF to retain its position as a premier educational institution, it must embrace interprofessional teaching, learning, research, and delivery of care.
- If we are to continue to influence national standards for an array of competencies, IPHE must become a central tenet of the UCSF environment.
- Our ability to remain competitive for external funding will, over time, increasingly depend upon demonstrating new and more effective ways of working and collaborating interprofessionally.
- While the campus has made progress in recent months in funding badly needed infrastructure projects, to take full advantage of these, we must redefine the ways in which we collaborate, in classrooms and in laboratories, and seize upon the potential in our new Teaching and Learning Center, in the Kanbar Simulation Center, and in our

interschool programs like Pathways to Discovery, Global Health Sciences, and the Clinical and Translational Science Institute.

- Existing interprofessional educational activities are driven by and sustained by strongly committed faculty. These activities are vulnerable to ending without a coordinated IPHE system at UCSF.
- We must leverage the strengths of the academic medical center to motivate learners, link learning objectives with direct patient care experiences and to involve learners in projects that advance health with measurable outcomes.

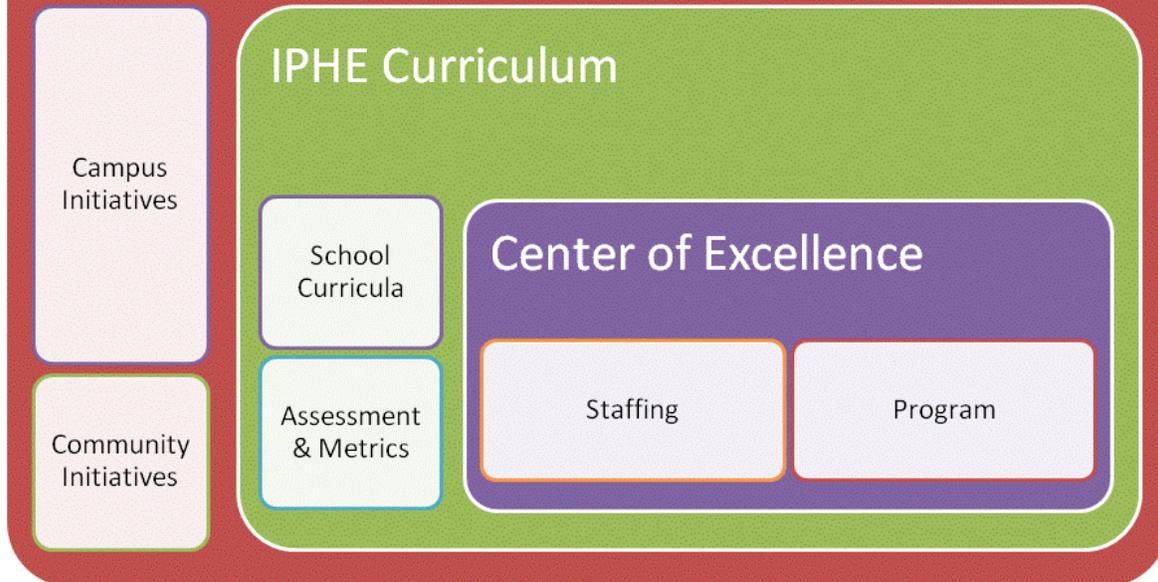
## **GETTING FROM HERE TO THERE**

### **Roadmap**

The components necessary to mounting a successful Chancellor's Challenge fall into two categories: infrastructure and program. Each of these will require a bold, concerted effort on the part of the Schools and the campus if IPHE at UCSF is to truly take root. At a minimum, we believe the following would be required:

- Establish a physical home or "Center of Excellence in Interprofessional Education" to shift curricular culture, and create, implement, and assess campus-wide interprofessional innovation.
- Implement a multi-layered Chancellor's Challenge initiative that will be coordinated by the Center of Excellence.
- Develop IPHE assessment tools and outcome metrics.
- Implement faculty incentives, development, and advancement programs.
- Incentivize creation of interprofessional clinical experiences.
- Coordinate program and curriculum development

## Chancellor's Challenge for Excellence in Patient Care, Research and Education



### **IPHE Design: Infrastructure Essentials**

#### Centerpiece: A Center of Excellence in Interprofessional Health Education

A central home residing within SAA, in partnership with Academic Affairs and the Faculty Senate, will work very closely with each of the Schools/Programs, the Medical Center, the Library, and the research community. Such a Center is fully consistent with the Chancellor's priority focus on education and the priorities identified in the WASC Educational Effectiveness Review Report (EERR) regarding global/interprofessional learning outcomes for the UCSF graduate irrespective of discipline. Furthermore, this model has proven success at peer institutions. This office will coordinate all IPHE program offerings, communications, program and curriculum assessment, and faculty development. The Center of Excellence will enable UCSF to seek additional sources of funding for interprofessional education and research (see Appendix H). Such an office would require a minimum of three FTEs (perhaps a Director, Program Coordinator, and Evaluator/Assessment Officer). The office will also develop a virtual home to host communications, learning opportunities, community-building, and access to resources (including course catalog for IPHE, links to core curriculum via the Collaborative Learning Environment (CLE), a list of IPHE teaching and meeting spaces, online group work spaces via the CLE and tracking student progress through e-portfolio, etc.). A database for

interprofessional clinical experiences could also be created, highlighting for our students where these practices exist.

The Center would be developed in phases. A director would be hired and would begin around January 1, 2011. A Program Specialist would be added in FY 2011-12. An evaluator would complete the office in FY 2012-13.

The committee is mindful of the role of faculty and the Academic Senate in creating and developing curriculum. We envision a faculty Champion of IPHE, designated by each School, who will serve as a catalyst to operationalize the Chancellor's Challenge and to inspire innovative IPHE curricular development.

The importance of the relationship between the Center and the school-designated IPHE Champions cannot be overestimated. Each school and the Medical Center will be asked to match, in essence, the contributions from the campus in the form of the equivalent of a .5 faculty FTE whose responsibilities will include serving as a liaison to the Center of Excellence and Director, helping to integrate Center initiatives into curriculum within the professional Schools and the Graduate Division, and fostering participation of the students in interprofessional activities, research initiatives, and patient care.

#### Develop IPHE Assessment Tools and Outcomes Metrics

Rigorous program assessment will capture the achievement of learning objectives based on IPHE competencies, the impact on patient outcomes, where feasible, and learner and faculty satisfaction. Annual quality improvement assessment after each year will inform coordination efforts, faculty development, and the experience of each cohort beginning at close of AY 12-13. Measurement of the efficacy of the central office in attaining annual goals will be implemented. For example, the Kanbar Center management team has developed a metric that can inform the assessment plans for an IPHE central home/team (see APPENDIX J on learner and program assessment).

### **IPHE Design: Programmatic Essentials**

#### Enhance Existing and Create New Curriculum

We believe that the current structure of curriculum design at UCSF that occurs within, and not across, schools does not adequately serve the goal of interprofessional or cross-school curricular design. We must develop programs that shift the culture of curriculum toward interprofessional education and engagement with all sectors of the university. IPHE activities have been well received, and UCSF is well positioned to advance to the next level of delivery and metrics. Components of an effective program will include:

- Competencies that challenge UCSF graduates to form and lead interprofessional healthcare teams and the creation of templates for competency-based assessment; these will also enable faculty to identify IPHE content and activities in existing curricula and other learning opportunities, like research and elective public service.
- Identification of internal and external funding, and plans for matching funds by participating programs including all schools/programs, the Medical Center, and other campus organizations.
- Continued support for IPE Day and existing learning opportunities.

- Building on existing agreements to reserve one afternoon/week campus-wide for IPHE programming, we will identify additional common time during the year and study the feasibility, costs, and benefits of changes to existing academic calendars

As stated above, we propose a “Chancellor’s Challenge” that will frame IPHE innovation, problem-based and collaborative team learning across the campus for one to three years. Students from diverse programs would engage in collaborative work around an area of clinical focus such as improving diabetes management or developing innovative systems of care for people with diabetes in collaboration with the Medical Center (Other examples include asthma, hypertension, or obesity.) Ideally, the IPHE “Chancellor’s Challenge” will link to key initiatives in the Medical Center, Pathways to Discovery, the CTSI, and the Graduate Division.

1) Year One: learners complete core IPHE competencies and participate in campus events and projects developed by year two learners;

2) Year Two: learners identify and complete a project that contributes to the campus at large. Contributions can include community service, lecture series, symposia (workshops), campus “white papers” based on student contributions, etc.

3) Year Three: continued opportunities for involvement as desired by learners in programs extending beyond two years.

AY 10-11	AY 11-12*	AY 12-13*	AY 13-14	AY 14-15	AY 15-16
Curricular planning					
	Cohort 1 completes CORE IPHE curriculum <i>Diabetes Theme?</i>	Cohort 1 completes THEME IPHE activities/ experiences <i>Diabetes Theme?</i>	Cohort 1 varying degrees of continuing IPHE involvement; possibly online? <i>Diabetes Theme??</i>		
		Cohort 2 completes CORE IPHE curriculum <i>Obesity Theme?</i>	Cohort 2 completes THEME IPHE activities/ experiences <i>Obesity Theme?</i>	Cohort 2 varying degrees of continuing IPHE involvement; possibly online <i>Obesity Theme?</i>	
			Cohort 3 completes CORE IPHE curriculum <i>Asthma Theme?</i>	Cohort 3 completes THEME IPHE activities/ Experiences <i>Asthma Theme?</i>	Cohort 3 varying degrees of continuing IPHE involvement; possibly online <i>Asthma Theme?</i>

For greater detail, see APPENDIX F: “The Student Experience.”

Interprofessional Instructional Improvement Grants

Effective interprofessional training requires engagement in realistic/authentic clinical contexts. We recommend the expansion of incentives to create clinical settings for IPHE learning experiences that can provide contextual and team-based patient care. Resources within our new Teaching and Learning Center, could focus on a specific “Chancellor’s Challenge” area of health care need. For example, the UCSF Library manages a small Instructional Grants Program that currently calls for proposals from teams of interprofessional faculty and lead to this year’s implementation of a standardized patient exercise pilot of 100 students. Incentives will also target proposals that host faculty teams in development and implementation and build upon actual clinical settings, particularly programs that currently host learners.

Faculty Incentives, Development, and Advancement

A core team of faculty will coordinate, train and mentor others in the development of IPHE curricula, assessment, and innovative education delivery platforms. Faculty development will build on existing programs within schools and programs, like the Clinical Scholars Program in the School of Medicine which has expanded to include faculty from other schools/programs. These development efforts would also lead to workshops featuring known IPHE experts from UCSF and other institutions. IPHE will require advancement policies that encourage cross-campus curricular innovation, education scholarship, and research, including a faculty workload recognition system that assigns relative weight to campus priorities; in this case, IPHE education activities across research, clinical and education sectors.

**PRIORITIES**

Estimate of Costs Related to Interprofessional Education Initiatives at UCSF

	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>
<b>Infrastructure:</b>			
Center of Excellence (Personnel; see Appendix A)	\$58,050	\$206,434	\$294,041
Center of Excellence (Operating; see Appendix A)	\$9,570	\$19,288	\$18,766
Evaluation/Assessment (until Center is fully staffed)	\$10,000	N.A.	N.A.
<b>Programs:</b>			
IPE I and IPE II Expenses (Appendix B)	\$7,600	\$6,600	\$6,600
Interprofessional Instructional Improvement Grants (Appendix C)	\$36,000 (\$18,000 x 2)	\$18,000 (\$18,000 x 1)	\$18,000 (\$18,000 x 1)
Faculty Development Interprofessional	\$3,040	\$3,040	\$3,040

Workshops (See Appendix D)			
<b>TOTAL of requests for funding from the Chancellor's Office</b>	<b>\$124,260</b>	<b>253,362</b>	<b>\$358,447</b>
<b>Contributions from the Schools and Medical Center:</b>			
Faculty Salaries (5 Dean's contributions of 0.5 FTE; see Appendix E)	\$256,825 (5 x \$51,365)	\$261,955 (5 x \$52,391)	\$285,210 (5 x \$57,042)
Medical Center salaries (exact nature of contribution TBD)	TBD	TBD	TBD
<b>TOTAL contributions from the Deans, CEO/CMO</b>	\$256,825+ (5 x \$51,365)+	\$261,955+ (5 x \$52,391)+	\$285,210 + (5 x \$57,042)+
<b>TOTAL</b>	<b>\$381,085</b>	<b>\$515,317</b>	<b>\$643,657</b>

APPENDIX A

CENTER FOR EXCELLENCE IN INTERPROFESSIONAL EDUCATION

	Projected Budget FY10-11	Projected Budget FY11-12	Projected Budget FY12-13
<b><u>Program Operating Expenses:</u></b>			
<b><u>Payroll Expenses:</u></b>			
Staff Payroll (1 FTE, 6 months, Year 1; 2 FTEs in Year 2; 3 FTEs in Year 3)	45,000	157,583	222,955
Staff Benefits (1 FTE, 6 months, Year 1; 2 FTEs in Year 2; 3 FTEs in Year 3)	13,050	48,851	71,086
<b>Subtotal Payroll:</b>	<b>58,050</b>	<b>206,434</b>	<b>294,041</b>
<b><u>Non-Payroll Expenses:</u></b>			
<b><u>Operational Costs</u></b>			
GAEL	320	1,158	1,293
IT Data Network Recharge (per FTE)	350	2,160	2,160
Telephone/Fax	750	3,240	3,337
Staff Development	1,000	3,000	3,000
Office Supplies: <i>includes general office supplies, Arrowhead water, etc.</i>	1,000	1,030	1,061
Copier Lease & Maintenance	500	1,200	1,200
Freight/Postage/Mail Services	250	500	515
Travel	1,400	2,500	3,000
Entertainment/Meetings	500	1,000	1,200
Computers	3,000	2,000	500
Miscellaneous	500	1,500	1,500
<b>Total Operational Costs</b>	<b>9,570</b>	<b>19,288</b>	<b>18,766</b>
<b>GRAND TOTAL</b>	<b>\$67,620</b>	<b>\$225,722</b>	<b>\$312,808</b>

APPENDIX B

COSTS ASSOCIATED WITH INTERPROFESSIONAL EDUCATION DAYS I AND II  
(Based upon 500 participants)

	2010-2011	2011-12	2012-2013
<b>IPE DAY I</b>			
Gym Rental	\$500	\$500	\$500
AV/Sound System	\$1,000	\$1,000	\$1,000
Chair Rental	\$800	\$800	\$800
Reception/Social	\$1,000	\$1,000	\$1,000
Evaluation	\$500	N.A.*	N.A.*
<b>SUBTOTAL</b>	<b>\$3,800</b>	<b>\$3,300</b>	<b>\$3,300</b>
<b>IPE DAY II</b>			
Gym Rental	\$500	\$500	\$500
AV/Sound System	\$1,000	\$1,000	\$1,000
Chair Rental	\$800	\$800	\$800
Reception/Social	\$1,000	\$1,000	\$1,000
Evaluation	\$500	N.A.*	N.A.*
<b>SUBTOTAL</b>	<b>\$3,800</b>	<b>\$3,300</b>	<b>\$3,300</b>
<b>TOTAL BOTH EVENTS</b>	<b>\$7,600</b>	<b>\$6,600</b>	<b>\$6,600</b>

- Should Center of IPHE Excellence be funded, this task would be subsumed in Center budget.

APPENDIX C

INTERPROFESSIONAL INSTRUCTIONAL IMPROVEMENT GRANTS

These grants would be used to supplement the existing Academic Senate program administered by the UCSF Library. The number of grants available is currently constrained by limited resources. Two grants of up to \$18,000 each would double the ability of the campus to promote innovation and new thinking in Year 1. In Years 2 and 3, the request is for a single additional award of \$18,000.

*TEXT DESCRIBING CURRENT COCI INSTRUCTIONAL IMPROVEMENT GRANTS PROGRAM*

*The UCSF Instructional Grants Program is offering grants of up to \$18,000 for instructional improvement projects focused on interprofessional education. Successful grant applications will emphasize innovation and education programs that cross traditional boundaries (e.g., cross-School programs that serve a diverse range of health professions students). Supported activities include development of new educational programs, modification of existing instructional programs, introduction of experimental approaches to content or processes, teaching evaluation, and student assessment activities.*

	2010-2011	2011-2012	2012-2013
Grant #1	\$18,000	\$18,000	\$18,000
Grant #2	\$18,000	N.A.	N.A.
<b>TOTAL</b>	<b>\$36,000</b>	<b>\$18,000</b>	<b>\$18,000</b>

APPENDIX D

INTERPROFESSIONAL EDUCATION FACULTY WORKSHOPS

Cost to Bring External Expert to UCSF

Honorarium for one event	\$1,000
Flight	\$350
Hotel (one night)	\$200
Per Diem (one day)	\$64
Dinner with leadership	\$200
Catering for workshop	\$220
Room reservation	\$70
CME accreditation	\$17
Labor of Analyst III	\$210
Labor of AAIH	\$96
<b>TOTAL</b>	<b>\$2,427</b>

Cost to Host Workshop Offered by Internal/UCSF Expert

Catering for workshop	\$220
Room reservation	\$70
CME accreditation	\$17
Labor of Analyst III	\$210
Labor of AAIH	\$96
<b>TOTAL</b>	<b>\$613</b>

APPENDIX E

IPHE FACULTY SALARIES

Salary of 0.5 Faculty IPHE Champion (or equivalent)\*

Year	Base Pay (0.5 FTE)*	COLA	Subtotal	Benefits	Total
2010-11	\$42,450	NA	NA	\$8,915	\$51,365
2011-12	\$42,450	\$849 (2%)	\$43,299	\$9,092#	\$52,391
2012-13	\$45,100	\$902 (2%)	\$46,002	\$11,040#	\$57,042

\*Assumes 0.5 FTE (Associate Professor 1 Base)

\* In some cases, this may be achieved by 2 x 0.25 FTE

# Assumes 21% benefit rate in 2011-12; assumes 24% benefit rate in 2012-13

APPENDIX F

THE STUDENT EXPERIENCE: ONE POSSIBLE MODEL

EXAMPLE: Identify a Campus challenge or theme for a two year cycle (e.g. diabetes) with an associated funding call.

CORE Involvement

- Interprofessional Education Day I (September) and Interprofessional Education Day II (January) will be focused on this topic for all first years students.
- The Chancellor will announce the topic of the year to the entire campus.
- Lectures on Diabetes be given in F/W/S by experts (clinical and research); open to everyone.
- The campus bookstore could have an diabetes book club or “book of the quarter.”
- The rest of the campus could piggyback events and activities, preferably of an interprofessional nature, onto the theme of the year.

ENHANCED Involvement

- An interprofessional elective on diabetes (developed and taught interprofessionally) would be offered in F/W/S and open to all students.
- Three interprofessional clinical activities would be highlighted or developed and offered to interested students.
- A maximum of 60 students would be selected for participation in a longitudinal, project-based interprofessional experience designed and mentored by IP faculty teams for IP student teams. The didactic and project-based components could be hosted by existing “Pathways” in SOP and Pathways to Discovery if faculty, didactics, and project teams are truly interprofessional, or via creation of a new “Pathway.”

1) Year One: learners complete core IPHE competencies and participate in campus events and projects developed by year two learners;

2) Year Two: learners complete some contribution to the campus at large. Contributions can include community service, lecture series, symposia (workshops), campus “white papers” based on student contributions, etc.

3) Year Three: continued opportunities for involvement as desired by learners in programs extending beyond two years.

AY 10-11	AY 11-12*	AY 12-13*	AY 13-14	AY 14-15	AY 15-16
Curricular planning					
	Cohort 1 completes CORE IPHE curriculum <i>Diabetes Theme?</i>	Cohort 1 completes THEME IPHE activities/ experiences <i>Diabetes Theme?</i>	Same cohort: varying degrees of continuing IPHE involvement; possibly online?		

		Cohort 2 completes CORE IPHE curriculum  Obesity Theme?	Cohort 2 completes THEME IPHE activities/ experiences  <i>Obesity Theme?</i>	Cohort 2 varying degrees of continuing IPHE involvement; possibly online  <i>Obesity Theme?</i>	
			Cohort 3 completes CORE IPHE curriculum  Asthma Theme?	Cohort 3 completes THEME IPHE activities/ experiences  Asthma Theme	Cohort 3 varying degrees of continuing IPHE involvement; possibly online  <i>Asthma Theme?</i>

## APPENDIX G

### BEST PRACTICES IN IPHE: PEER INSTITUTIONS

The Chancellor's Challenge is designed to implement recommendations for best practices in IPHE based on site visits by David Irby, Molly Cooke, and Bridget O'Brien to peer institutions,<sup>1</sup> the views of members of those institutions,<sup>2</sup> and recently published reviews of the literature on IPHE.<sup>3</sup>

To implement these recommendations, peer institutions have created a wide variety of curricula and programming, a range appropriate to their recent adoption. This variety underscores the urgency of rigorous assessment to determine best practices.

#### Recommendations:

- Standardize learning outcomes and assess competencies to allow greater individualization of experience.
- Strengthen connections between formal and experiential knowledge, and classroom and clinical training through early interprofessional clinical experiences.
- Promote clinical reasoning based on recognition of the whole clinical situation, including allopathic medicine; psycho-social aspects of illness; patient and family concerns; recovery processes, and patient well-being.<sup>4</sup>
- Support learners' responsibility for quality of care, quality improvement, team performance and their own learning.
- Instead of identifying non-specific, shared knowledge areas, emphasize profession-specific expertise to demonstrate the value of collaboration.<sup>5</sup>
- Make interprofessional identity formation an essential part of professional identity formation and an explicit area of early focus in health education.
- Cultivate a spirit of inquiry and improvement in learners and in health care teams; this spirit supports both innovations in daily practice that translate into better service to patients, system improvements, and improved patient outcomes as well as the development of larger research agendas, new discoveries, and knowledge building. Integrate multiple levels of learning. Use improvement in patient care as the ultimate yardstick of success. Intentionally select, support,

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<sup>1</sup> David Irby, PhD, Molly Cooke, MD, and Bridget O'Brien, PhD. *Educating Physicians: A Call for Reform of Medical School and Residency*. San Francisco: Jossey-Bass, 2010.

<sup>2</sup> David Irby, Patricia Benner, et al. "Interprofessional Education: Curricular, Pedagogical and Assessment Strategies." Macy/Carnegie Webinar. The Carnegie Foundation for the Advancement of Teaching, July 9, 2010. Reviews based on site visits, 2005-06, to Colorado, Duke Minnesota, New Mexico, New York University, and Vanderbilt among others.

<sup>3</sup> Marilyn Hammick, Lorna Olckers, and Charles Champion-Smith. "Learning in interprofessional teams: AMEE. Guide no 38." *Medical Teacher* 31:1, 2009, pp. 1-12

<sup>4</sup> Patricia Benner. "Interprofessional Education: Curricular, Pedagogical and Assessment Strategies." Macy/Carnegie Webinar. The Carnegie Foundation for the Advancement of Teaching, July 9, 2010.

<sup>5</sup> M.A. Lavin, I. Ruebling, R. Banks, L. Block, M. Counte, G., Furman, P. Miller, C. Reese, V. Viehmann and J. Holt. "Interdisciplinary Health Professional Education: A Historical Review." *Advances in Health Sciences Education* 6:25-47, 2001, p. 28.

and provide training in IPHE curriculum design to teachers and health educators who will design and deliver IPHE.<sup>6</sup>

- Use best practices in creating e-learning solutions to face-to-face barriers to IPHE (see note for detail)<sup>7</sup>

#### Examples of Current Practice:

Competency-based assessment. All schools with IPHE programming and curricula are in the process of identifying competencies to guide program development and assessment based on:

- Portfolio built around competencies and projects
- Reflection and self-assessment
- Observation of student performance via enactment, virtual learning, or simulation
- Exams

Identification of common core content to replace or add to existing training opportunities:

- University of New Mexico - domestic violence
- University of Colorado – quality improvement
- University of Minnesota - teamwork and ethics
- Duke University- disaster preparedness

Pedagogical Strategies, including virtual learning, the use of online modules, blended learning, simulation, enactments:

- University of Minnesota – adoption of existing Institute for Health Improvement modules

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<sup>6</sup> Paraphrase of Irby, Cooke, and O'Brien in David M., PhD. "Macy/Carnegie Webinar: Interprofessional Education: Curricular, Pedagogical and Assessment Strategies." Includes a review of data from 2005-06 site visits including Colorado, Duke Minnesota, New Mexico, New York University, and Vanderbilt. The Carnegie Foundation for the Advancement of Teaching, July 9, 2010.

<sup>7</sup> Pat Mayers, Melanie Alperstein, Madeleine Duncan, Loma Olckers, and Trevor Gibbs. "Not just another multi-professional course! Part 2: Nuts and bolts of designing a transformed curriculum for multi-professional learning," *Medical Teacher* (2006) 28:2,152 — 157

- "A virtual learning environment provides a safe place for the exploration of different philosophies, values and models of practice
- There is space for reflection and for revisiting resources and conversations
- E-resources provide access to knowledge of professions not represented within the higher education institution
- There are increased opportunities to fulfill IPL outcomes that cannot be guaranteed in practice placements
- Opportunities are offered for collaborative learning on or off campus, thus overcoming logistical barriers
- Collaboration is facilitated around e-resources that address IPL outcomes"
- Patients' or clients' authentic 'stories' may be accessed without requiring these individuals to speak to students en masse."<sup>7</sup>

- Duke University – creation of new courses on disaster preparedness and enactment of 3-day preparedness enactment for all learners and virtual learning on Second Life with professions represented as avatars in virtual clinical cases
- University of New Mexico and New York University – combinations of video and online learning

Placement in longitudinal clinical teams:

- Vanderbilt University – yearlong on-site training with teams of four placed in city clinics
- University of Colorado – teams of students pursue quality improvement projects in area hospitals

Focus on service learning project teams:

- Penn State University and University of Colorado – teams placed in local clinical agencies
- University of Minnesota – teams assigned to population health projects
- Vanderbilt University and New York University – practice-based, team-based learning

## APPENDIX H

### BRIEF OVERVIEW OF POSSIBLE IPHE GRANT OPPORTUNITIES

This proposal requests campus support for a central office to coordinate IPHE activities. A significant responsibility of the office will be fund raising – both through grants and private philanthropy.

There are a growing number of external grant opportunities for IPHE projects. Selected programs are listed below along with most recent grant awards in related areas.

Donors with priorities related to each of the Chancellor’s Challenges can provide additional support (for example, the donors who fund diabetes prevention, care, and research).

#### IPHE-Focused Opportunities

##### **Health Resources and Services Administration Grants**

<http://www.hrsa.gov/grants/>

HRSA has many examples of IPHE requests for proposals, for example HRSA-10-236 which “solicits applications under the Recovery Act for Training in Primary Care Medicine and Dentistry to support Interdisciplinary and Interprofessional Graduate Joint Degree programs. More specifically, funds may be used to plan, develop, and operate joint degree programs to provide interdisciplinary and interprofessional graduate training in public health and other health professions to provide training in environmental health, infectious disease control, disease prevention and health promotion, epidemiological studies and injury control.”

##### **Gordon and Betty Moore Foundation**

<http://www.moore.org/nursing.aspx>

Outcome: Improvement in nursing-related patient outcomes in adult acute care hospitals.

Geography: five San Francisco Bay Area counties: Alameda, Marin, San Francisco, San Mateo and Santa Clara, and five Greater Sacramento counties: Amador, Nevada, Placer, Sacramento and Yolo.

Strategies:

- Develop a larger, more highly skilled RN workforce
- Implement more effective hospital practices

Recent grants for evaluation of transitional care at Kaiser and increase patient safety in Sutter Health Systems are directly related to enhanced IPH collaboration.

##### **Josiah Macy Jr. Foundation**

[http://www.josiahmacyfoundation.org/index.php?section=about\\_priorities](http://www.josiahmacyfoundation.org/index.php?section=about_priorities)

The Macy Foundation has identified the following funding priorities in these areas related to IPHE:

1. Projects to improve medical and health professional education in the context of the changing health care system;
2. Projects that will increase diversity among health care professionals;
3. Projects that demonstrate or encourage ways to increase teamwork between and among health care professionals.

Recent grants directly support IPHE at Columbia, Pittsburgh, Tulane, Texas Woman's University, and Baylor.

**Fund For The Improvement Of Postsecondary Education (FIPSE)**

<http://www2.ed.gov/programs/fipsecomp/index.html>

The comprehensive grant program funds innovative curriculum reform projects, including reforms related to health professions education, recently at Roanoke College and Oregon Health Sciences University.

CHALLENGE-FOCUSED OPPORTUNITIES: DIABETES

A recent search on the Foundation Directory Online (<http://fndcenter.org>) produced a list of **163** foundations in the U.S. that award diabetes-related grants. The top foundations with potential to fund UCSF IPHE initiatives are:

**Robert Wood Johnson Foundation**

<http://www.rwjf.org/applications/whatwefund.jsp>

The foundation also supports public education, and has supported specific projects on inter-professional health education and quality improvement.

**Eli Lilly and Company Foundation**

[http://www.lilly.com/responsibility/foundation/what\\_we\\_support/default.html](http://www.lilly.com/responsibility/foundation/what_we_support/default.html)

In addition to funding diabetes initiatives, Lilly funding targets include:

1. improvement of patient outcomes, especially in Lilly's therapeutic areas of interest;
2. improved education and educational opportunities, with a priority on science and health.

**Oberkotter Foundation**

1600 Market Street, Suite 3600

Philadelphia, PA 19103-7240

No website available.

In addition to research on juvenile diabetes, the Oberkotter Foundation supports professional education and training initiatives.

**Commonwealth Fund – New York, New York**

<http://thecommonwealthfund.net/About-Us/Mission-Statement.aspx>

Commonwealth Fund goals related to IPHE initiatives:

1. development and widespread adoption of health care quality and efficiency measures
2. assessment and enhancement of the capacity of health care organizations to provide stimulate adoption of effective practices, models, and tools to
3. development of primary care practices that are patient- and family-centered
4. identification and dissemination of pediatric practice that enhance the efficiency and effectiveness of care provided
5. reforms that remove barriers to quality care and align provider incentives with desired clinical practices
6. development, testing, and evaluation of the impact of new models.

## APPENDIX I

### A BRIEF HISTORY OF IPHE AT UCSF

UCSF is no stranger to interprofessional efforts and initiatives. While by no means comprehensive, the list that follows includes some of the highlights from the past seven years:

- IPHE Task Force of Associate Deans formed in 2003 and charged with “achieving small steps towards greater interdisciplinary education at UCSF.”
- Ongoing discussions with Deans identifying structural barriers to IP education across schools.
- Membership of Task Force expanded to include representatives from Physical Therapy, Library, Student Academic Affairs, and interested students and faculty.
- IPHE Report produced by interprofessional group of student curriculum ambassadors in 2008.
- UCSF achieved common calendar across schools in 2009-2010 to facilitate ability of students to partake of interprofessional offerings throughout the campus. The protected IPHE time (Monday afternoon) is not observed by all Schools.
- Interprofessional Education Day I launched in 2006 with nearly all first year students in attendance.
- IPE Day I focus in 2006 and 2007: Patient Safety.
- IPE Day I focus in 2008 and 2009: Health Care Disparities.
- Positive evaluations consistent; suggestions relating to logistics, requests for additional IP interactions.
- IPE Day II launched in Winter of 2009; continuation of IPE Day I cohort and theme. IPE Day II designed to keep groups engaged in small group collaboration. IPE Day II uses IP communication training video developed with funding from Macy Foundation.
- IP small groups from IPE Day I continue to interact on the CLE (85% of students posting responses to “question of the month”.)
- Library Instructional Improvement grants modified to promote IPHE initiatives.
- 2008 - IP focus, funded use of standardized patient for IP approach to patient with chronic disease, 6 sessions completed in Jan-Mar 2010 (101 students across the Schools at the Teaching and Learning Center.
- [date?] Teaching and Learning Center designed to host IP and school specific activities .
- 2008-10, IP team encourages development of IP curriculum.
- 2008-10, IP team provides oversight of access to resources.
- Ongoing efforts to offer interprofessional Health Policy course for all UCSF students in which content is secondary to interprofessional pedagogical design of curriculum.

APPENDIX J

PROPOSED EVALUATION PLAN FOR INTERPROFESSIONAL HEALTH EDUCATION

**Objective:** Schools will enhance their students’ learning performance with interprofessional curriculum and experiences to improve patient care and outcomes.

Metric	Measure	Reporting Frequency	Responsible Party	Target
<b>Participation</b>				
% participation by school	Count of schools/programs participating per activity	Q 6 months	IPHE staff	Incrementally balanced across schools, programs; 50% start and 5% increase per quarter
% utilization	Number of slots available for student learners	Q 6 months	IPHE staff	80%
% buy-in	Number of faculty teachers participating and distribution across schools	Q 6 months	IPHE staff	Balanced participation from outset; 5% additional/new per quarter
Faculty satisfaction	Survey of teaching faculty	At end of teaching activities	IPHE staff	Average rating of 4< on a 5 point Likert scale for all measured attributes.
Medical Center staff satisfaction	Surveys of workplace satisfaction, culture of patient safety	Annually	Medical center staff	Determine targets in consultation w/ IPHE team
<b>Education</b>				
Types and % of learning activities	Number of each type (by competency/objective met)	Q 6 months	IPHE staff	10% campus-wide (e.g. lecture series) 20 %TLC/simulation; 30% patient care; 10% inquiry/lab teams 30% virtual
Innovative assessments	Survey of faculty	Quarterly - Q 6 months	IPHE staff	5% of teachers are developing or using new assessment methods per quarter
Innovative programs	Survey of faculty	Quarterly - Q 6 months	IPHE staff	5% of users are developing or implementing new programs per quarter
<b>Patients</b>				
Assessment of satisfaction	Survey of patients	Annually	Medical Center and IPHE staff	10% of patients perceive more coordinated care;

Assessment of quality of care	Quality of care measures (e.g. appt keeping; Rx adherence; specific QI measure per chancellor's challenge)	Annually	Medical Center and IPHE staff	5% improvement per year in patient outcome measures
<b>Learners</b>				
Satisfaction	Survey of students	At conclusion of discrete activities	IPHE staff	Average rating of $\geq 4$ on a 5 point Likert items for all measured attributes.
RIPLS Interprofessional (attitude toward healthcare teams)	Survey of students	Beginning and end of each academic year	IPHE staff	Average rating increasing across years of exposure to IPHE curriculum
Clinical skills assessments	Simulation and CSC exercises	Quarterly	Kanbar and IPHE staff	5% increase in IPHE activities per quarter
Practice patterns	Simulation exercise; assess for appropriateness of referrals by IPH learners to other health professionals	By cohort; annually and every two years	Kanbar Center and IPHE staff	Increase by 10% per year
Expanded team approach to inquiry and problem-solving	Incremental engagement of grad students, research teams, projects that span T1-T3	Q 6 months	CTSI and IPHE staff	Increase by 5% per 6 months
<b>Faculty</b>				
Faculty advancement	Promotion of faculty	Annually	Faculty Affairs and IPHE staff	Promotion rates; inclusion of value/criteria for IPHE scholarship
Practice patterns	Assess for improvement in interprofessional teamwork in clinical and scholarly environments (e.g. faculty profile networks)	Annually	Medical Center, CTSI and IPHE staff	Increase by 10% per year
Faculty Development	Increase in programs and availability	Annually	Faculty Affairs and IPHE staff	10% increase in number of programs, participation across schools/programs
<b>Academic</b>				
Recognition	Awards that recognize IPHE – existing and new	Annually	Chancellor's and IPHE staff	Priority for IPHE successfully included in one award per year; One new award category per year
Internal funding for innovations	Number of applications; school or program; source of funds	Annual cycle	IPHE staff	Balanced representation; 10% increase in applications by number and

				school/program
Extramural funding for innovations	Number of applications; school or program; source of funds	Annually	Provost + IPHE staff	10% increase in applications by number and school/program; >1 new source of funding per year;
Number of scholarly projects initiated	Number of activities linked to a CHR approved research protocol	Q 6 months	IPHE staff	10% of all activities
Outreach to potential students	Number of activities offered to community youth or potential students	Q 6 months	Community Engagement and IPHE staff	5% of all activities

## APPENDIX K

### INTERPROFESSIONAL COMPETENCIES

Interprofessional education helps students to develop collaborative competencies. These include:

- Describe roles and responsibilities relating to your and other professions.
- Define the constraints of one's role, responsibilities and competence in the wider framework of healthcare.
- Define roles, responsibilities and competence of other professions in relation to one's own.
- Effect change and resolve conflicts with members of an interprofessional team in the provision of care and treatment.
- Practice in IPHE teams and assess, plan, provide and review care for individual patients using IPHE teams
- Review differences, misunderstandings and shortcomings that arise in IP teams.
- Facilitate interprofessional case conferences, team meetings, and other interactions.
- Develop interdependent relations with other professions.

## APPENDIX L

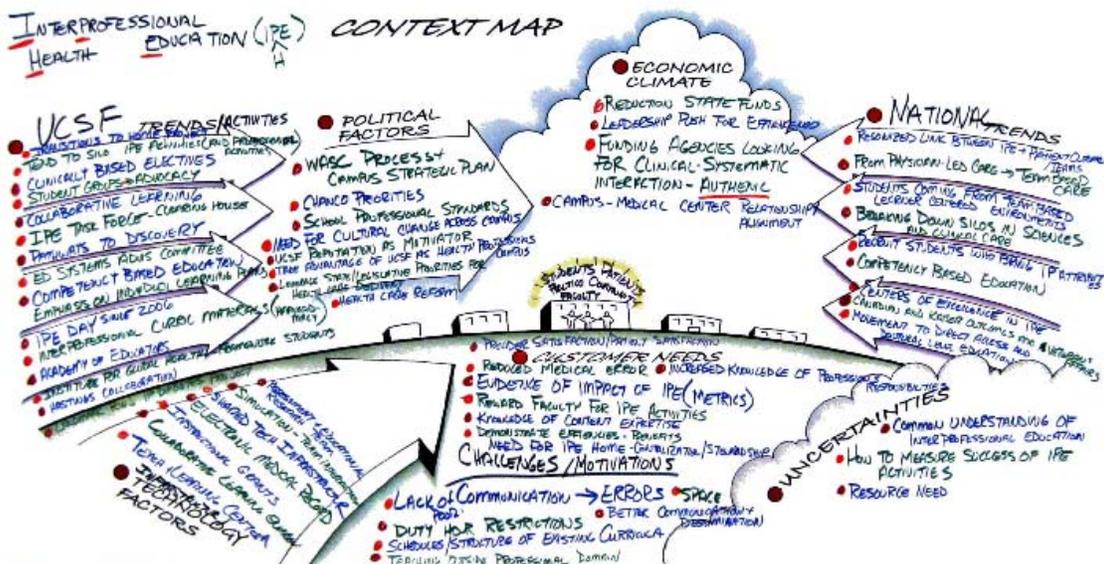
### WORKING GROUP MEMBERSHIP

Membership of the task force was as follows:

- Karen Butter, Library
- Joseph Castro, SAA
- Renee Courey, SOM, Pathways to Discovery
- Adrienne Green, Medical Center
- Susan Hyde, AS
- Jeff Kilmer, SON
- Lisa Kroon, SOP
- Helen Loeser, SOM
- Judy Martin-Holland, SON
- Dorothy Perry, SOD
- Kevin Souza, SOM
- Peter Taylor, Graduate Division
- Kimberly Topp, Physical Therapy

# APPENDIX M

## CONTEXT MAP FOR IPHE REPORT



### Customer Needs:

- Provider and Patient Satisfaction
- Reduced medical error
- Increased knowledge about health professional responsibilities
- Evidence of impact of IPHE (Metrics)
- Reward faculty for participation in IPHE Activities
- Demonstrate efficiencies of IPHE
- Need for an IPHE Home and Stewardship

### Trends:

- Collaborative learning environment
- Interprofessional scholarly opportunities (Pathways to Discovery, Framework Program, etc.)
- Competency-based education & IP curricula
- Link between IPHE and patient-centered teams
- Movement from physician-led to team-based care
- Students coming to UCSF from team-based, learner-centered environments