

**Creating Community Through Multi-disciplinary, Multi-level Faculty Development in  
Medical Education**

BY

LAURA M. MAZER  
B.A., University of Chicago, 2006  
MSCR, Emory University, 2011  
MD, Emory University, 2011

THESIS

Submitted as partial fulfillment of the requirements  
for the degree of Master in Health Professions Education  
in the Graduate College of the  
University of Illinois at Chicago, 2019

Chicago, Illinois

Defense Committee:

Janet Riddle, Chair  
Rachel Yudkowsky  
Sylvia Bereknyei Merrell, Stanford University

## **ACKNOWLEDGMENTS**

In addition to my thesis committee, I would like to thank the individuals who worked tirelessly to create this program, and are still carrying on this work. These are Sarah Williams in Emergency Medicine, Pedro Tanaka in Anesthesia, and the heart and soul of CTSS, James Lau, my advisor and mentor. Additionally, I would like to thank Wendy Qiu, our research assistant who completed the phone interviews, and Brian Herman, who has taken on so much of the organizational work of the program. Finally, all of the incredible participants, mentors, and faculty who continue to contribute to and create the community of the Clinical Teaching Seminar Series.

## TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
I. INTRODUCTION.....	1
II. CONCEPTUAL FRAMEWORK.....	4
III. PROGRAM DESCRIPTION.....	6
IV. PROGRAM EVALUATION.....	9
A. Methods.....	9
B. Participants.....	10
C. Seminar evaluation.....	12
D. Honors Program evaluation.....	13
E. Qualitative evaluation.....	14
V. DISCUSSION.....	22
A. Limitations.....	24
B. Conclusion.....	25
VI. WORKS CITED.....	26
VII. APPENDIX A.....	28
VIII. APPENDIX B.....	30
IX. VITA.....	32

## LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
I. SEMINAR TOPICS AND INSTRUCTIONAL METHODS .....	7
II. PARTICIPANT INFORMATION.....	10
III. EXAMPLE PROJECTS PRESENTED AT THE END OF YAR CONFERENCE BY HONORS SCHOLARS.....	11
IV. PARTICIPANT EVALUATION OF SEMINARS.....	12
V. HONORS SCHOLAR RETRO-PRE-POST EVALUATION.....	13
VI. CODEBOOK FOR SEMI-STRUCTURED INTERVIEWS.....	16

## **SUMMARY**

The role of the physician educator is both crucially important, and uniquely challenging. Faculty development programs in medical education strive to provide such individuals with the training and support needed to fill this role. While there are many published examples of successful faculty development programs, there are very few proposed conceptual frameworks to identify the key elements necessary to such endeavors. This thesis describes a multi-disciplinary and multi-level seminar based faculty development program at a major academic medical center. Utilizing the framework of a community of practice for a program evaluation, the data suggest that one key element in the program's success is the creation and support of a thriving community of practice.

## ABSTRACT

**Purpose:** Physicians are expected to teach on the wards, but receive very little formal training in medical education. Faculty development programs are one tool to help bridge this gap. These programs may create a community of medical educators, allowing these highly trained learners to benefit from the expertise and support of the entire group. This paper provides a description and evaluation of one faculty development program, with a focus on the creation of a community of practice in medical education.

**Method:** This paper provides an evaluation of a year-long seminar based, multi-level, multi-disciplinary faculty development program at one academic medical center from 2015-2018. Participants in the Honors Program attended seminars, mentored small group sessions, and completed a longitudinal scholarly project. The results of the program are evaluated using participation data, seminar evaluations, and overall evaluations in the form of surveys and semi-structured interviews.

**Results:** Average participation increased from a mean of 39 attendees per seminar in 2015-16, to 83 in 2016-17 and 73 attendees in 2017-18. 12 participants completed the Honors Program in the first year, increasing to 35 in the 2<sup>nd</sup> and 29 in the 3<sup>rd</sup> year. Honors Scholars included faculty, students, staff, and residents. Overall ratings for individual seminars were high. The 76 scholars were invited to participate in a program evaluation survey, with a 41% (n=31) response rate. Respondents felt that they had an increased belonging to a community of medical educators, more people to ask for help, and greater confidence in their teaching abilities after the program ( $p < 0.001$ ). 15 semi-structured interviews were completed as well, and responses were coded using the elements of a community of practice, including *domain*, *community*, and *practice*.

**Conclusions:** The creation of a community of practice amongst medical educators was an impactful and meaningful component of this faculty development program.



## I. INTRODUCTION

Clinical teaching is uniquely challenging, requiring educators to navigate the potentially competing interests of students and patients in a high-stress and high-risk environment. In addition, the importance of good clinical teaching is paramount for the creation of the next generation of competent, caring physicians.<sup>1</sup> Historically, teaching medical students and residents was an expected task of all academic physicians, something so essential that it is included in the Hippocratic Oath.<sup>2</sup> The classic “triple threat” academic physician was a consummate clinician, productive researcher, and an inspiring teacher.<sup>3</sup> Yet of all these, it is as a teacher that physicians, traditionally, receive the least training, and the least recognition. While clinical care requires years of training, and research prowess leads to grants, publications, promotion, and awards, teaching students is often considered in the same breath as showing up to work. Teaching is part of the job, certainly, but traditionally, not the part of the job that distinguished one physician from another.

More recently, the value of committed medical educators is being recognized, and teaching is passing beyond a basic expectation of every physician and becoming recognized as a discipline in its own right. Physicians who commit to an academic focus on medical education are motivated to provide the best possible learning environment for students and residents. They often struggle, however, to find training in this discipline, and face the challenge of how to demonstrate their commitment to promotion committees or external funding agencies.<sup>4</sup> *Continuing medical education (CME)* requirements are universal, keeping health care professionals up to date with new medical or surgical knowledge. However, in

an academic community, the knowledge, skills, and behaviors necessary for the non-clinical elements of the “triple threat” are generally not included in CME. To thrive as a teacher, manager, or researcher, a different skill set is required. To provide these skills, *faculty development programs* are becoming increasingly common.<sup>5,6</sup> “Faculty development,” as defined by Steinert in *Faculty Development in the Health Professions*, refers to those activities pursued by health care professionals to improve knowledge, skills, and behaviors as teachers, leaders, and researchers.<sup>7</sup>

One common format for faculty development is the seminar series. Regularly scheduled seminars can fit around busy clinical schedules, adopt a wide variety of educational methods, and occur with relatively low cost and initial resources. Overall, seminar series on clinical teaching are well rated by participants, and result in increased confidence and knowledge.<sup>8-12,13</sup>

At our institution, several departments have a mandate to provide faculty development opportunities in medical education. In 2012, the department chairs of Anesthesia, Surgery, and Emergency Medicine tasked their respective departments with this requirement, which was answered by a joint monthly seminar series. Initially, the program was created to serve the mandate, without an overarching curriculum or vision. In 2015, the program was overhauled and rebranded as the Clinical Teaching Seminar Series (CTSS). This new program provided free monthly seminars on key topics in medical education, with the goal of providing educators the necessary knowledge to create scholarly curricula for learners. While the seminars were open to all comers, those people seeking a more in-depth

experience could join the Honors Program. Accepted applicants to this program attended the seminars monthly, participated in small group mentor meetings, and completed a scholarly project in medical education. The program is now in its third year, and over 70 Honors Scholars from 15 departments, including medical students, staff, residents, and faculty, have completed the program.

The seminar series, after its relaunch, had a dramatic increase in per seminar and overall attendance, with interest from all levels of the medical school and hospital community. As the program reaches its third year, we have undertaken a program evaluation of the Clinical Teaching Seminar Series, with a focus on the Honors Scholar Program. In particular, we are interested in understanding what elements may have contributed to the success of the redesigned program. While many studies have shown successful outcomes from faculty development seminars, very few have provided a conceptual framework to explain those outcomes.

We propose that one reason for the success of seminar-based faculty development programs is the creation of a community of practice. By creating a purposeful community of educators, we hypothesize that the learners have an increased sense of belonging that contributes to improved learning and increased application of knowledge. The following paper will analyze whether or not the CTSS Honors Program represents a community of practice, and how the creation of that community impacted the participants.

## II. CONCEPTUAL FRAMEWORK

“Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.”<sup>14</sup>

Anthropologists Jean Lave and Etienne Wenger while studying apprenticeship as a learning model first coined the term “community of practice.” The term arose to describe the community itself as a living curriculum for the apprentice.<sup>15</sup> They argue for a reconceptualization of learning as a social, rather than individual and psychological, phenomenon. Whether or not one believes that the *process* of learning is social, it is clear that the *setting* of learning in medicine is necessarily social. While it is possible to envision a mathematician calculating sums in isolation, or a linguist developing theories based on books and logic alone, a physician must practice in a community. As William Osler famously said, “To study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.”<sup>16</sup>

For medical educators, the conceptual framework of communities of practice is especially valuable. To take the example of the mathematician once more, while he may practice in a community, he has also the option of practicing alone. His *domain* does not require fellow practitioners, and his *practice* does not require a community. The physician, however, and absolutely the medical educator, exists fundamentally, essentially, in the tri-fold community of patients, families, and other medical professionals. Two physicians who meet at a party, upon realizing they share a specialty, immediately begin to tell war stories. A

daring save in the trauma bay, a rare diagnosis, or a challenging patient. Without a classroom, a textbook, or a white board, the two become an instant community, sharing stories of their domain of interest to take back with them to inform their practice.

The community of practice, in contradistinction to other theories of learning, relies on a leveling of hierarchy. Traditional theories implicitly emphasize the perspective of the transmitter of knowledge, the teacher or master who communicates information to more or less passive learners. Faculty development for health professionals resides in a world where both students and teachers have considerable real-world experience to share. The community of practice model defines learning as a socially situated activity, allowing for a diffusion of information amongst community members.<sup>15</sup> It is a theory that seems uniquely well suited to faculty development programs, and offers a valuable lens through which to analyze the results of such programs.

With this in mind, the following program evaluation will attempt to determine if the Honors Scholars of the Clinical Teaching Seminar Series (CTSS) at Stanford University represent a community of practice. Moreover, the program evaluation will ask if the creation of a community is in fact part of the reason for the program's success.

### III. PROGRAM DESCRIPTION

The Clinical Teaching Seminar Series (CTSS) was initially created to fulfill mandates in the departments of Surgery, Anesthesia, and Emergency Medicine for faculty development programs in medical education. Unlike prior iterations that were focused on one level of learner (residents) in a small number of related departments, the new CTSS program was designed to be maximally inclusive. CTSS was open to all levels, including medical students, residents, faculty, and staff, from all departments and divisions within the institution. The Seminar Series itself consists of monthly 90-minute seminars on key topics in medical education, over the course of nine months. No seminar is held in the first month of the academic year or in December, due to poor attendance, and the seminar is replaced by an end-of-year conference in the last month of the academic year. The seminars are designed to be inclusive and accessible: they are open to anyone, held at a location and time convenient to most members of the medical school and hospital community, and include a free dinner.

The speakers represent a diverse range of clinical departments, as well as some non-clinician experts. Speakers were chosen by consensus of the organizers. The criteria for nominating and selecting a speaker included an academic record of publication on the seminar topic, and a history of teaching awards or other recognition of teaching quality. Emphasis was also placed on diversity of instructional method and clinical specialty. Speakers utilize varied and interactive instructional methods, in accordance with prior published best practices for faculty development.<sup>5,17-20</sup> The topics for each seminar were

based around Kern's Six Step Model for curriculum development, and the seminar series topics are displayed in Table 1.<sup>21</sup>

**TABLE I**  
SEMINAR TOPICS AND INSTRUCTIONAL METHODS

<b>Topic</b>	<b>Speaker's clinical department</b>	<b>Instructional Methods</b>
Needs assessment	General Surgery	Breakout group activity
Goals and Objectives	General Surgery	Audience response system Small group activities
Feedback Strategies	Psychiatry	Think, pair, share
Curriculum Development	Pediatrics	Small group worksheets
Debrief Strategies	Emergency Medicine	Role play
Program Evaluation	Graduate Medical Education	Worksheets Small group activity
Simulation for nontechnical skills	Anesthesia	Simulation with SimMan Audience response system
Large group didactics	Endocrinology	Powerpoint lecture
Bedside teaching	Internal medicine	Video scenarios

While the Seminar Series focused on inclusivity and introducing as many people as possible to the core concepts of medical education, there was also a need for a more intensive program for those attendees with a dedicated interest in medical education. To address this need, we created an Honors Program to incentivize motivated participants. The CTSS Honors Program was a by-application group of participants within the broader seminar series. The application included a personal statement, proposed scholarly project, and letter of support from a program director or department chair. All completed applications were accepted.

After acceptance, participants are required to attend each of the year's seminars, with the potential for one make-up seminar, and to attend small group mentor sessions held after the monthly seminars. The mentorship groups were assigned at the beginning of the year, and were multi-disciplinary and multi-level. A medical education expert mentor led each group, and performed a monthly check-in with each scholar regarding the progress on their project. The group then provided feedback and support to one another, applying the tools learned in the seminar to their own scholarly projects. Finally, the scholars were required to complete a curricular or research project and present at the end-of-year conference. In return, they are given an Honors Certificate endorsed by the Stanford Teaching and Mentoring Academy. This certificate can be listed on a curriculum vitae or educator's portfolio and used for promotions committees and grant applications.

## IV. PROGRAM EVALUATION

### **Methods**

This outcomes-oriented program evaluation is a mixed-method observational cohort study from 2015-2018. Data was collected both prospectively and retrospectively. Participant characteristics and evaluation of individual seminars were collected throughout the three years. These were compared between years with descriptive statistics. Outcomes included participation, participant evaluation, and a retro-pre-post comparison of participant confidence and knowledge. Honors program participants were also invited to complete a semi-structured interview reflecting qualitatively on the impact of the program. A preliminary coding schema was created using the definition of a community of practice as described by Wenger-Trayner.<sup>14</sup> This was refined through an interactive inductive coding process. Two coders (LM, SBM) independently reviewed the transcripts to identify the themes and sub themes. Discrepancies were resolved by discussion for a final inter rater reliability of 100%. After submission, the IRB determined that this study was not human subjects research.

## Participants

CTSS was created in 2015, which was also the first year in which applications were accepted for the Honors Program. In the first year, the seminars had an average attendance of 39 people, increasing to a mean of 67 in 2016-17 and 73 in 2017-18. In 2015, there were 12 Honors Scholars. This increased to 35 scholars in the 2016-17 year, and 29 scholars in 2017-18. The majority of scholars were residents for the first two years, with an increase in the percentage of faculty and medical student scholars by year 3. The participant details are described in Table 2.

**TABLE 2**  
PARTICIPANT INFORMATION

Year	Deptmts * (n)	Honors Scholars	Attendance per seminar (mean±SD)	Level of Honors Scholars			
				Faculty	Medical Student	Staff	Resident/ fellow
2015-16	27	12	39±12	4 (33%)	0	1 (8%)	7 (58%)
2016-17	34	35	67±21	12 (34%)	1 (3%)	2 (6%)	20 (57%)
2017-18	34	29	73±17	17 (59%)	3 (10%)	1 (3%)	8 (28%)

\*Departments of participants who attend at least one seminar

All scholars were required to complete an Honors Project, a longitudinal project that applied the information being learned in the seminars. The majority of projects were curriculum development, and to be eligible for the program the curriculum needed to be developed, implemented, and evaluated. Other projects included local or national needs assessments or educational research studies. Some example projects are listed in Table 3.

**TABLE 3**  
**EXAMPLE PROJECTS PRESENTED AT THE END OF YAR CONFERENCE BY HONORS**  
**SCHOLARS**

<b><i>Types of projects</i></b>	<b><i>Sample projects</i></b>
Simulation based training	<ul style="list-style-type: none"> <li>- Interdisciplinary simulation based curriculum to improve exam and management skills of emergency department residents dealing with primary eye complaints</li> <li>- Simulation-based ultrasound-guided regional anesthesia training for clinical practice change</li> <li>- Teaching palatoplasty using a novel cleft palate simulator</li> </ul>
Medical student curricula	<ul style="list-style-type: none"> <li>- Enhancing medical students' cultural competency through engagement in service-based learning</li> <li>- Notes from clinic: Medical student perceptions of communication challenges in the outpatient setting</li> </ul>
Resident curricula	<ul style="list-style-type: none"> <li>- A resident training program to improve communication between physicians and nurses at the Palo Alto VA</li> <li>- Focus on food: a blended-classroom clinical nutrition curriculum</li> </ul>
Faculty curricula (CME)	<ul style="list-style-type: none"> <li>- Scalable, translatable educational model for an EMT trauma curriculum in India</li> <li>- PCP education in nephrology: Improving chronic kidney disease care on the front lines</li> </ul>
Educational research	<ul style="list-style-type: none"> <li>- A multi-institutional analysis of general surgery resident peer-reviewed publication trends</li> <li>- Reconsidering empathy decline during medical school: results from an OSCE of medical students' patient-centered communication skills</li> </ul>
Needs assessment/Program evaluation	<ul style="list-style-type: none"> <li>- Identifying the gaps for a planned curriculum update for pediatric cardiac anesthesia rotations</li> <li>- Modeling rural medical education in resource poor regions: A programmatic evaluation of the Stanford Medical Project</li> </ul>

### **Seminar evaluation**

Seminar evaluations were collected from all attendees at the end of each seminar session.

Overall, participant evaluation was high for all metrics across all three years, with no significant change over time (Table 4). In 2015-16, there were an average of 28 (SD 8.0) evaluations per seminar; this increased to 33 (SD 7.6) in 2016-17, and 44 (SD 7.5) in 2017-18.

**TABLE 4**  
PARTICIPANT EVALUATION OF SEMINARS

1=strongly disagree, 2=disagree, 3=neither agree/disagree, 4=agree, 5=strongly agree	Mean score $\pm$ SD for all seminars (range)*		
	<b>2015-16</b> (n=263)	<b>2016-17</b> (n=299)	<b>2017-18</b> (n=329)
I would recommend this seminar to my colleagues	4.5 $\pm$ 0.47 (3.5-5)	4.4 $\pm$ 0.45 (3.7-4.9)	4.6 $\pm$ 0.12 (4.3-4.9)
This seminar was well organized	4.5 $\pm$ 0.40 (3.6-4.8)	4.3 $\pm$ 0.45 (3.6-4.8)	4.7 $\pm$ 0.13 (4.4-4.9)
Overall presentation quality (1=very low, 5 = very high)	4.5 $\pm$ 0.40 (3.7-5)	4.3 $\pm$ 0.54 (3.6-4.9)	4.6 $\pm$ 0.09 (4.4-4.9)
Level of participant involvement (1=very low, 5 = very high)	4.4 $\pm$ 0.65 (4.2-4.9)	4.2 $\pm$ 0.54 (3.4-4.8)	4.5 $\pm$ 0.18 (3.9-4.9)
Objectives were met	4.6 $\pm$ 0.41 (3.8-4.9)	4.3 $\pm$ 0.38 (3.8-4.7)	4.6 $\pm$ 0.21 (4.4-4.9)
I will apply the information presented to my work	4.4 $\pm$ 0.37 (3.6-4.8)	4.3 $\pm$ 0.40 (3.8-4.9)	4.5 $\pm$ 0.11 (4.3-4.8)
The seminar increased my competence in this area	4.4 $\pm$ 0.33 (3.8-4.8)	4.1 $\pm$ 0.45 (3.6-4.9)	4.4 $\pm$ 0.22 (3.9-4.6)
I learned new information in this seminar	4.3 $\pm$ 0.43 (3.8-4.8)	4.3 $\pm$ 0.39 (3.6-4.7)	4.4 $\pm$ 0.27 (4.1-4.7)

The mean refers to mean score for all seminars in that year; the range is the maximum and minimum score recorded across all seminars in that year.

### **Honors Program evaluation**

The Honors Scholars were invited to complete an evaluation of their experience (Appendix A). They were invited to complete a retrospective pre-post survey, reflecting on both their pre-CTSS level of confidence and knowledge and their post-CTSS levels.<sup>22</sup> Everyone who earned an Honors Certificate in the first three years of the program (n=76) was invited to participate, via email. A second email was sent as a reminder a week later. Participation was voluntary and there were no incentives to participate. A total of 31 of 76 scholars completed the survey, for a response rate of 41%. The majority of respondents were faculty (45%) or resident/fellow (35%) at time of certificate receipt. In all metrics, scholars perceived a significant increase from before CTSS. This included a sense of community, confidence, skills, and recognition of expertise (Table 5). All surveyed metrics had a statistically significant increase (p <0.001).

**TABLE 5**  
HONORS SCHOLAR RETRO-PRE-POST EVALUATION

	<b>Before CTSS</b> Mean± SD	<b>After CTSS</b> Mean± SD	<b>P-value*</b>
I belong to a community of medical educators	3.03±1.3	4.35±0.8	<0.001
I have someone to ask for help in creating a curriculum	2.81±1.3	4.45±0.6	<0.001
I am confident in my ability to create a curriculum to teach something I know	2.90±1.2	4.19±0.9	<0.001
I have people with whom I can discuss medical education	3.16±1.3	4.42±0.8	<0.001
I am considered a medical education expert in my department	1.94±1.0	3.26±1.2	<0.001

5= completely agree, 1 = completely disagree

\*two-sided Students t-test

The survey also asked Scholars to reflect on their Honors Project. 17 respondents created and taught a curricular project; of these, 20% (6) were taught once, and 10% (3) have been taught more than 5 times. All participants presented their honors project at the end of year conference, and 28% (11) also presented at grand rounds, departmental meetings, or national conferences. One respondent had a published paper as a result of the Honors project, an additional four scholars had submitted a manuscript, and 12 were working on a manuscript. 100% of respondents list the Honors Certificate on their curriculum vitae.

Finally, the survey asked Scholars about the development of new connections or partnerships as a result of participation in the program. 30% of Scholars who responded to the survey (n=9) had collaborated on educational or research projects with someone they met during the seminars. 61% of respondents (n=19) were still in contact with someone outside their own department whom they met through the seminars. All respondents felt that participation in the Honors Program had impacted their career in a positive way.

### **Qualitative evaluation**

Scholars were also invited to complete a semi-structured interview to discuss motivations for joining the Honors Program, experiences within the Program, and any lasting impact on their careers and work. Scholars were invited to interview in two formats; first, with an email sent to the same list serv as the survey, and second, with a request at the end of the survey. 12 of the 31 survey respondents volunteered to participate in an interview; 5 unique responses were obtained from the email request. A total of 15 interviews were completed; two additional interview volunteers were not able to schedule an interview.

The interview guide was initially developed (LM) and then reviewed with active and former Honors Scholars and with other members of the research team (CL, SBM) (Appendix B). Interviews were conducted by a research assistant with experience and training in semi-structured interviews who had no role in the Honors Program and had no prior interaction with any of the participants.

The interview transcripts were reviewed using a rapid thematic analysis, with a codebook that was developed a priori based on the theoretical elements of a community of practice as defined by Wenger-Trayner<sup>14</sup> (Table 6). The interview transcripts were coded for themes and sub-themes, which were developed after a review of the elements of a community of practice as described.<sup>14</sup> The definitions were reviewed by both coders prior to a transcript review (SBM, LM). Both coders then independently read the transcripts and applied the codes. After discussion of all disagreements, reviewers reached 100% consensus.

Interviews continued until thematic saturation was reached.

**TABLE 6**  
CODEBOOK FOR SEMI-STRUCTURED INTERVIEWS

	<b>Example quote</b>
<b>Theme: Domain</b>	
<i>A shared competence that distinguishes members from other people</i>	
<b>Sub-theme:</b> Shared domain of interest	<p>“It’s sort of a rarity in medicine in general to have sort of an academic community...and focus around education and educational scholarship. So that by itself was really great.”</p> <p>“I feel like it was very equalizing between faculty and trainees and staff like myself because we’re all there to learn the same thing. And kind of made me realize some similarities and things we want to learn about as an overall educational community.”</p> <p>“It makes people know that I’m interested in medical education and that’s one thing we have in common.”</p>
<b>Sub-theme:</b> Valuing the competence of the group	“It provided for me a set of mentors and people I admire and respect that take this kind of work really seriously and do meaningful educational work.”
<b>Theme: Community</b>	
<i>Evidence that members build relationships with one another, care about each other, and learn from one another</i>	
<b>Sub-theme:</b> Engaging in joint activities	<p>“You definitely feel like you’re part of the community. There’s email chains and there’s the monthly events that you would have dinner, where you’d talk.”</p> <p>“An unintended benefit was gathering a network of medical educators that can collaborate even outside of the CTSS meeting.”</p>
<b>Sub-theme:</b> Helping one another, or offers of future help	“I know I can always reach out to [other honors scholars] if I have questions, and I will definitely want to work with them more in the future.”
<b>Sub-theme:</b> Building relationships	<p>“There are still connections I’ve made and people that I still reach out to to ask questions and people who I’ve always offered to look at projects and things”</p> <p>“If I have a collaborative project in the future, I know who to talk to.”</p>
<b>Theme: Practice</b>	
<i>The members of the community practice, utilizing knowledge gained from their interactions to change their actions when working in the domain of interest</i>	
<b>Sub-theme:</b> Applying information gained from other	“What had always stuck better for me was when we kind of applied what we just talked about in our small groups

members to one's own practice	in relation to our own projects”  “The end-of-year seminar was fantastic just because then people kind of give you feedback specific to your project.”
<b>Sub-theme:</b> Asking for advice from members of the community	“There was a project that I worked on and got some great feedback and advice from my small group. So they were really helpful.”

In addition to understanding whether or not the Honors Program created a community of practice as defined by the conceptual framework, we also wanted to determine if that community was in part responsible for the success of the program. We found consistent themes indicating that the sense of community created by the program was a new and valued thing for participants. They identified specific aspects of the community that they valued, including the multi-level and multi-disciplinary nature, and finally, a majority of respondents noted that the existence of a community created, strengthened, or reaffirmed their commitment to medical education.

#### *Medical educators felt isolated at Stanford*

A frequent theme in many of the interviews was the lack of a community of medical educators prior to participation in the Honors Program. Many participants felt alone in their domain of interest, without potential collaborators or mentors:

*There was no one that seemed to really care about education before CTSS.*

Other participants noted that a community of educators existed on a national level, through associations for specialty education or program directors, but that they felt isolated on the local level:

*I do feel like I have on a national level a community of colleagues in medical education. But on a more local level I didn't, so CTSS definitely filled that gap.*

One participant noted that prior to participation, he knew the community existed but did not feel like he had a place in it:

*I knew that this community [of medical educators] existed, but I didn't necessarily feel like it was my community, and that was something that I could- those were people that I could reach out to.*

All of these interviewees noted that after participation, their sense of community dramatically changed. There was now a diverse community, united by their interest and dedication to medical education, and participants in the Honors Program had access to this group:

*Before CTSS, for advice about teaching or learning, [x] and [x]...those would be probably the first two people I would go to...but their interest really wasn't in teaching. They're more into the clinical care side of things. So they really weren't into teaching.*

Interviewer: And then after CTSS?

*Oh, my gosh. There's a zillion people. There's people who are residency program directors... So, that's a lot of the program directors, the residents... I mean, it's a ton of people.*

*Seeing the education stars from other specialties! It really gives me a sense of cohort.*

*The community is multi-disciplinary and multi-level*

When reflecting on what made the community created by the program so impactful, the first response was often a reflection on the diversity of participants. In particular, respondents appreciated the inclusion of multiple levels of learners, and multiple specialties:

*There were folks from all different specialties, and also folks from different levels of training, so we had a lot of medical students... we had a lot of very seasoned attendings, and everything in between. So I think just seeing that all in one room, it was really awesome.*

*I just felt the breadth of this community from the program, and also the fact that there are people at so many different levels. You know, there's administrative staff and residents and attendings and medical students all in one place.*

*It was really interesting and nice to be a learner alongside residents and faculty, especially kind of because it was new material for a lot of people being on the same- being on even ground with the faculty, which is a nice way to work with people that otherwise have always been your superiors.*

*Interdisciplinary learning- got me out of the bubble of my own division.*

*Belonging to a community created a renewed commitment to medical education*

Finally, at the end, participants reflected on why participation in a community was so impactful. For some, it was the ability to easily access expert advice in the field:

*CTSS really allowed me to know where to look if I were to need someone. So now I have a couple point people. I can say, "Okay, if I want to do a project on this, I know that there are experts within the department and from other departments that are experts at that," and I can know very easily where to go to. Whereas before I think I would have had a harder time finding people.*

For others, it was developing connections that could continue throughout their career:

*I think for me what ended up being the biggest takeaway, other than my initial goal of learning about how to incorporate it, one of the biggest takeaways was networking with other people in medical education and especially as a medical student it made some of my future rotations more fun, because I worked with a bunch of attendings and residents.*

This sense that the connections made, partnerships created, and community discovered was the essential part of participating in the Honors Program was expressed by several of the interviewees:

*It was completely full. It was [room name] and it was completely full, and it was full of people who care about teaching, who want to make education better... and so that gave me a lot of hope and a lot of encouragement in my career, and it reinforced the fact that this is what I want to do*

*I also got to talk with other medical educators, which I feel like was really probably the most valuable thing. Because everything else you can look up in a book or something like that, or you can read about it or can attend a seminar.*

## VI. DISCUSSION

Since its renewal, the Clinical Teaching Seminar Series has seen an enormous increase in interest. Prior to the relaunch, the seminars were attended by an average of 10 participants. After the relaunch, that average increased to 41 people per seminar. One of the key elements of CTSS is the Honors Program, and in its first three years, 76 people completed this program. Overall, the Honors Program was well received by participants. The scholars represent students, residents, staff, and faculty, and their honors projects were taught at least once, and sometimes more than five times, impacting hundreds of learners throughout the institution and beyond.

The CTSS Honors Program has become a community for its participants. That community can be viewed through a number of different lenses. O'Sullivan and Irby described the "teaching commons" often created in a medical education faculty development program as "a new intellectual and social community of like-minded individuals who share a passion for teaching."<sup>23</sup> Many of the quotes from the Honors Scholars emphasize this focus on like-minded colleagues:

*I knew that this community...existed, but I didn't necessarily feel like it was my community.*

*It was completely full...and it was full of people who care about teaching, who want to make education better.*

This emphasis on a community of like-minded individuals is also a defining element for a community of practice, as described by Wegner-Treyner.<sup>14,24</sup> In this lens for viewing a community, participants build relationships with one another (the theme of 'community') and value a shared competence that separates members from other people (the theme of

'domain'). Throughout the surveys and interviews, participants emphasized the feeling of being a part of a group that was defined by the domain of medical education:

*It makes people know that I'm interested in medical education, and that's one thing we have in common.*

The participants in the Honors Program created, through their shared domain of interest and participation in the program elements including seminars, small groups, and the conference, a faculty development community. That community, based on the responses of its participants, has value. Does that community go beyond the confines of the faculty development program, to stretch into the "real world" of clinical medicine where the participants actually teach and learn?

Wegner-Trayner defines a community of practice at its most essential as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly."<sup>14</sup> A faculty development community takes place in an intentional and deliberate environment. The community of practice takes the group beyond the classroom, emphasizing that the cohort "interact regularly." This is the third essential element of the definition: the community needs to create a shared practice. Beyond the formally dedicated classroom time, the group relies on one another to continue improving the practice of- in this case- medical education.

This question is worth considering: first, because the faculty development program is intentionally different from the day to day of clinical medicine. The hospital and medical school are places that exist within rigorous hierarchy and silos. The CTSS Honors Program was intentionally multi-disciplinary and multi-level. The honors scholars included medical students, residents, and attending physicians, and they represented more than 30 clinical

departments. It is rare in clinical medicine to find students and attendings, surgeons and radiologists, sitting side-by-side in the same community, and the scholars repeatedly mentioned this unique aspect of the program:

*There were folks from all different specialties, and also folks from different levels of training, so we had a lot of medical students... I think just seeing that all in one room, it was awesome.*

*It was really interesting and nice to be a learner alongside residents and faculty...a nice way to work with people that otherwise have always been your superiors.*

What survival power does this unique community of mixed levels and mixed disciplines have in the everyday world of clinical medicine? There is evidence from the Scholars that such ongoing practice is occurring. In the survey, the majority of respondents indicated that they were still, after completion of the program, in contact with someone they met through CTSS. Many of them were working on research or educational projects with these new connections, and most of these connections were cross-departmental.

### **Limitations**

This evaluation has several limitations worth noting. First, the response rate on the survey was 41%. This is impacted in part by the transient nature of a medical community. Many of the residents in the first class of honors scholars had left Stanford before the evaluation was completed, and it was not possible to find active email addresses for that cohort. It is possible that this low response rate introduces unknown bias into the conclusions.

Additionally, the term “community” was not defined for participants in the survey or in the interview. While many participants used this term, they may be referring to different

concepts than the “community of practice” referenced here. This is a possible limitation but also a strength, as the examples that were generated by participants came organically, and not as a request to fill a specific defined concept. Finally, this is a mostly retrospective and reflective evaluation. Further evaluation of the program will include more in-depth analysis of the program’s impact on the broader community, including the Honors Scholars’ students and patients.

### **Conclusion**

The creation of a community of educators was an impactful and meaningful component of this faculty development program. Numerous comments indicated that the community, in addition to, or more than, the formal education, was key to the program’s value in the eyes of the participants. The community created by the CTSS Honors Program was one of learning, and as the relationships created become deeper, and the curricula are taught again and again, the community will continue to expand throughout the institution.

## WORKS CITED

1. Skeff KM, Stratos GA, Mygdal W, et al. Faculty development. A resource for clinical teachers. *J Gen Intern Med* 1997;12 Suppl 2:S56-63.
2. Markel H. "I swear by Apollo"--on taking the Hippocratic oath. *N Engl J Med* 2004;350:2026-9.
3. Alpert JS, Coles R. Careers in academic medicine. Triple threat or double fake. *Arch Intern Med* 1988;148:1906-7.
4. Levinson W, Rubenstein A. Integrating clinician-educators into Academic Medical Centers: challenges and potential solutions. *Acad Med* 2000;75:906-12.
5. Steinert Y, Mann K, Centeno A, et al. A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education: BEME Guide No. 8. *Med Teach* 2006;28:497-526.
6. Leslie K, Baker L, Egan-Lee E, Esdaile M, Reeves S. Advancing faculty development in medical education: a systematic review. *Acad Med* 2013;88:1038-45.
7. Steinert Y. Chapter 1: Faculty development: Core concepts and principles. In: Steinert Y, ed. *Faculty Development in the Health Professions: A focus on research and practice*. New York NY: Springer; 2014.
8. Bland CJ, Froberg DG. A systematic approach to faculty development for family practice faculty. *J Fam Pract* 1982;14:537-43.
9. DeWitt TG, Goldberg RL, Roberts KB. Developing community faculty. Principles, practice, and evaluation. *Am J Dis Child* 1993;147:49-53.
10. Hewson MG. A theory-based faculty development program for clinician-educators. *Acad Med* 2000;75:498-501.
11. Hewson MG, Copeland HL, Fishleder AJ. What's the use of faculty development? Program evaluation using retrospective self-assessments and independent performance ratings. *Teach Learn Med* 2001;13:153-60.
12. Skeff KM, Stratos GA, Berman J, Bergen MR. Improving clinical teaching. Evaluation of a national dissemination program. *Arch Intern Med* 1992;152:1156-61.
13. Steinert Y, Mann K, Anderson B, et al. A systematic review of faculty development initiatives designed to enhance teaching effectiveness: A 10-year update: BEME Guide No. 40. *Med Teach* 2016;38:769-86.
14. Wenger-Trayner Etienne and Beverly. *Communities of Practice: A brief introduction* 2015. <https://wenger-trayner.com/wp-content/uploads/2015/04/07-Brief-introduction-to-communities-of-practice.pdf>
15. Lave J. Teaching, as learning, in practice. *Mind, Culture, and Activity* 1996;3:149-64.
16. Osler W. Books and men: Remarks at the opening of the new building of the Boston Medical Library. *Boston Medicine and Surgery* 1901;144:60-1.
17. Mann KV, Sutton E, Frank B. Twelve tips for preparing residents as teachers. *Med Teach* 2007;29:301-6.
18. Ramani S. Twelve tips to improve bedside teaching. *Med Teach* 2003;25:112-5.
19. Ramani S. Twelve tips to promote excellence in medical teaching. *Med Teach* 2006;28:19-23.

20. Steinert Y, Naismith L, Mann K. Faculty development initiatives designed to promote leadership in medical education. A BEME systematic review: BEME Guide No. 19. *Med Teach* 2012;34:483-503.
21. Kern D, Hughes M, Chen B. *Curriculum Development for Medical Education*. 3rd edition ed. Baltimore, MD: John Hopkins University Press; 2016.
22. Skeff KM, Stratos GA, Bergen MR. Evaluation of a medical faculty development program: A comparison of traditional pre/post and retrospective pre/post self-assessment ratings. *Evaluation and the Health Professions* 1992;15:350-6.
23. O'Sullivan PS, Irby DM. Reframing research on faculty development. *Acad Med* 2011;86:421-8.
24. Farnsworth V, Kleanthous I, Wenger-Trayner E. Communities of practice as a social theory of learning: a conversation with Etienne Wenger. *British Journal of Educational Studies* 2016;64.

**APPENDIX A: CTSS Honors Scholar Survey**

1. In what year did you earn your Honors Certificate?
  - a. 2015-16
  - b. 2016-17
  - c. 2017-18
2. Which of these best describes your role when you earned your certificate?
  - a. Medical student
  - b. Resident
  - c. Fellow
  - d. Faculty
  - e. Other
3. Please indicate how important the following considerations were in your decision to apply for the CTSS Honors Program (5 = very important, 1 = not important at all)
  - a. Learning about medical education
  - b. Being part of a community of educators
  - c. Formally demonstrating my interest in medical education
4. Were there any unexpected benefits to being part of CTSS?
5. Now we would like to ask you a few questions about your Honors Project. How many times has your Honors Curriculum been taught (by you or by other people)?
  - a. Once
  - b. 2 times
  - c. 3 times
  - d. 4 times
  - e. 5 or more times
  - f. Not applicable, my project was not a curriculum
6. Have you presented your Honors Project work at a conference? Check all that apply
  - a. Yes, locally at Stanford (OTHER than at the end of year CTSS conference)
  - b. Yes, at the end of year CTSS conference
  - c. I presented (or have had accepted) a poster at a regional or national conference
  - d. I presented (or have had accepted) an oral talk at a regional or national meeting
  - e. I am planning to submit an abstract based on my Honors Project to a conference in the future
7. Have you published any papers based on your Honors Project? Check all that apply
  - a. Yes, I have published (or been accepted) in a peer reviewed journal
  - b. Yes, I have published the curriculum (or been accepted) on MedEdPORTAL
  - c. I have submitted a manuscript but it has not yet been accepted
  - d. I am planning to submit a manuscript in the future
  - e. None of the above
8. Do you list your Honors Certificate on your CV? (yes/no)
9. Have you collaborated with anyone you met during the CTSS seminars on educational or research projects? (yes/no)
10. IF YES: are your collaborator(s) inside your clinical department?

## APPENDIX A: CTSS Honors Scholar Survey

- a. Yes, they are all in my same clinical department
  - b. No, I am working with someone outside my clinical department
11. Are you still in contact with anyone you met during the CTSS seminars?
12. IF YES: are the people you are still in contact with insider your clinical department?
- a. Yes, they are all in my clinical department
  - b. No, I am in contact with people who are outside my clinical department
13. Has the CTSS Honors Program impacted your work in medical education? (yes/no)  
Please share any specific examples. (short answer)
14. Do you feel that the CTSS Honors Program has impacted your career? (yes/no)
15. IF YES: In what way has the CTSS Honors Program impacted your career? (short answer)
16. What was the MOST useful portion of the CTSS Honors Program for you?
- a. Seminars
  - b. Small group mentor sessions
  - c. Community of medical educators
  - d. End of year conference
  - e. Formal certificate
  - f. Other \_\_\_\_\_
17. What was the LEAST useful portion of the CTSS Honors Program for you?
- a. Seminars
  - b. Small group mentor sessions
  - c. Community of medical educators
  - d. End of year conference
  - e. Formal certificate
  - f. Other \_\_\_\_\_
18. Think back on your clinical teaching practices BEFORE and AFTER completing the CTSS Honors Program. Please rate your agreement with these statements BEFORE joining CTSS (5= completely agree, 1 = completely disagree)
- a. I belong to a community of medical educators
  - b. If I need help creating a curriculum, I know who to call
  - c. I am confident in my ability to create a curriculum to teach something I know
  - d. I have people with whom I can discuss medical education
  - e. I am considered a medical education expert in my department
19. Now rate your agreement AFTER completing CTSS (5= completely agree, 1= completely disagree)
- a. I belong to a community of medical educators
  - b. If I need help creating a curriculum, I know who to call
  - c. I am confident in my ability to create a curriculum to teach something I know
  - d. I have people with whom I can discuss medical education
  - e. I am considered a medical education expert in my department
20. Please share any additional thoughts you might have on CTSS or the Honors Program.

## APPENDIX B: Semi-Structured Interview Guide

Why did you decide to join the CTSS Honors Program?

- Do you feel like you achieved your initial goals?
- Is there anything the program could have done better?

Can you tell me about your honors project?

- What's happening with your project now?
- Have you submitted any abstracts or papers based on your work in CTSS?

Overall, how was the Honors Scholar experience for you?

- Has it impacted your career in any way?
- Has it changed how you teach?
- What elements of CTSS were most useful for you? (Can prompt: the seminars, the small group mentor sessions, the end-of-year conference)
- Were there any portions of the program that did not work for you? What would you change?

Did you feel like you were part of a community in CTSS?

- Before you participated in CTSS, did you feel like you had a community of medical educators?
- Have you made any lasting connections or friendships through CTSS? (in/out of your department)
- Have you continued to work with anyone you met through CTSS? (in/out of your department)
- Has anyone in CTSS introduced you to collaborators that you have worked with on medical education?
- Do you feel like you're part of a community of medical educators now, after CTSS?

Before CTSS, who would you ask for advice about teaching or learning? For educational projects?

After CTSS, who would you ask?

Is there anything else you want to say about CTSS?

Laura Mazer, MD MS  
 Clinical Assistant Professor  
**University of Michigan**  
 2926 Taubman Center, SPC 5332  
 Ann Arbor, Michigan 48109  
 Phone: (617) 721-8043  
 lmazer@med.umich.edu

## EDUCATION AND TRAINING

### Education:

9/2002 – 7/2006 **University of Chicago**, A.B., Major: Biology, *Dean's List*  
 8/2006 – 6/2011 **Emory University School of Medicine**, M.D.  
 8/2009 – 7/2011 **Emory University**, M.S., Clinical Research, *NIH TL1 Training Grant*  
 7/2016 – 12/2018 **University of Illinois Chicago**, Master's in Health Professions  
 Education

### Postdoctoral Training:

7/2011 – 7/2014 **Beth Israel Deaconess Medical Center**, Resident, General Surgery  
 7/2014 – 7/2016 **Stanford University**, ACS Accredited Surgical Education Fellowship  
 7/2016 – 7/2018 **Stanford University**, Resident, General Surgery  
 7/2018 – 7/2019 **Cedars Sinai Medical Center**, Fellowship, Minimally Invasive Surgery

## CERTIFICATION AND LICENSURE

### Certification:

March 2019 American Board of Surgery Certificate #064466

### Licensure:

July 2014 – July 2020 California Medical License #A131689  
 July 2014 – Jan 2020 Drug Enforcement Agency #FM 4692530

## CLINICAL INTEREST

- Minimally invasive foregut surgery, benign and malignant, including esophageal motility disorders
- Repair of abdominal wall hernias, open, laparoscopic, and robotic techniques
- Laparoscopic bariatric surgery

## RESEARCH INTEREST

- Surgical education, focusing on curriculum development and learner assessment
- Trainee and surgeon well-being and surgical culture
- Demonstration of patient care outcomes as a result of educational and cultural interventions

## GRANTS

## Previous Grants:

- 2009 NIH-Supported ACTSI TL1 Medical Scientist Training Grant  
To support a Master's in Clinical Research degree
- 2014 Innovation in Teaching and Researching and Blended Courses Grant (\$27,000)  
Office of the Vice Provost for Online Learning, Stanford School of Medicine  
Project Title: Faculty Development for Operative Assessments  
PI: James Lau
- 2015 Alpha Omega Alpha (AOA) Postgraduate Award (\$5,000)  
Project Title: A competency-based curriculum for the surgical sub-internship  
PI: Laura Mazer
- 2016 Stanford Teaching and Mentoring Academy Grant (\$10,000)  
Project Title: The Chronology of Present Illness as a tool to teach patient-physician communication and reduce diagnostic errors  
PI: Laura Mazer, Kelley Skeff
- 2016 Stanford Teaching and Mentoring Academy Grant (\$10,000)  
Project Title: Why do residents leave? A multi-institutional study investigating the impact of culture on attrition from surgical residency  
PI: Laura Mazer, James Lau

## HONORS AND AWARDS

- 2010 Society for Vascular Surgery Travel Scholarship, *Boston, MA*
- 2010 Irene K. Woodruff Medical Scholarship, *Emory University, Atlanta, GA*
- 2011 Joseph B. Whitehead Scholarship for Surgery, *Emory University, Atlanta, GA*
- 2015 American College of Surgeons Excellence in Research Award (category: Education),  
*Chicago, IL*
- 2016 Outstanding Resident Teacher Award, *Association for Surgical Education*
- 2017 General Surgery Resident Teaching Award, *Stanford University, Stanford, CA*
- 2017 American College of Surgeons Resident Award for Exemplary Teaching  
Finalist, *San Diego, CA*
- 2018 Arnold P. Gold Foundation Humanism and Excellence in Teaching, *Stanford, CA*
- 2018 General Surgery Resident Teaching Award, *Stanford University, Stanford, CA*
- 2018 American College of Surgeons Resident Award for Exemplary Teaching  
Finalist, *Boston, MA*

## MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- 2010-2019 American College of Surgeons, Resident Member
- 2016-2019 American Society for Surgical Education, Resident Member
- 2018-2019 SAGES, Resident Member

## EDITORIAL POSITIONS, BOARDS, AND PEER REVIEW SERVICE

Boards:

2019-present SAGES Education Council, Curriculum Development Group

Peer-Reviewer:

2016-present BMC Medical Education

2016-present MedEdPORTAL Publications

## TEACHING

2014-2016 Instructor, Surgery Capstone Course, Stanford Department of Surgery  
 2014-2016 Instructor, Surgery Intern Boot Camp, Stanford Department of Surgery  
 2014-2016 Instructor, SURG205: Advanced Suturing, Stanford School of Medicine  
 2014-2016 Instructor, SURG300A: General Surgery Core Clerkship, Stanford School of Medicine  
 2015-2016 Instructor, SURG338A: Advanced Surgical Clerkship, Stanford School of Medicine  
 2015-2016 Instructor, Clinical Teaching Seminar Series, Stanford School of Medicine  
 2015-2016 Instructor, Rathmann Family Medical Education Fellowship, Stanford School of Medicine  
 2017-2018 Director, Resident Journal Club, Stanford General Surgery Residency

## COMMITTEE, ORGANIZATION, AND VOLUNTEER SERVICE

2012-2014 *Founding member*, Research and Innovation in Surgical Education (RISE), Beth Israel Deaconess Medical Center  
 2014-2015 *Member*, American College of Surgeons Accredited Educational Institutes Postgraduate Course Planning Committee  
 2014-2016 *Member*, Transitions of Care Task Force, Stanford Hospital and Clinics  
 2015-2018 *Co-Director*, Honors Certificate in Medical Education Oversight Committee  
 2017-2018 *Reviewer*, Teaching and Mentoring Academy Grant Committee

## SEMINARS, VISITING PROFESSORSHIPS, AND EXTRAMURAL INVITED PRESENTATIONS

Conference Workshops:

1. Interdisciplinary simulation-based crisis resource management training for anesthesia and surgery residents.  
*Association for Surgical Education (ASE)/Society for Education in Anesthesia (SEA) Annual Meeting* Seattle, WA, Apr 2015.  
 Lau JN, Golhaber-Fiebert S, Udani A, Lin DT, Fanning R, Liebert CA, **Mazer LM**, Roman-Micek, T
2. Mastery Learning as a tool for competency-based medical education.  
*Royal College of Surgery International Conference on Residency Education* Vancouver. Oct 2015.  
**Mazer LM**, de Boer K, Ruano Cea E, Ritter M.
3. Education as scholarship: Making it count twice.  
*Association for Surgical Education Annual Meeting* Boston, MA, Apr 2016

**Mazer LM**, Bereknyei S, Lin D, Lau JN.

Extramural Invited Presentations:

- Nov 2014 “Standard setting for competency-based medical education”  
Medical Education Seminar Program, Stanford School of Medicine
- March 2015 “Faculty development for team-based learning”  
Medical Education Seminar Series, Stanford School of Medicine
- April 2015 “Standard setting in a mastery learning curriculum”  
Medical Education Seminar Series, Stanford School of Medicine
- Sept 2015 “Goals and assessments in medical education”  
Clinical Teaching Seminar Series, Stanford School of Medicine
- Nov 2016 “Simulation-based mastery curriculum for central line placement”  
8<sup>th</sup> Annual American College of Surgeons - Accreditation of Education  
Institutes (ACS-AEI) Postgraduate Course, Stanford, CA
- June 2017 “Teaching the teachers: a multi-disciplinary, multi-level medical education  
seminar series”  
Emile Holman Stanford Resident Research Day, Stanford Department of  
Surgery

## BIBLIOGRAPHY

Peer-Reviewed Publications:

1. **Mazer LM**, Yi SL, Singh RH. (2010) Docosahexaenoic acid status in females of reproductive age with maple syrup urine disease. *Journal of Inherited Metabolic Disorders*. PMID 20217236.
2. **Mazer LM**, Tapper EB, Sarmiento JM. (2011) Non-operative management of sectoral duct injury following laparoscopic cholecystectomy. *Journal of Gastrointestinal Surgery*. PMID 21347873.
3. **Mazer LM**, Losada HF, Chaudhry RM, Velazquez GA, Donohue JH, Kooby DA, Nagorney DM, Adsay NV, Sarmiento JM. (2012) Tumor characteristics and survival analysis of incidental versus suspected gallbladder carcinoma. *Journal of Gastrointestinal Surgery*. PMID 22570074
4. **Mazer LM**, Chaikof E, Goodney PP, Edward MS, Corriere MA. (2012) Single versus multi-specialty operative teams: association with mortality following endovascular abdominal aortic aneurysm repair. *American Surgeon*. PMID 22369830

5. Tapper EB, Patwardhan V, **Mazer LM**, Vaughn B, Piatkowski G, Evenson AR, Malik R. (2014) Predictors of negative intraoperative findings at emergent laparotomy in patients with cirrhosis. *Journal of Gastrointestinal Surgery*. PMID 25091839
6. **Mazer LM**, Tapper EB, Piatkowski G, Lai M. (2014) The need for antibiotic stewardship and treatment standardization in the care of cirrhotic patients with spontaneous bacterial peritonitis- a retrospective cohort study examining the effect of ceftriaxone dosing. *F1000Research*. PMID 25165535
7. **Mazer LM**, Liebert C, Bereknyei S, Lin D, Lau JN. (2015) Establishing a positive clinical learning environment in the surgery core clerkship: A video-based mistreatment curriculum. *MedEdPORTAL Publications*. MEP ID 10313
8. Liebert CA, Lin DT, **Mazer LM**, Bereknyei S, Lau JN. (2016) Effectiveness of the surgery core clerkship flipped classroom: a prospective cohort trial. *American Journal of Surgery*. PMID 26687962
9. Liebert CA, **Mazer LM**, Bereknyei S, Lin D, Lau JN. (2016) Student perceptions of a simulation-based flipped classroom for the surgery clerkship: A mixed-methods study. *Surgery*. PMID 27262534
10. **Mazer LM**, Mean M, Tapper EB. (2016) Who orders a head CT? Perceptions of the cirrhotic bleeding risk in an international, multi-specialty survey study. *Journal of Clinical Gastroenterology*. PMID 27984401
11. Shipper ES, **Mazer LM**, Merrell SB, Lin DT, Lau JN, Melcher ML. (2017) Pilot evaluation of the computer-based assessment for sampling personal characteristics test. *J Surg Res*. PMID 28688650
12. **Mazer LM**, Storage T, Bereknyei S, Chi J, Skeff K. (2017) A pilot study of the Chronology of Present Illness: Restructuring the HPI to improve physician cognition and communication. *Journal of General Internal Medicine*. PMID 27896691
13. Hu YY, **Mazer LM**, Yule SJ, Arriaga AF, Greenberg CC, Lipsitz SR, Gawande AA, Smink DS. (2017) Complementing operating room teaching with video-based coaching. *JAMA Surgery*. PMID 27973648
14. Lau JN, **Mazer LM**, Liebert CA, Bereknyei S, Lin D, Harris I. (2017) A mixed-methods analysis of a novel mistreatment program for the surgery core clerkship. *Academic Medicine*. PMID 28121657
15. **Mazer LM**, Azagury DE, Morton JM. (2017) Quality of life after bariatric surgery. *Current Obesity Reports*. PMID 28527103

16. **Mazer LM**, Hu YY, Arriaga AF, Greenberg CC, Lipsitz SR, Gawande AA, Smink DS, Yule SJ. (2018) Evaluating surgical coaching: A mixed methods approach reveals more than surveys alone. *J Surg Ed*. PMID 29655883
17. **Mazer LM**, Bereknyei S, Hasty BN, Stave C, Lau JN. (2018) Assessment of programs aimed to decrease or prevent mistreatment of medical trainees. *JAMA Open*. PMID 30646041
18. Fadaee N, **Mazer LM**, Sharma R, Capati I, Balzer B, Towfigh S. (2019) The clinical value of hernia mesh pathology evaluation. *JACS*. PMID 30772445.
19. **Mazer LM**, Poultsides GP. (2019) What is the best operation for proximal gastric and distal esophageal cancer? *Surgical Clinics of North America*. (Issue: Management of the Foregut, ed: Sushanth Reddy) PMID 31047035

#### Edited Books:

1. **Editors: Mazer LM**, Lagisetty K, Butler KL. Pocket Journal Club: Essential Articles in General Surgery. 2016. McGraw-Hill, New York NY. ISBN 978-1259587580

#### Book Chapters:

1. **Mazer LM**, Kent TS. "Biliary Obstruction" In Acute Care Surgery: Imaging Essentials for Rapid Diagnosis, 2015. McGraw-Hill, New York NY. ISBN 978-0071831208
2. **Mazer LM**. "Trauma: Penetrating." In General Surgery Examination and Board Review, 2016. McGraw-Hill, New York NY. ISBN 978-0071839938
3. **Mazer LM**, Morton JM. "The Obesity Epidemic." In The SAGES Manual of Bariatric Surgery. 2017. Springer Nature, New York, NY. ISBN 978-3319712819
4. **Mazer LM**, Morton JM. "Gastric Bypass Outcomes." In Gastric Bypass- Bariatric and Metabolic Surgery Perspectives. 2018. Springer Nature, New York, NY. ISBN 978-3-319-71282-6
5. **Mazer LM**, Morton JM. "Sleeve Gastrectomy." In Chassin's Operative Strategy in General Surgery: An expositive atlas, 5<sup>th</sup> edition. 2018. Springer Science, New York, NY. *In press*.
6. **Mazer LM**, Brill ER. "Laparoscopic cholecystectomy for acute cholecystitis." In: SAGES Manual of Acute Care Surgery. 2018. Springer Science, New York, NY. *In press*.
7. **Mazer LM**, Azagury D. "The Surgical Management of Gastroesophageal Reflux Disease." In: Cameron's Current Surgical Therapy, 13<sup>th</sup> edition. 2019. Elsevier, New York, NY. *In press*.

#### Abstracts:

1. **Mazer LM**, Losada HF, Chaudhry RM, Velasquez-Ramirez GA, Donohue JH, Kooby DA, Nagorney DM, Sarmiento JM. Tumor characteristics and survival analysis of incidental versus suspected gallbladder carcinoma. Oral presentation, Surgical Forum 2010 *American College of Surgeons*. Washington, DC, October 2010.
2. **Mazer LM**, Ziegler TR, Schechter MS. Early childhood nutrition as a predictor of adult clinical status in cystic fibrosis. Poster presentation, *North American Cystic Fibrosis Meeting*, 2011.
3. **Mazer LM**, Veeraswamy R, Kasirajan K, Brewster LP, Dodson TF, Chaikof EL, Corriere MA. The impact of multiple surgical teams on 30-day mortality after endovascular abdominal aortic aneurysm repair. Poster presentation, *Southeastern Surgical Congress*, 2011.
4. **Mazer LM**, Biniek K. Patient autonomy and the obligation to do no harm. Oral presentation, *Western Michigan University Medical Humanities Conference*, 2012.
5. **Mazer LM**, Tapper EB, Piatkowski G, Lai M. Dosing of ceftriaxone for spontaneous bacterial peritonitis. Poster presentation, *American Association for Study of Liver Diseases Conference*, 2012.
6. **Mazer LM**, Vollmer CM, Callery MP, Kent TS. Predictors of initiation and completion of adjuvant therapy after surgical resection for pancreatic adenocarcinoma. Oral Presentation, *American Hepato-Pancreato-Biliary Association Meeting*, 2012.
7. Kissane NA, Fiedler AG, **Mazer LM**, Pozner CN, Smink DS, Yule S. Coaching surgical residents on leadership in simulated operating room: Randomized controlled trial. Oral presentation, *American College of Surgeons*, 2013.
8. Liebert CA, **Mazer LM**, Lin D, Lau JN. Student perceptions of a simulation-based surgery clerkship flipped classroom. Oral presentation at the *8<sup>th</sup> Annual ACS AEI Consortium Meeting*, Chicago, IL, March 14, 2015.
9. Liebert CA, Lin D, **Mazer LM**, Lau JN. The surgery core clerkship flipped classroom: A prospective cohort trial. Oral presentation at *Association for Surgical Education – Surgical Education Week*, Seattle, WA, April, 2015.
10. Rosas U, **Mazer LM**, Lin DT, Lau JN. A four-day capstone can reduce anxiety and improve confidence in senior medical students entering procedural-based specialties. Oral presentation at *Association for Surgical Education – Surgical Education Week*, Seattle, WA, April, 2015.
11. **Mazer LM**, Liebert CA, Lin D, Lau JN. A qualitative analysis of a novel curriculum on mistreatment for the surgery core clerkship. Oral presentation at *Association for Surgical Education – Surgical Education Week*, Seattle, WA, April, 2015.

12. **Mazer LM.** Application of Montessori principles to surgical training. Invited speaker at *10<sup>th</sup> Annual International Montessori Conference*, Qingdao, China, July 2015.
13. **Mazer LM.** Personal tragedy and systems-based solutions: the history of ATLS. Poster presentation at *American College of Surgeons*, Chicago, IL, October 2015.
14. Hu, YY, **Mazer LM**, Yule S, Smink D, Gawande, A. Post game analysis: Postoperative video-based coaching for residents. Oral presentation at *American College of Surgeons*, Chicago, IL, October 2015. **Winner, Excellence in Research Award (category: Education)**
15. **Mazer LM**, Liebert C, Lin D, Lau J. Simulated handoff curriculum for medical student capstone program. Poster presentation at *International Meeting on Simulation in Healthcare*, San Diego, CA, January 2016.
16. Shipper ES, **Mazer LM**, Berekynei S, Lau JN. "Applicants are evaluated on multiple criteria:" the current state of information on California Graduate Medical Education program websites. Poster presentation at *Macy Regional Conference on Innovations in GME*, San Francisco, CA, March 2016.
17. Steinberg DH, **Mazer LM**, Lau JN, Berekynei S, Tanaka P, Williams S. Clinical teaching and mentoring in graduate medical education: A multidisciplinary, multi-level medical education program. Poster presentation at *Macy Regional Conference on Innovations in GME*, San Francisco, CA, March 2016.
18. **Mazer LM**, Lin D, Nguyen LHP, Issa N, Brandt-Vegas D, Lau J. Faculty perceptions of barriers to completing surgical resident assessments: A multi-institutional qualitative needs assessment. Poster presentation at *American College of Surgeons – Accredited Educational Institutes (ACS-AEI) Consortium Meeting*, Chicago, IL, March 2016.
19. **Mazer LM**, Lin D, Berekynei S, de Ruijter V, Lau J. Assessment of creativity in surgeons. Poster presentation at *Association for Surgical Education – Surgical Education Week*, Boston MA, April 2016.
20. **Mazer LM**, Hu YY, Arriaga AF, Greenberg CC, Lipsitz SR, Gawande AA, Smink DS, Yule S. Perception vs. reality: A case for observational analysis of educational interventions to complement self-assessment. Oral presentation at *Association for Surgical Education – Surgical Education Week*, Boston, MA, April 2016.
21. Fadaee N, Sharma R, **Mazer LM**, Balzer B, Towfigh S. Mesh pathology dose not predict mesh-related symptoms. Oral presentation at *American College of Surgeons – Southern California Chapter*, Santa Barbara, June 2019. **(winner, Top Paper)**

22. **Mazer LM**, Trickey A, Browder T. Emergent general surgery consults in the cardiovascular intensive care unit. Oral presentation at *Pacific Coast Surgical Association*, Tucson, AZ, February 2019.
23. Sharma R, Fadaee N, **Mazer LM**, Towfigh S. Patients with systemic reaction to their mesh: Real people with real problems. Poster presentation at *Americas Hernia Society*, Las Vegas, NV, March 2019.
24. **Mazer LM**, Worth P, Visser B. Minimally invasive options for gastrointestinal stromal tumors of the stomach. Poster presentation at *SAGES*, Baltimore, MD, April 2019.
25. **Mazer LM**, Choi M, Lee W, Jamil L, Burch M. De novo gastroesophageal junction cancer after laparoscopic sleeve gastrectomy. Poster presentation at *Digestive Disease Week*, San Diego, CA, May 2019.
26. **Mazer LM**, Cunneen S, Shouhed D, Rezaie A, Phillips E, Burch M. Managing reflux after bariatric surgery: Conversion of sleeve gastrectomy to gastric bypass. Oral presentation at *Digestive Disease Week*, San Diego, CA, May 2019.