Designing Surveys for Medical Education

Impact

Workshop
Tuesday, OCT 29
14:30-16:00
Tweedsmuir Room

Lead Presenter: Julia Caton, Beth Israel Deaconess Medical Center / Harvard Medical School
Co-Presenter(s): David Hirsh
All Author(s): Julia Caton, Beth Israel Deaconess Medical Center / Harvard Medical School; David Hirsh, Cambridge Health Alliance, Harvard Medical School

Abstract:

Background/Introduction
Surveys are commonly employed in medical education and are perhaps the most widely used method in medical education research. Educators base decisions in medical education on survey data including student evaluation of courses and student self-assessment. However, producing high quality survey measures is not straightforward.

Learning Objectives
Upon completion of this session, participants will be able to
1. Compose survey questions that minimize measurement error;
2. Determine the optimal order, flow, and nature of questions in a survey instrument;
3. Apply strategies to maximize survey response rate.

Issues/Areas for Exploration
Survey design may feel like a daunting task. Poorly designed surveys can frustrate survey designers and respondents alike. The reliability and validity of survey data rely on key features: survey layout, question wording, question order, the number and nature of response options, and the use of incentives and other strategies to maximize response rate. A well-designed survey will minimize measurement error and the burden on survey-respondents. Fortunately, empirical studies and expert guidance can inform our choices in survey design and maximize the quality of our data.

Activities
Drawing on the survey-design literature, we will explore the steps, procedures, and best practices for successful surveys. Together, in an interactive format, we will analyze a variety of survey questions. Next, we will break into small groups to practice designing a brief survey. Through these activities we will fine-tune our abilities as survey designers and will also develop our skills as thoughtful survey respondents.
Developing Medical Student Leadership, Teamwork, and Community Engagement through a Longitudinal Service-Learning Curriculum in the Denver Health Longitudinal Integrated Clerkship (DH-LIC)

Reflection and Engagement

Oral Presentation
Wednesday, OCT 30
11:00-11:15
Saltspring C Room

Lead Presenter: Catherine Ard, University of Colorado
Co-Presenter(s): Jennifer Adams
All Author(s): Catherine Ard, University of Colorado; Jennifer Adams, Denver Health; Margaret Tomcho, Denver Health

Abstract:

Introduction: It is estimated that the Social Determinants of Health (SDoH) contribute to 80% of health outcomes1, yet most medical students receive little to no training on addressing them; instead focusing on a biomedical model of disease. In a needs assessment of Denver Health LIC (DH-LIC) students, 66% of students reported low confidence in working with communities to find solutions to better address SDoH.

Objectives: To increase medical student teamwork, community engagement, and understanding of SDoH through a longitudinal service-learning curriculum in the DH-LIC.

Methods: A multimodal curriculum was woven into the DH-LIC, including didactic sessions, community windshield surveys, a team dynamics workshop, group discussions and presentations, and the development of a longitudinal community collaboration and service project.

Results: 90% of students reported the service-learning curriculum somewhat or tremendously enhanced their experience in an LIC (Likert 4-5/5). The most beneficial outcomes of the curriculum were reported as teamwork, community outreach, and better understanding SDoH.

Discussion: Service-learning proved to be a powerful experiential learning tool. Students reflected on the roles of physicians in communities and felt empowered by their community partnerships. Workshops and facilitated reflection led to powerful discussion; pushing students to expand their roles outside of their comfort zones leading to personal and professional growth.

Conclusion: This curriculum contributes an innovative approach to student development in an LIC. It aims to be a model in student-community partnership and teamwork. Increased exposure to service-learning will develop leaders in medicine who engage with their communities and who address SDoH of patients to improve health outcomes.

References/Citations:

#5

**Longitudinal Clerkship Students’ Effect on Patient Satisfaction – A Controlled Trial**

*Impact*

**Oral Presentation**
Tuesday, OCT 29
10:30-10:45
Pacific Ballroom

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**Lead Presenter:** Albertine Beard, Minneapolis VA Healthcare System

**Co-Presenter(s):** Nacide Ercan-Fang, Travis Anderson

**All Author(s):** Albertine Beard, Minneapolis VA Healthcare System; Nacide Ercan-Fang, Minneapolis VA Health Care System; Amy Candy, Minneapolis VA Health Care System; Khalid Ishani, Yale University; Robert Englander, University of Minnesota Medical School; Travis Anderson, University of Minnesota Medical School

**Abstract:**

**BACKGROUND:**
Data on the effect of Longitudinal Integrated Clerkships (LICs) on patient satisfaction are scant and are mostly limited to small qualitative studies.

**OBJECTIVES:**
Our goal was to determine the effect of LIC student involvement on patient satisfaction when compared with patients matched by primary care provider (PCP) and disease severity at the Minneapolis VA LIC.

**METHODS:**
Two to five months after completion of the 2016-2017 VALUE clerkship we conducted a phone survey of the 153 patients preassigned to the work with VALUE students and 153 control patients.

**RESULTS:**
97 VALUE patients and 72 control patients completed the survey. VALUE patients were statistically more likely to report greater satisfaction with explanations provided by their health care providers (p=0.02), their providers’ knowledge about their personal history (p < 0.01), and were more likely to report that their providers were always looking out for their best interest (p=0.02). VALUE patients were also statistically more likely to rate their overall health care as “excellent” (65% vs. 43%; p < 0.01).

**DISCUSSION:**
Overall, the odds of patients agreeing with the top response (“always”/ “excellent”) in the patient satisfaction questionnaire was 2-fold higher (OR 1.95, 95% CI [0.91, 3.42]) if LIC students were involved in their care, despite both groups reporting similar frequencies of working with students over the study period in our large teaching institution, suggesting that the effect was LIC specific.

**CONCLUSION:**
Our results demonstrate that and LIC clerkship model can be associated with improved patient satisfaction and perceived quality of healthcare compared to control patients.
#6
LIC Experience in a Combined Medicine/Pediatrics Clinic

New LIC
Poster

Lead Presenter: Sybil Cineas, Alpert Medical School

All Author(s): Sybil Cineas, Alpert Medical School; Suzanne McLaughlin, Alpert Medical School; Paul George, Alpert Medical School

Abstract:

Introduction: The Warren Alpert Medical School of Brown University began a Longitudinal Integrated Clerkship [LIC] in 2015. The Combined Medicine-Pediatrics [Med-Peds] clinic has been an LIC site for 2 students since the pilot year serving for both their Internal Medicine [IM] and Pediatrics [Peds] components. Routinely, students in the LIC are assigned 1 session/mentor each in IM and Peds. Students assigned to the Med-Peds clinic work with Med-Peds trained mentors for 2 integrated IM and Peds sessions per week.

Aims/Objectives: During the pilot year we sought to quantify the experiences of students assigned to 2 integrated IM and Peds sessions versus those assigned to separate, dedicated sessions. Methods: Students maintain LIC experience logs in each core specialty for visit content and their degree of participation in care of patients (observe, assist, perform). Our students' experience log entries were compared to those of a student assigned to individual IM and Peds sites/mentors.

Results: Students assigned to Med-Peds clinic maintained a 50:50 balance between pediatric and adult visits. Our students had equivalent patient experience log entries compared to a student assigned to individual IM and Peds sites/mentors but greater level of participation in care of patients.

Discussion: We postulate that since students are in the practice twice weekly instead of weekly, they are able to integrate well with the practice and mentors allowing for greater trust and levels of participation in care of patients.

Conclusion: A combined Med-Peds clinic is ideally suited to incorporate LIC students

References/Citations:

#7

The Effect of a Balint Group in a New LIC

Reflection and Engagement

Poster

Lead Presenter: Jeff Levine, Atlantic Health System

All Author(s): Jeff Levine, Atlantic Health System

Abstract:

Introduction
Balint Groups are utilized in medical education to encourage participants to share challenging aspects of patient care. (1) (2) A facilitator initiates each group by simply asking “Who has a case?” Any group member may then discuss their emotional reaction to any event. In July 2018 Atlantic Health System (AHS) and Sidney Kimmel Medical College (SKMC) developed a longitudinal integrated clerkship (LIC) with a cohort of 6 third-year medical students. Since this small group of students would be the first to participate in the new curriculum and would spend an entire year together, the LIC seemed ideally suited for a Balint Group, where they could share their common experiences.

Aims/Objectives
The aims of the Balint Group were:
- To encourage participants to discuss challenging or emotional aspects of medicine
- To reduce stress and improve wellness
- To increase a sense of camaraderie among group members

Results
A sampling of topics discussed during these monthly meetings includes:
- Being a young woman treating males of all ages
- Being a minority physician
- Giving difficult diagnoses to patients and parents
- The advantages of being an LIC student

A survey of group members indicated very positive results (4 to 5 on a 5 point Likert scale) on the Balint Group’s relevancy to the students’ work, and its impact on improving camaraderie, reducing stress, and improving expression of emotional aspects of doctoring.

Discussion/Conclusion
Balint groups can provide a forum for LIC students to develop an understanding of the emotional aspects of medicine and were shown to improve camaraderie. Based upon current feedback, a Balint group will be offered to our next cohort of students.

References/Citations:
(1) The American Balint Society (ABS) website (http://americanbalintssociety.org)
Impact of a novel domain: assessing LIC student advocacy on behalf of patients

Assessment

Oral Presentation
Monday, OCT 28
16:00-16:15
Pacific Ballroom

Lead Presenter: Tali Ziv, Kaiser Permanente and University of California, San Francisco
All Author(s): Tali Ziv, Kaiser Permanente and University of California, San Francisco; Maria Wamsley, University of California, San Francisco; Arianne Teherani, UCSF; Cindy Lai, University of California, San Francisco; Era Kryzhanovskaya, University of California, San Francisco; Beth Griffiths, University of California, San Francisco

Abstract:

Introduction: Physician advocacy is a central feature of many longitudinal integrated clerkships (LICs) worldwide, yet knowledge of how to assess advocacy is lacking. Assessing student advocacy on behalf of the patient in the clinical setting, one of 4 categories of broader physician advocacy defined by Furrow1,2, merits further study, because assessing advocacy in medical education may reinforce and prioritize advocacy as a core physician skill. In 2018 the University of California, San Francisco (UCSF) introduced a novel advocacy assessment domain to the Internal Medicine student assessments. Aim: We studied the impact of introducing advocacy assessments in two yearlong LICs, UCSF-KLIC and UCSF-PISCES. Methods: Two LIC student focus groups were recorded, transcribed, and analyzed using the phenomenography approach. Results: Preliminary findings show that students (1) perceive advocacy on behalf of patients to include identifying patient needs, gaps in care, and resources, navigating the system, amplifying the patients voice, and empowering the patient; (2) find advocacy gratifying; and (3) appreciate that advocacy assessment aligns with institutional values around health equity. Simultaneously, students acknowledge ambiguity in advocacy assessment; at times sense guilt, noting their privileged role; and describe a tension in whether their advocacy is motivated by assessment or by altruism. Discussion: Refining the grading rubric and creating formal opportunities for student reflection on their advocacy experience warrant exploration. Studies of other aspects of advocacy assessment validity are underway. Conclusion: Including advocacy assessment in LICs reinforces and aligns with professional and institutional values, and recognizes advocacy in authentic, meaningful roles.

References/Citations:


Can LICs help heal medicine’s moral injury?

Reflection and Engagement

Oral Presentation
Tuesday, OCT 29
15:30-15:45
Saltspring C Room

Lead Presenter: Katharine Meacham, UNC SOM Asheville Campus
All Author(s): Katharine Meacham, UNC SOM Asheville Campus

Abstract:

Physicians Simon G. Talbot and Wendy Dean claim: “Physicians aren't burning out; they are suffering from moral injury. Their 2018 article in STAT hit a nerve among physicians1. Since longitudinal integrated clerkships (LICs) have been shown to support psychological safety and help students maintain empathy and compassion, the question is how LICs can address the question of moral injury2?

Objectives
This study explores the claim made by Talbot and Dean with three outcomes:
- To define burnout, moral distress, and moral injury;
- To provide evidence from LIC student writings that moral injury occurs even in a context with robust venues for reflection and engagement;
- To provide evidence from student writings that LICs might provide a healing venue for incubating ideas and energy needed for creative transformations of health systems that can feed moral injury.

Methods and Results:
A literature review of physicians' experience of moral injury supports the claim made by Talbot and Dean. Analysis of writings by LIC students in one venue support that claim as well as provide imaginative responses to it. Students' end-of-year evaluations of a supportive, reflective program integrated into their longitudinal clinical year provide evidence of creative ways to disrupt moral injury and construct healing venues for physicians and patients.

Conclusion: LICs can support students’ creative visions using moral imagination to address systemic causes of moral injury. Systemic research is needed.

References/Citations:
1. Talbot SG, Dean W. Physicians aren’t “burning out;” they’re suffering from moral injury. STAT. July 2018.
AND unpublished research by Swendiman et al, presented at Consortium for Longitudinal Integrated Clerkships conference in 2017 (Singapore), demonstrating evidence for psychological safety in LICs.
#10

Directing The First Annual Glasgow Middle School Health Fair, 2018 During WRITE (WWAMI Rural Integrated Training Experience) As A Third-Year TRUST (Targeted Rural UnderServed Track) Medical Student

Reflection and Engagement

Poster

Lead Presenter: Keenan Kuckler, University of Washington

All Author(s): Keenan Kuckler, University of Washington

Abstract:

Introduction/Background: As a third-year TRUST (Targeted Rural UnderServed Track) medical student at the University of Washington School of Medicine in my WRITE (WWAMI [Washington, Wyoming, Alaska, Montana, Idaho] Rural Integrated Training Experience) rotation in Glasgow, Montana, I directed the first annual health fair at Glasgow Middle School for all 6th-8th grade students. TRUST is a medical school educational track that educates students in topics related to rural and underserved healthcare and provides training in these kinds of communities. WRITE is a 6-month longitudinal clerkship opportunity that takes place in a rural community and gives immersive training as a rural physician. The Glasgow Middle School Health Fair was my WRITE project and took 6-months to prepare. Aims/Objectives: Educating middle school students about health and wellness, students teaching these lessons at home, and triaging abnormal screening results to local primary care providers. Methods: 9 booths were organized with topics including basic screening tests appropriate for the middle school age group and education on health and wellness. Members from around the community from different disciplines worked to present booth topics for the middle school students of the community. Results: Of the 195 students in attendance, 19.5% had abnormal results and were referred for primary care follow-up. Students taught the lessons they learned at home. Discussion: This health fair will be continued in Glasgow annually by a local nurse and will expand the content. Conclusion: This resource gives middle school students access to education and screening tests needed in this age group that are not otherwise available.
Perspectives of Urban First Year Medical Students in Choosing Practice Location

Reflection and Engagement
Poster

Lead Presenter: Rebecca Malhi, University of Calgary, Cumming School of Medicine
All Author(s): Rebecca Malhi, University of Calgary, Cumming School of Medicine; Jill Konkin, University of Alberta; Douglas Myhre, University of Calgary, Cumming School of Medicine; Tom Smith-Windsor, University of Saskatchewan; Wayne Woloschuk, University of Calgary, Cumming School of Medicine; Daniel Lemoine, University of Alberta

Abstract:

Introduction:
Research shows that rural-origin medical students are likely to establish a rural practice, but little is known about how urban-origin students determine their future practice location.

Objective:
To identify what factors may influence first year urban-origin medical students to consider eventual rural practice.

Methods:
Urban-origin learners participated in semi-structured interviews. Open-ended questions elicited information about participants’ opinions about rural medicine, their likelihood of doing a longitudinal integrated clerkship (LIC), and decision-making about practice location. Interviews were recorded and transcribed. Data were analyzed using thematic analysis.

Results:
Few of the 16 interviewees had concrete ideas about medical specialty or eventual practice location. Participants interested in rural practice often had a pre-existing desire to practice rurally or had a “service orientation”, intended to do a LIC, and wanted an expanded scope of practice. Participants who were doubtful about working rurally expressed concerns about isolation, restricted career opportunities, and limited educational options for children. They were also more skeptical of the advantages of a LIC.

Discussion/Conclusion:
Our findings describe multidimensional discourses about rural medicine. Students intending to practice rurally tended to draw upon “celebratory” discourses. Interviewees who were unsure or intended to have urban practices seemed to draw on prevalent “critical” discourses. Based on these results, administrators in medical schools and educators in rural communities may be able dispel some of the myths about rural practice as well as promote a targeted response, such as the LIC, to encourage recruitment of urban-origin physicians to underserved rural areas.


#12

**Sustaining Comparability Spanning Across Multiple Regional and Rural Sites**

*Sustainability/Expansion of Existing LIC*

**Poster**

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**Lead Presenter:** Susan Bak, University of South Dakota, Sanford School of Medicine

**All Author(s):**
Susan Bak, University of South Dakota, Sanford School of Medicine; Teri Christensen, University of South Dakota; Janet Fulk, University of South Dakota Sanford School of Medicine Family Medicine-FARM; Heather Buckley, University of South Dakota

**Abstract:**

**Introduction**
The University of South Dakota, Sanford School of Medicine is a three pillar curriculum which spans four years. The focus of this presentation will be an overview of how comparability is sustained to ensure all students meet the objectives during Pillar 2. Pillar 2 is the primary clinical year and is a longitudinal integrated program that is primarily ambulatory based. This year-long Pillar focuses on acquiring clinical skills, integrating learning across specialties and experiential learning. Students self-select one of three regional campuses or choose to take part in the Frontier and Rural Medicine (FARM) program, which allows them to experience rural medicine while living and learning in rural communities across South Dakota.

**Objectives**

- Identify differences between the sites and challenges they impose
- To share strategies and creative solutions to sustain comparability among regional and rural sites

**Discussion**

Three regional campuses span across the state along with seven additional FARM sites, each with varying populations, clinical and educational resources. Sustaining comparability among the sites is a challenge. Some of these challenges include access to physician resources and facility limitations, simulation and technology resources, didactic and problem-based learning and student wellness. We will discuss the differences between the sites and evaluate solutions to maintain comparability among the sites.

**Issues for Discussion**

Are there other opportunities to explore in which comparability can be achieved and still continue to promote regional campus and FARM site originality without compromising the overall unity of the program.

**References/Citations:**


Using Maintenance of Certification (MOC) as an Incentive to Recruit and Improve the Quality of Teaching in an LIC

Introduction/background: The Society of Teachers of Family Medicine (STFM) partnered with the American Board of Family Medicine (ABFM) to create a pilot program incentivizing community-based preceptors to work with medical students. Sites offered teaching improvement activities earning performance improvement credit (formerly MOC part IV) as part of a larger strategy for preceptor recruitment and retention.

Aims/objectives: As a pilot site, the Schmidt College of Medicine at FAU sought to improve developmental precepting over time by preceptors working with students in an LIC.

Methods: ABFM Diplomates completed an online course containing podcasts relevant to clinical teaching within an LIC (Improving Continuity, Encouraging ownership of patients, etc). Pre- and post- activity self-assessments measured clinical teaching, preparation for learners in the clinical setting, professionalism, as well as a Professional Fulfillment Index, measuring Burnout and the Likelihood of Medical Errors. Participants completed modules with supporting resources, and made a commitment to change their teaching based on lessons from podcasts.

Results: Eight family medicine preceptors completed all modules and earned MOC credit from the ABFM. Among participants, there was a statistically significant decrease in Professional Fulfillment scores from pre to post, as well as Internal Disengagement scores. There was a statistically significant increase in Work Exhaustion scores, and Professionalism from pre to post.

Discussion: Offering MOC credit in exchange for participation in teaching and in LIC-focused faculty development activities is feasible, and may incentivize physicians to serve as clinical teachers.

Conclusion or issues for discussion: Lessons learned, future directions and opportunities will be discussed with participants.

References/Citations:


Christner JG, Dallaghan GB, Briscoe G, et al. The Community Preceptor Crisis: Recruiting and Retaining Community-Based Faculty to Teach Medical Students—A Shared Perspective From the Alliance for Clinical Education. Teaching and Learning in Medicine. 2016:1-8.


A longitudinal integrated clerkship: influential when educating for patient-centred collaborative practice

Impact

Oral Presentation
Tuesday, OCT 29
10:45-11:00
Pacific Ballroom

Lead Presenter: Kath Weston, University of Wollongong
All Author(s): Kath Weston, University of Wollongong; Susan Vella, University of Wollongong; Judith (Nicky) Hudson, University of Adelaide

Abstract:

Introduction: There is an increased emphasis on quality and safety in healthcare and the role of the patient in their own care. Many academic institutions are thus implementing opportunities for interprofessional learning or are providing real world clinical experiences which allow students to learn together with peers, health professionals and patients.

Aim: This research aimed to investigate how the learning environment experienced during a longitudinal integrated clerkship (LIC) was influential in educating medical students for patient-centred collaborative practice.

Method: Thirteen medical students, purposefully sampled with a maximum variation technique from one cohort of medical students, completed semi-structured interviews at 5 time points through their 4-year medical program which included a 12-month continuous LIC placement. Qualitative data arising from interviews following the LIC were theme analysed.

Results: Emergent themes included learning with and from patients, becoming a professional, and developing relationships in communities of practice.

Discussion: The 12-month LIC provided opportunities for active and extensive learning, increased opportunities for interprofessional learning, an increased sense of belonging in local communities of practice, and increased recognition of the role of the patient in their own care. The long-term care relationships with patients, under longitudinal supervision of medical preceptors and other health professionals, were identified as key influences when educating students for patient-centred collaborative practice. These results reflect the impact of the LIC continuity principles: continuity of care and supervision, and continuity with peers.

Conclusion: The LIC learning environment where students learn with and for patients was influential in educating for patient-centred collaborative practice.
Improving Knowledge, Skills, and Attitudes of Future Health Care Professionals Toward Caring for Resource-Limited Patients

Interprofessional/Team-Based Care

Poster

Lead Presenter: Erik Wallace, University of Colorado School of Medicine

Co-Presenter(s):

All Author(s): Erik Wallace, University of Colorado School of Medicine; Heather Cassidy, University of Colorado School of Medicine; Kathleen Raskob, University of Colorado School of Medicine

Abstract:

Introduction
Health professional students learn from and care for patients from varied socioeconomic backgrounds. However, most future health professionals have limited personal experience with poverty. Given the paucity of shared life experiences, students may have difficulty empathizing with and caring for resource-limited patients.

Objectives
The Poverty Immersion in Colorado Springs (PICOS) is an experiential program that engages health professional students to describe and analyze the social determinants of health in the community, demonstrate knowledge and skills while experiencing poverty, and identify attitudes toward resource-limited people.

Methods
Participants attended a classroom-based poverty simulation, stayed overnight at a homeless shelter, and completed experiential case scenarios over two days. Quantitative pre- and post-test data on PICOS objectives were analyzed by paired t-test.

Results
Seventy-nine participants (49 medical students, 18 health sciences graduate students, and 12 community stakeholders) completed PICOS. Knowledge of social determinants of health, skills necessary to obtain and utilize basic resources, and seven of twelve attitude statements toward resource-limited people improved in all participants (p < 0.05).

Discussion
Programs like PICOS should solicit participation by health professional providers and students in order to better understand and empathize with the resource-limited patients they will serve. Such programming can help LIC students orient to their community and the local resources available to their patients. The relatively low cost (<$200 per participant) and continued support from community partners demonstrate feasibility and replicability.

Conclusion
A two-day experiential program about poverty can improve the knowledge, skills, and attitudes of health professional students toward patients with limited resources.

References/Citations:


#16
Creating an LIC Curriculum and Assessment Plan

Future Directions and Educational Theory in LIC

Oral Presentation
Wednesday, OCT 30
10:45-11:00
Pacific Ballroom

Lead Presenter: Boon Kek, Dalhousie University
Co-Presenter(s): Robert Boulay
All Author(s): Boon Kek, Dalhousie University; Robert Boulay, Dalhousie University

Abstract:
Introduction
Dalhousie University’s Longitudinal Integrated Clerkship (LIC) Program started in 2012, and has grown to support 16 clerks at four satellite sites. LIC clerks follow the same assessment schedule and curriculum objectives as their counterparts in the Traditional Block Rotation (TBR). This creates incongruency and dissonance between the clerks’ experience and assessment, hence, this project’s objective is to modify the current format to reflect the clerks’ actual experience and progress.

Aims/objectives
The two overarching objectives for this project are, firstly, to develop a clear curriculum map for the LIC program so that clerks and faculty understand their learning objectives. Secondly, to modify the current assessment plan to accurately examine the LIC clerks’ clinical progress.

Methods
The initial phase of the project started with a literature review, an environmental scan and survey, with the intent to establish best practices in current LIC programs. Following that, a Curriculum Development and Assessment Plan was prepared and referred through the appropriate channels for approval. Finally, a Clerk and Faculty support plan was prepared to ensure that they are ready for the modifications in the Clerkship Year. The aim was to have ready for the 2019/2020 academic year, a new LIC syllabus with objectives organized into domains of care and assessment tools, including a revised ITER schedule and Daily Feedback Form.

Conclusion / Issues for discussion
This modified curriculum and assessment will be evaluated in order to ensure this new format will still allow the clerks to meet their educational goals in the LIC program.
Creating a new LIC at an affiliate campus: lessons learned

Lead Presenter: Jim Alexander, Sidney Kimmel Medical College of Thomas Jefferson University

All Author(s): Jim Alexander, Sidney Kimmel Medical College of Thomas Jefferson University; Rebecca Griffith, Atlantic Health System; Susan Kaye, Atlantic Health System; Jan Schwarz-Miller, Atlantic Health System; Abigail Kay, Sidney Kimmel Medical College of Thomas Jefferson University

Abstract:

Introduction: Leadership at our medical college, together with leadership at one of our affiliate clinical campuses, determined to create an LIC in the M3 year.

Methods: Faculty, largely private physicians in ambulatory settings, had to be recruited and trained. The affiliate campus had to be designated a Regional Medical Campus (RMC) by the Liaison Committee on Medical Education (LCME). The curriculum had to be reconfigured for deployment within an LIC. An initial cohort of students were to be identified.

Results: Fifty new faculty were recruited. Colleagues from the LIC academic community assisted with faculty development. The LCME confirmed initial accreditation of the affiliate campus as a RMC. The curriculum was reconfigured, taking advantage of opportunities for continuity with preceptors, patients and fellow learners. Six students were recruited for our initial cohort.

Discussion: Leadership at both institutions maintained a firm grasp of the vision along with a flexible and collaborative approach to working out the details, enabling a successful launch of our LIC. The recruitment of new faculty is a tremendous win for the medical college, and the introduction of a novel educational track is a valuable enhancement to the affiliate campus.

Conclusion: Our LIC was launched in July 2018. We are still in our inaugural year, but both students and faculty are enthusiastic. We are monitoring our processes and outcomes closely. We have recruited the next cohort of six students and 80% of our faculty preceptors have elected to continue into the second year.
Rural Integrated Medical Student Clerkship: A Canadian Experience

Sustainability/Expansion of Existing LIC

PeArLs
Tuesday, OCT 29
10:00-10:45
Saltspring C Room

Lead Presenter: Gavin Parker, University of Calgary
All Author(s): Gavin Parker, University of Calgary

Abstract:

Introduction/Background

The University of Calgary has operated an integrated clerkship for final year medical students for over 10 years. This is a research-based, educational experience that allows students to learn in the continuum of patient care. It is an alternative to the discipline-based clerkship that was started in April 2008 and places students in dyads into established teaching sites outside of urban centers for 36 weeks of clerkship. It is an initiative that increases medical students’ exposure to generalism, rural medicine and, more broadly to continuity of care and working with patients with undifferentiated problems. The students spend the better part of their clinical training year in rural sites that offer full generalist practice inclusive of emergency medicine, obstetrics, inpatient, and community-based care. Brief specialty rotations complement this training. The majority of students participating in this program go onto generalist medicine careers and many are practicing rural family physicians. The perspective of one site will be highlighted in this journey.

Learning Objectives
1. Describe how a pedagogically sound clerkship based in selected rural and regional communities can be created.
2. Understand how family medicine can be used as the core of a clerkship
3. Explore how to encourage students to pursue generalist careers

Issues/areas for exploration
Stories of community involvement, personal and professional triumphs and struggles, and impact on future career goals will be explored.

Activities
Discuss the challenges in adherence to a standardized curriculum and explore comparisons between achievement in the longitudinal integrated clerkship student group and the traditional discipline-based clerkship students.
The Kaiser Permanente School of Medicine (KPSOM): All LIC from the outset of medical school

New LIC

Oral Presentation
Monday, OCT 28
11:00-11:15
Pacific Ballroom

Lead Presenter: Lindsay Mazotti, Kaiser Permanente School of Medicine

All Author(s): Lindsay Mazotti, Kaiser Permanente School of Medicine; Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; John Su, Kaiser Permanente School of Medicine; Danny Sam, Kaiser Permanente School of Medicine; Marc Klau, Kaiser Permanente School of Medicine; Nancy Spiegel, Kaiser Permanente School of Medicine; Michael Kanter, Kaiser Permanente School of Medicine; Abbas Hyderi, Kaiser Permanente School of Medicine

Abstract:

Background:
The longitudinal integrated clerkship (LIC) model was originally developed using principles of integration and continuity1 to counter the fragmented nature of block core clerkships in medical school.2,3 At least 35 US medical schools now offer a LIC, and several schools train exclusively in the LIC model.4 However, the LIC has remained entrenched in the framework of a traditional medical school structure, commonly occurring after preclinical coursework.

Objectives:
This abstract will describe the KPSOM curriculum, structure, and curricular opportunities.

Methods/Results:
KPSOM will train each class of 48 students in a two-year LIC model. The LIC consists of a core clerkship in Primary Care (either Family or Internal Medicine) over the first two years, with the addition of four additional clerkships, all in LIC format, and inpatient immersions in Year 2. Students will complete their LIC at one of six Kaiser Permanente medical centers, immersed longitudinally in an integrated care delivery system and responsible for a patient cohort for at least two years. An integrated science curriculum, including case-based biomedical science, clinical science and health systems science will run in parallel with the LIC. The LIC will also include a continuity service learning experience at a safety net clinic.

Discussion/Conclusion:
Placement of a two-year LIC within the first two years of medical school, meeting the requirements of the core clerkships and integrated with biomedical sciences, doctoring and HSS courses, is a novel adaptation to the LIC model. This shift contributes to ongoing curricular innovation in LICs and medical education broadly.

References/Citations:


Adventures in Dairyland: Milking a rural LIC for every last drop

Sustainability/Expansion of Existing LIC

Poster

Lead Presenter: Ellen Schumann, Medical College of WI- Central WI

All Author(s): Ellen Schumann, Medical College of WI- Central WI; Jacob Prunuske, Medical College of Wisconsin- Central Wisconsin; Lisa Dodson, Medical College of Wisconsin- Central Wisconsin; Heather Roth, Medical College of Wisconsin- Central Wisconsin

Abstract:

Introduction/Background:

The Medical College of Wisconsin- Central Wisconsin (MCW-CW) is a rural regional campus created in response to the physician shortage in rural Wisconsin. MCW-CW offers an accelerated curriculum allowing graduation in 3 calendar years (with a 4-year option), features a longitudinal integrated clerkship (LIC) and has a distributed model for clinical training. Students experience the core clinical clerkship experiences in Surgery, Anesthesiology, Obstetrics & Gynecology, Family Medicine, Pediatrics, Psychiatry, and Medicine in a longitudinally integrated fashion.

Aims/Objectives:

Our regional campus faces the challenge of comparability with the institution’s main campus curriculum in the face of dramatically different clinical resources, the use of the LIC model, and an accelerated curriculum. We aim to share our experience with implementing and sustaining a LIC in a rural area using a hub and spoke model. Challenges to be discussed include: 1) limited access to specialty physicians, 2) a greater proportion of health care delivered in the outpatient setting, 3) lower patient volumes and fewer preceptors, 4) working with multiple health systems, EMRs, and variable physician services, 5) wide geographic distribution of students, 6) challenges in delivering didactics, and 7) effectively communicating with students, administrative, academic, and clinical partners.

Discussion:

In this session, we will present the challenges associated with sustaining and advancing a rural LIC within an accelerated curriculum, describe how challenges are being addressed, discuss future plans and implications for other institutions. We welcome suggestions for innovation to enhance our program development.

References/Citations:

#22
Do Community Family Medicine Preceptors Prepare for Academic Promotion? An Assessment of their Interest and Understanding of the Process

Abstract:
Introduction: Academic promotion (AP) and avenues to attain it may be an important motivator in decisions to pursue scholarly advancement. However, little is known about community Family Medicine (FM) preceptors’ interest in, understanding of, and preparation for AP. Objective: Explore community family medicine preceptors’ interest in pursuing AP, knowledge about AP process, and tools used to build an academic portfolio. Methods: Mixed-methods design. Participants were community FM physician preceptors with an academic appointment in the Department of Family Medicine at Queen’s University. 37 participants completed an online survey; 11 participants received semi-structured interviews to discuss their experiences with AP. Descriptive statistical analysis and thematic analysis were performed to respectively analyze survey and interview data. Results: 73% of participants were adjunct assistant professor or assistant professor, 19% had practiced less than 5 years and 30% for more than 20. 84% of participants reported a low level of knowledge about AP. 92% of participants did not have an educational portfolio, nor were they aware of the existence of this tool. Half were currently interested in pursuing AP while more (80%) would plan to pursue it in the next 5 to 10 years. Participants had consensus about the academic activities most helpful for AP but need support to engage them in these activities in community settings. Discussion/Conclusions: Community preceptors have various levels of interest in pursuing AP. A structured support system with clarified expectations and requirements can help to guide community preceptors through the process of pursuing professional development and scholarly advancement.
Leveraging Experiential Learning and Failure to Inspire Clinical Reasoning

Future Directions and Educational Theory in LIC

Workshop
Tuesday, OCT 29
14:30-16:00
Saltspring A Room

Lead Presenter: Jaime Bowman, Elson S. Floyd College of Medicine
All Author(s): Jaime Bowman, Elson S. Floyd College of Medicine; Alaina George, Washington State University; Meredith Morrow-Okon, Washington State University

Abstract:
Introduction: The Elson S. Floyd College of Medicine (ESFCOM) third year Longitudinal Integrated Clerkship (LIC) features an academic half day “shared learning” structure that prioritizes self assessment, Kolb’s Experiential Theory, teaching clinical curiosity, and fostering clinical reasoning.

Learning Objectives:
Investigate how failure shapes and motivates learning.
Design experiential learning approaches that foster clinical curiosity.
Assess the role of self reflection in engaging learners.

Areas for Exploration: How do medical students recall foundational science knowledge and apply it in complex clinical environments? How might traditional academic sessions in the clinical learning environment reinforce foundational medicine while stimulating critical thinking?

Activities: Using active learning, exploration of failure, and experiential approaches in small groups, attendees will use their own learning styles to analyse, evaluate, and create innovative approaches to spiraling and contextualizing learning in the clinical setting.

References/Citations:
https://www.carnegielearning.com/blog/the-value-of-failure-in-learning/
https://www.mindsetworks.com/science/
https://www.learning-styles-online.com/overview/
Students of Longitudinal Integrated Clerkship engaged more in patient care – A comparison study

Abstract:

Introduction
The curriculum design is different between Longitudinal integrated clerkships (LIC) and traditional rotation-based clerkships (RBC). That could influence the students’ engagement in patient care and interpersonal relationship.

Aims
This study aimed to explore students’ participation in clinical activities and interaction with medical team members during internal medicine rotation between LIC and RBC.

Methods
This was a cross-sectional study. Fifteen LIC and twenty-nine RBC students were enrolled. The participants completed an anonymous questionnaire. In the first part, the students listed a typical daily schedule (from 7:00 am to 5:00 pm) of IM rotation. In the second part, the students draw an ecomap of clinical team members. The reference was a patient who was illustrated by a circle (1cm in diameter) located in the center of the map. The size of the circle meant the importance of this member. The distance between circles showed the relationship between members. The number of connecting lines between circles demonstrated the interaction between members.

Results
LIC students spent more time on direct patient care (1.00±0.57 vs 0.41±0.25, p = 0.001) and participating in outpatient clinic/operation room (1.81±0.91 vs 0.90±0.94, p = 0.004). LIC students were closer to patients (1.38±1.01 vs 2.93±2.40, p = 0.010) and attendings (0.95±0.81 vs 5.65±3.95, p =

In this study, there are significant differences in the clinical participation, interpersonal relationship, and interaction among LIC and RBC students during internal medicine rotation. The curriculum design affected students’ involvement and interpersonal interaction.

Conclusion
The LIC students had more opportunity to engage in patient care and more frequent interaction with patients and attendings.
#25
Optimizing Feedback Delivery Mechanisms in Longitudinal Integrated Clerkships

Assessment

PeArLs
Monday, OCT 28
10:30-11:15
Saltspring C Room

Lead Presenter: Brian Lin, Kaiser Permanente, San Francisco

All Author(s): Brian Lin, Kaiser Permanente, San Francisco; Tal Ziv, Kaiser Permanente and University of California, San Francisco; Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Myles Nickolich, Duke University School of Medicine

Abstract:

Introduction: LIC student growth requires frequent, formative “low-stakes” assessments. However, collecting and tracking assessments in the clinical setting by busy and physically dispersed faculty can prove difficult. Aim: A discussion of various means of collecting formative assessments. Paper systems require manual recording and can lead to data loss. Web-based tools at a desktop computer are common, though the lack of immediacy risks loss of feedback robustness and specificity. Use of mobile devices by learners to solicit and obtain feedback from faculty have been piloted. Medical students believe this to be a valuable method to obtain assessment.(1) In a study of cloud-based mobile technology to assess student competencies, faculty expressed satisfaction with the tool and found it to be time-efficient.(2) Another study using a mobile tool to assess lapses in professionalism found a surprising trend towards capturing positive behaviors.(3) Technical limitations, device availability, and “user-friendliness” may limit generalizability of these findings, though rapid improvements in technology and the ubiquity of smartphones and handheld devices in 2019 may mitigate these challenges. No matter the method, optimizing delivery mechanisms can impact the amount and quality of feedback students receive. Issues for exploration: What delivery mechanisms have participants considered in their LIC as a means of collecting narrative “low-stakes” assessment? What has been successful? What challenges are faced? What is the optimal frequency/number/distribution for these assessments? Under what metrics are students assessed (competencies/EPAs/entrustment scales)? How are these assessments shared with learners? Are the assessments perceived as valuable to faculty and learners?

References/Citations:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5736051/
#26

KLIC Quick Tips: A novel framework for brief faculty development with RIME meetings

*Reflection and Engagement*

*Poster*

**Lead Presenter:** Tal Ziv, Kaiser Permanente and University of California, San Francisco

**All Author(s):** Tal Ziv, Kaiser Permanente and University of California, San Francisco; Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Lindsay Mazotti, Kaiser Permanente School of Medicine

**Abstract:**

Introduction: As medical schools increasingly rely on community physicians to educate students, assuring teaching skills is vital. Faculty development (FD) resources abound, but uptake is limited.2 Aim: Using design thinking with busy clinicians as end users, we introduced brief FD into quarterly student assessment sessions (RIME) with the aim to motivate faculty already engaging in another student-related task. Methods: UCSF-KLIC developed and packaged high-yield FD topics into brief sessions with RIME meetings. These 10-minute KLIC Quick Tips (KQTs) were sandwiched between 20-minute assessment sessions, each attended by a given students’ preceptors and repeated twice over two consecutive extended lunch hours. Following the most recent March 2019 KQT, entitled “assessment for learning,” a QualtricsXM survey was administered. Results: 70% of preceptors participated in KQT. Of 14 preceptors who completed the impact questions, 100% noted the topic was relevant. 93% planned to change their practice, including intent to provide more frequent, specific, actionable, and immediate feedback. 62% reported KQT increased their interest in clinical teaching and 76% indicated KQT improved their sense of belonging to the KLIC teaching community. Discussion: Preliminary feedback suggests KQTs are relevant, impact teaching, and provide a sense of community. A technical glitch prevented callers from completing the impact questions, limiting the survey question completion rate, but will be corrected for the upcoming two KQTs with RIME; more data will be available by CLIC Vancouver conference. Conclusion: KQTs embedded into RIME meetings provide a novel, promising and easily replicable FD delivery method to engage clinicians while focused on their student’s success.

**References/Citations:**


#27

Engaging with intention: evidence-based mindful LIC practice

Reflection and Engagement

Poster

Lead Presenter: Tal Ziv, Kaiser Permanente and University of California, San Francisco

All Author(s): Tal Ziv, Kaiser Permanente and University of California, San Francisco; Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Lindsay Mazotti, Kaiser Permanente School of Medicine; Joshua Pepper, UC, Berkeley - UCSF Joint Medical Program

Abstract:

Background: Student participation in the community of practice is essential to medical education.1 However, the extent to which LIC students connect with and learn from patients, dialogue with faculty, and integrate with the medical center varies. Aim: In 2019, in order to improve student engagement in the LIC experience and promote an equitable, positive learning experience, we introduced a novel workshop familiarizing students with successful LIC learning approaches. Methods: Two LICs, UCSF-KLIC East Bay and UCSF-KLIC San Francisco, introduced a new one-hour workshop with 14 students to generate ways students might optimize their LIC experience, focusing on eight spheres of intention relating to medical center, faculty, peers, and patients; and using self-care, approach to the year, study skills, and personal values.2 A pre- and post-workshop seven-item QualtricsTM survey was administered on the workshop day. Survey responses were compared using Wilcoxon signed-rank test. Results: All 14/14 UCSF-KLIC students participated, with significant improvement in extent of agreement with the statement, “I have identified ways to take ownership over my patient's care (P=0.015),” and with the statement, “I have an approach to learning medical knowledge in the context of the LIC (P=0.033).” Intentions students wrote mapped well to the Pepper 12 tips paper.2 Discussion: This workshop helps students self-identify and peer-share strategies to successfully navigate the LIC experience, impacting their approaches. The workshop has potential to mitigate differences in student preparedness for the LIC year. Referring to the exercise as the year progresses proves valuable. The workshop is easily replicable by LICs worldwide.

References/Citations:


**Note: the eight spheres of intention were gleaned broadly from this 12 tips article directed to LIC students.**
The student insider: a first-hand experience of staff-student partnership in LIC co-creation

New LIC

Oral Presentation
Wednesday, OCT 30
10:00-10:15
Saltspring C Room

Lead Presenter: Rong Luo, Imperial College
All Author(s): Rong Luo, Imperial College; Ravi Parekh, Imperial College; Jenna Mollaney, Imperial College London; Andrew McKeown, Imperial College London

Abstract:

Introduction: Staff-student partnership envisaged higher education as an active and reciprocal collaboration between faculty and students in a common process of learning and working together (1,2). This reflected a distinct shift from perceiving students as passive consumers of a teaching product offered by a university. The beneficial outcomes of this partnership model are emerging in literature (3), but adoption within institutions remained sluggish. Imperial College London newly launched a ‘Student Shaper’ initiative to encourage student and faculty co-creation, aligning paid student work with curriculum development.

Aim: To give a first-hand account of being a Student Shaper, co-creating a new LIC at Imperial College London, launching in 2019/20.

Methods: I surveyed recent medical school graduates to assess the relevance, strengths and limitations of the traditional block rotation curriculum in preparing them for their clinical careers.

Results: I condensed the findings into a summary which was used in conjunction with literature and faculty expertise to co-create the taught curriculum for the new LIC.

Discussion: As Student Shaper, I was deliberately involved in tutorial planning and empowered to bring student ideas to reality through collaboration with staffs’ expertise and faculty resources. My role ensured that the student opinion was truly heard and effective in bringing change. The experience also gave me extraordinary insight into medical education strategies benefiting my personal development.

Conclusion: Involving students in co-creation of LIC curricula allowed for a synergistic partnership with mutual benefit. LICs lend themselves to such partnerships as students are often given greater independence and build close faculty relationships over their clerkships.

References/Citations:


#30

**Working the 'Shop-Best Practices for Improving Workshop Creation for Longitudinal Educational Programs**

*Sustainability/Expansion of Existing LIC*

**Workshop**

Wednesday, OCT 30
10:00-11:30
Waddington Room

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**Lead Presenter:** Bruce Peyser, Duke

**Co-Presenter(s):** Tara Singh, Jay Erickson, Ellen Cosgrove, Jennifer Adams, Larry Greenblatt

**All Author(s):** Bruce Peyser, Duke; Tara Singh, Harvard Medical School, Cambridge Health Alliance

**Abstract:**

**Background**

Medical education workshops vary immensely in content, presentation, and style. We will review relevant literature and highlight important features of workshops that contribute to successful events while focusing on workshop attributes that might be especially germane to the educational communities centered around longitudinal initiatives.

We will also look at how CLIC workshops are framed to determine whether we could suggest changes that would lead to stronger, more effective workshops that might effect broader changes in the field of medical education.

**Learning Objectives**

1) Identify key features of workshop development that lead to successful events.
2) Inspire, plan, and organized workshops for individual institutions that can highlight the values of longitudinal learning.
3) Brainstorm novel ways that CLIC leadership can support creation of stronger and more effective learning methods within workshop scaffolding.

**Areas of Exploration**

We will explore features of workshop creation that can lead to successful, game changing academic products. We want to facilitate a "think tank" mentality in order to generate new ideas for future workshops that will be inspirational for faculty involved in longitudinal learning.

**Activities**

After initial overview of the topic, we will present a short review of current literature and our results from the CLIC workshop survey distributed after last two CLIC conferences. (30 min)

Following this, participants will divide into smaller groups to brainstorm answers to selected prompts and challenges to the group. (30 min)

As a large group, we will reconvene for 30 minutes to discuss results, and brainstorm achievable action plans for workshop improvement.

**References/Citations:**
O'Sullivan, Patricia et al, What motivates occasional faculty developers to lead faculty development workshops? A qualitative study, Academic Medicine Vol 90, No 11, Nov 2015

Sklar, David, Moving from faculty development to faculty identity, growth, and empowerment, Academic Medicine, vol 91, No 12, Dec 2016


Steinert, Yvonne, Faculty development: From workshops to Communities of Practice, Medical Teacher, 2010, 32:425-428

Steinert, Yvonne et al, Strengthening Teachers’ Professional Identities through faculty development, Academic Medicine, Online Ahead of Print.
Use of a mobile tool linked to QR codes improves collection of formative student assessment in LICs

Abstract:

Background: UCSF introduced the Bridges Brief Observation Tool (BBOT) in 2019 to provide more frequent, timely, low-stakes and student-driven feedback. The BBOT assesses a specific observed clinical competency. The optimal process for collection and tracking of such assessments in the LIC model remains unclear. Aim: To assess the impact of introducing a cloud-based, smartphone tool linked to QR codes (BBOT QR) on BBOT completion rates. Methods: Each student in two UCSF LICs, UCSF-KLIC East Bay and UCSF-KLIC San Francisco, was provided a personalized survey link and a QR code worn on their identification badge. Students requested immediate feedback from their preceptors by asking faculty to scan their QR code with a smartphone camera. The completed BBOT was electronically shared with student and program director promptly and automatically. In contrast, UCSF-PISCES LIC collected BBOTs using MedHubTM email notifications to preceptors. BBOT completion rates per student were calculated for the combined UCSF-KLIC programs and the UCSF-PISCES program at the end of the first quarter. A two-tailed t-test was performed with p Results: An average of 15.2 (SD 6.46) BBOT QRs per student (n=14) were collected in the KLIC programs vs 6.2 (SD 3.6) BBOTs in UCSF-PISCES (n=16), (p Discussion: Initial results suggest that QR codes increased faculty completion of a brief evaluation tool in two LIC programs. Further results are forthcoming. As medical education moves towards student-driven and low-stakes assessment, technology can facilitate faculty completion of student evaluations.

References/Citations:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5736051/
Student Perspective on the Continuity Principles of the Longitudinal Integrated Clerkship

Impact

Oral Presentation
Tuesday, OCT 29
11:00-11:15
Pacific Ballroom

Lead Presenter: Sosan Nasir, University of Wollongong
All Author(s): Kath Weston, University of Wollongong; Sosan Nasir, University of Wollongong

Abstract:

Introduction:

A Longitudinal Integrated Clerkship (LIC) is a widely recognized innovation in medical education that uses continuity as an organizing principle, thus increasing learner centeredness and patient-centeredness. It is comprised of 4 main principles: continuity of care, supervision and curriculum, continuity with peers and systems of care. The aim of this report is to describe a medical student’s experience during a 12-month LIC in rural Australia and how the experiences relate to these principles.

Results:

During this longitudinal integrated clerkship, my peers and I have improved our skills in disease prevention, chronic disease management, acute intensive care, patient-centred care, and care plan development. We have established long lasting relationships with each other, supervisors, preceptors, patients and locals within the community.

Discussion:

The consistency in teaching, curriculum, instructors, specialist tutorials and additional tutoring time has significantly improved our knowledge and clinical skills. Undertaking a research project also helped to develop our skills as community-based clinician researchers. Furthermore, the privilege of being in one location for a prolonged period of time improved our understanding and utilization of their protocols, equipment, resources, and services, whilst also appreciating their limitations.

Conclusion:

This paper documents the medical student journey during a 12-month LIC and describes the unparalleled positive experiences and skills that can be attained.
Abstract:

Introduction/Background

Medical schools are increasingly challenged to prepare future physicians in domains outside of medical and clinical science including leadership, teamwork, community engagement, and cultural sensitivity. Service-learning curricula may address this gap by immersing students in experiential learning while simultaneously fostering professional values such as altruism, service, and collaboration. However, learners and community partners must be appropriately prepared for the collaborative effort. Determining when students can dedicate time to service-learning across a four-year medical school curriculum remains challenging given competing educational imperatives. Integrating service with clinical learning may be optimal and an LIC model, with its focus on longitudinal interdisciplinary relationships, is ideally suited to support longitudinal service-learning in the core clinical year.

Aims/Objectives

We will present 2 exemplars from the University of Colorado: the Denver Health Longitudinal Integrated Clerkship (DH-LIC) and the Colorado Springs Mentored Integrated Clerkship (COSMIC). Both LIC programs have implemented service-learning curricula and experienced successes and challenges with selecting optimal community partners, preparing students and community partners for projects, and integrating service-learning activities into LIC curricula. We aim to bring these challenges forward for discussion.

Discussion questions/ Issues for exploration
What strategies can be used to prepare community partners for service-learning with medical students?
What preparation and supervision do students require to engage effectively with community partners?
When is the best time to integrate service-learning into medical students’ training?
Inquiry Based Education - The seed for successful self-regulated learning

Future Directions and Educational Theory in LIC

Oral Presentation
Monday, OCT 28
11:15-11:30
Pacific Ballroom

Lead Presenter: Christine Waasdorp Hurtado, University of Colorado
Co-Presenter(s): Jeffrey Wong
All Author(s): Christine Waasdorp Hurtado, University of Colorado; Jeffrey Wong, Penn State

Abstract:

Introduction
Inquiry-based education is an active learning process where students learn by developing learning objectives and then generating and answering questions individually and with peers in a faculty-facilitated process. This approach to learning is similar to self-regulated learning process that is crucial for life-long success of healthcare providers. Inquiry-based education is utilized to teach self-regulated learning skills at Penn State College of Medicine during the pre-clinical curriculum and University of Colorado School of Medicine during the core clinical year.

Aims/Objectives
Review inquiry-based education, including benefits and challenges of learning pedagogue.
Describe how inquiry-based education has been successfully utilized in pre-clinical and clinical curricula at two institutions.
Identify resources needed to implement inquiry-based education.

Methods
Penn State University Park Regional campus implemented inquiry-based education during the pre-clinical curriculum and the University of Colorado Colorado Springs Branch campus implemented inquiry-based education during the core clinical year to cover required content for Pediatrics, Internal Medicine and Family Medicine.

Results
Students in both curricula preferred this type of learning over other faculty and peer-led learning approaches and have performed comparably on standardized exams to students in traditional curricula.

Discussion
Inquiry-based education has been implemented in both pre-clinical and clinical curricula at two medical schools with encouraging outcomes. This pedagogue can improve student engagement and provides a model for developing self-regulated learning skills.

Conclusion
Inquiry-based education can be utilized in an LIC to create engaged, independent students who are academically successful and supports mastery self-regulated learning.

References/Citations:

#36

**Faculty Perception of Peer-Led Didactics in an LIC**

*Future Directions and Educational Theory in LIC*

**Poster**

**Lead Presenter:** Christine Waasdorp Hurtado, University of Colorado

**All Author(s):** Christine Waasdorp Hurtado, University of Colorado; Chad Strickrath, University of CO

**Abstract:**

**Introduction/background**

Our regional medical campus (RMC) utilizes community faculty to support our peer-led didactic program within our LIC. Students develop and present 70% of didactic sessions with faculty serving as subject matter experts and educational mentors. Perceptions of faculty participating in this peer-led, faculty-facilitated approach have not been previously explored.

**Aims/objectives**

* Summarize community-based faculty perceptions about peer-led didactic sessions.
* Identify the benefits of faculty support of peer-led didactics to the LIC.
* Describe how to successfully engage faculty.

**Methods:** Thirty-six community clinical faculty who participated in our didactic program were surveyed on their experience supporting peer-led didactics.

**Results:** Seventeen (47%) participating clinical faculty responded. On average, each faculty member coached 3.4 (range 2-5) students per session and supported an average of 3 peer-led sessions per year (range 1-5). Among faculty, 88% felt the students were very effective or effective in teaching session objectives and 82% were interested in participating in future didactics. All faculty reported either personal enjoyment or an improvement in job satisfaction as benefits to coaching peer-led didactics.

**Discussion:** Community based faculty are supportive of peer-led didactics and report the sessions are effectively taught by the students. This methodology reduces the burden on faculty, engages the community faculty and perhaps most important, faculty report personal enjoyment and a reduction in burnout following their participation.

**Conclusion:** Serving as a faculty mentor for student peer-led didactics within an LIC, may provide an opportunity for meaningful and beneficial community faculty engagement.

**References/Citations:**


Can Student Driven Didactics Embedded in an LIC Support the Development of Self-Regulated Learning Skills?

**Future Directions and Educational Theory in LIC**

**PeArLs**
Tuesday, OCT 29
10:45-11:15
Saltspring C Room

**Lead Presenter:** Christine Waasdorp Hurtado, University of Colorado

**Co-Presenter(s):** Chad Stickrath

**All Author(s):** Christine Waasdorp Hurtado, University of Colorado; Chad Strickrath, University of CO

**Abstract:**

Introduction/Background

We have utilized student-driven didactics within our LIC to support clinical learning. Although we initially utilized peer-led, faculty-facilitated sessions within our didactic program, we recently added an inquiry-based learning component to our didactic program in the hope that it would stimulate even greater clinical correlation for didactic learning and would potentially encourage the development of student Self-Regulated Learning (SRL) skills. Inquiry-based didactics involve students learning by developing learning objectives and then generating and answering questions individually and with peers in a faculty-facilitate process, which closely mirror the key tenets of successful self-regulated learning, which are planning, learning, assessment/feedback and adjustment. While we have demonstrated the benefits of our peer driven program on student perceptions and academic performance, we have not effectively evaluated the ability of inquiry-based learning within an LIC to self-regulated learning.

**Aims/objectives**

1. Describe self-regulated learning within medical education
2. Analyze effective strategies to support the development of SRL
3. Develop an effective evaluation plan to measure the development of SRL skills within LICs.

**Discussion including questions/issues for exploration:**

How can we best assess/document successful accomplishment of the four circular steps of self-regulated learning?

1. Planning/Goal setting
2. Learning – selection of strategies/techniques/methods
3. Self-assessment/feedback
4. Adjustment/reflection

**Tools for Assessment**

- Self-Learning Survey, Self-Directed Learning Readiness Scale, Continuous Learning Inventory and Jefferson Scale of Life-Long Learning (Understand SRL)
- Case Studies – capture the nature of SRL
- SRL Microanalysis – tracks thoughts, feelings and actions
- Triangulation – use multiple methods to gather information

- Others?
References/Citations:


What makes a medical student leader? An exploratory study of students’ perspectives on leadership

Reflection and Engagement
Poster

Lead Presenter: Galina Gheihman, Harvard Medical School
All Author(s): Galina Gheihman, Harvard Medical School; Alison Holliday, Harvard Medical School; Erin Sullivan, Harvard Medical School; Amy Sullivan, Harvard Medical School; Rebecca Karp-Leaf, Harvard Medical School

Abstract:
Introduction/Background
Physicians often hold leadership positions within the healthcare system, yet few medical students receive formal leadership training. There also exists a gap in our understanding of how students view themselves as leaders.

Aims/Objectives
We conducted an exploratory study to characterize medical students’ perception of leadership and guide the development of leadership curricula.

Methods
Two open-ended questions were included as part of a larger cross-sectional survey administered in June-August 2018 at Harvard Medical School. We asked students to describe via free text responses: 1) characteristics and behaviors of successful medical students, and 2) what being a leader as a medical student means. Qualitative content analysis was used to identify major themes.

Results
The primary survey response rate was 64% (n=485); 467/485 (96%) completed the free-text responses. Three major qualitative themes included: 1) domains in which students could demonstrate leadership: classroom, clinical, and societal; 2) leadership qualities: adaptable, emotionally intelligent, diligent; and 3) leadership practices: supporting others, taking initiative, staying true to one’s values, demonstrating resilience and vulnerability, maintaining a healthy lifestyle, and showing humility, among others.

Discussion/Conclusions
Medical students see an important role for student leaders in the classroom, the clinical setting, and within society. Curricula should be developed to build leadership knowledge, skills, and actions that are relevant to students. Such initiatives should also foster courage, resilience, self-care, and commitment to serving others in medical school and beyond. Practicing these qualities and behaviors may help individuals lead as medical students, becoming effective team members, providing excellent clinical care, and maintaining their own sense of wellbeing.
Using Constructivist Theory to Develop Student-Directed Small Group Learning Sessions in LICs

Future Directions and Educational Theory in LIC

Poster

Lead Presenter: Sarah Wood, Schmidt College of Medicine at FAU

All Author(s): Sarah Wood, Schmidt College of Medicine at FAU; Jennifer Foster, Schmidt College of Medicine at FAU; Lacey Sorrentino, Schmidt College of Medicine at FAU; Joanna Drowos, Charles E. Schmidt College of Medicine, Florida Atlantic University

Abstract:

Introduction: The Schmidt College of Medicine is known for its innovative developmental trajectory of student-led, small-group learning during the pre-clerkship curriculum. In response to Year 3 student and faculty feedback, the faculty underwent a yearlong process of developing a new constructivist learning format called Diagnosis & Reasoning (DR) Rounds for third year students to participate in weekly throughout their longitudinal integrated clerkships (LICs). In addition to mastering clinical content, small group goals include promoting team work, problem-solving, and self-directed learning; essential skills for success in LICs.

Objectives: Develop a small-group, student-directed curriculum for 64 students in their LICs to enhance teamwork, communication, clinical reasoning, leadership, and accountability for learning.

Design: Input from students and faculty was solicited in an inclusive, iterative process that led to the development of forty 2 hour sessions integrating multidisciplinary content launching in May of 2019.

Results: Quantitative and qualitative data will be solicited from students through program evaluations and focus groups between May - Oct 2019 and Nov 2019 - April 2020. Student performance on shelf exams and USMLE Step 2 will be compared with data prior to curriculum implementation.

Discussion: Within constructivist learning theory it is recognized that the responsibility of the teacher is to provide a collaborative, problem solving environment where students build their own understanding of the content with the teacher as a guide. Our goal was to create this type of learning opportunity for our LIC students.

Issues for discussion: Outcomes, lessons learned, as well as future directions and opportunities will be discussed.

References/Citations:


Discuss the optimal timing for training in LICs within medical school curricula.

Introduction/background:
Optimizing the timing of curricular components within medical school education continues to be a challenge, particularly with the increasing importance placed by residencies on licensing exam performance. At the Schmidt College of Medicine at FAU we have LICs for all 64 students during their third year. We now grapple with the question of whether the timing of our 2 six month LICs are best served in the 2nd or 3rd year of our curriculum. Students highlight the pressure and stress they experience in high stakes, graded clerkships where they feel constantly evaluated in what they perceive as an often inconsistent and subjective manner. Simultaneously, data is being shared by medical schools around the country who run their clerkships in the 2nd year of medical school and cases where clerkships are Pass/Fail. There is increasing literature that students perform very well on Step 1 when it is scheduled after the clerkship year. We are currently considering a curriculum reform that would address these concerns and opportunities.

Aims/objectives:
Discuss the optimal timing for training in LICs within medical school curricula.

Discussion including questions/issues for exploration:
What do educators consider the ideal time frame for students to enter LICs within a medical school curricula? What do educators and students consider the ideal timing to take Step 1 and Step 2 for students in LICs? What are the lessons learned from other institutions? Should the timing and choice be left up to students, based on competency or EPA development, or be scheduled by medical school administrators?

References/Citations:

The new golden rule – “Treat yourself as you would treat others”: Learning skills for self-compassion in medical school

Reflection and Engagement

Workshop
Monday, OCT 28
15:45-17:15
Tweedsmuir Room

Lead Presenter:  Galina Gheihman, Harvard Medical School
All Author(s):  Galina Gheihman, Harvard Medical School; Alison Holliday, Harvard Medical School; Erin Sullivan, Harvard Medical School

Abstract:

Introduction/Background

Clinical training is a demanding time when difficult emotions and imperfect interactions abound. There is also a culture of perfectionism that may leave trainees feeling inadequate. Medical students without effective coping strategies may resort to self-blame, which can undermine students’ learning, quality of patient care, team relationships, and personal wellbeing.

Self-compassion improves individuals’ adoption of a growth mindset, empathy towards others, general wellbeing, and resilience in the face of failure and setbacks. Self-compassion is an essential skill that can be taught to students prior to their clinical years and developed over the course of their medical training.

We developed a workshop for first year medical students that explores definitions and measures of self-compassion, and then provides concrete skills and tools for practicing self-compassion. This session will allow participants to experience the workshop for themselves and then brainstorm opportunities for introducing these materials with learners in their home institution.

Learning Objectives

Participants will be able to:
• Define self-compassion and identify why practicing it is important.
• Implement specific evidence-based skills in self-compassion.
• Recognize how these materials can be applied in the participant’s own setting.

Activities/Areas for Exploration (90 mins)

Participants will engage in the following activities:
• Self-assessment of self-compassion: complete Neff’s Self-Compassion Short Scale
• Discuss definitions of self-compassion, followed by brief review of self-compassion literature
• Practice identifying and challenging cognitive distortions
• Review clinical case and role-play advising a friend
• Discuss strategies for creating moments of self-compassion
• Propose opportunities to adapt these materials and teach them to learners in one’s own setting
#43

**Transitions of Care: An Innovative Curriculum in the Denver Health Longitudinal Integrated Clerkship**

*Impact*

*Poster*

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**Lead Presenter:** Vishnu Kulasekaran, Denver Health

**All Author(s):** Vishnu Kulasekaran, Denver Health; Jennifer Adams, Denver Health

**Abstract:**

**Introduction:**
Improving transitions of care (TOC) is a key healthcare issue with increasing demands to improve quality of care. Despite this, relatively few medical schools and residencies have formal curricula on TOC. We aimed to develop an innovative longitudinal curriculum in TOC, including home visits, for the ten students enrolled in the Denver Health Longitudinal Integrated Clerkship (DH-LIC).

**Aims/objectives:**
The goal of the curriculum will be to improve the knowledge, skills, and attitudes of students in transitions of care.

**Methods:**
Ten DH-LIC students received an introduction to TOC including an inter-professional panel discussion. The session was followed by a TOC workshop where students practiced written communication to PCPs on hospital discharge. All students completed a non-medical home visit and reflected on this experience through writing and small group discussion.

**Results:**
A local needs assessment consisted of a survey of faculty at DH to inform the development of the curriculum. Ninety-one faculty responded to the survey. Nearly 60% of faculty never had formal transitions of care training.

After the curriculum, students demonstrated improvement in confidence in communicating with primary care physicians on hospital discharge for issues requiring follow-up compared to a group of students who did not receive the curriculum. The curriculum was overall highly rated.

**Conclusion/issues for discussion:**
Faculty participation with the students on home visits poses logistical barriers. The University of Colorado is undergoing curriculum reform to expand the role of LICs which will create opportunity for expansion of the TOC curriculum.

**References/Citations:**
The impact of diverse communities on the learning in LIC

New LIC

Oral Presentation
Monday, OCT 28
10:45-11:00
Pacific Ballroom

Lead Presenter: Shou-Ling Leong, Penn State College of Medicine
Co-Presenter(s): Michael McShane
All Author(s): Shou-Ling Leong, Penn State College of Medicine

Abstract:

Introduction/background

With curricular innovations, Penn State COM offers 5 LICs in five very different settings. One LIC is part of a 3-year MD accelerated pathway at the academic center, four are in the traditional four-year curriculum in diverse communities: regional campus, integrated health system, rural community and urban community. We explore the differences/similarities of these LIC experience within the same university.

Aims/objectives
1) To define the potential differences across LIC settings
Characterize student experience across sites by:
   - Identifying opportunities for patient advocacy
   - Identifying student impact on the health system
Characterize faculty experience across sites by:
   - Identifying student impact on the health system
   - Exploring potential curricular support and needs

Methods (if relevant):
Mixed methods will be used to uncover potential differences across LIC sites. Students and faculty will complete a survey related to the LIC experiences at the end of the LIC. Student and faculty focus groups will be conducted to gather qualitative data related to educational experiences and outcomes.

Results (if relevant):
We will report on the results of the survey and the themes from the focus groups and describe the similarities/differences in the five LIC sites.

Discussion
This study, anticipate to be completed by August, will illustrate the impact the setting has on student learning. We hypothesize that the unique characteristics of the community and the LIC site will offer rich educational experiences that go beyond medical knowledge.

Conclusion or issues for discussion
Community of the LIC has important and unique impact on learning.
#45
Urgent Care Medicine: An Opportunity to Teach Outside of Specialty Silos in a Longitudinal Integrated Clerkship

*Future Directions and Educational Theory in LIC*

**PeArLs**  
Monday, OCT 28  
15:45-16:30  
Saltspring A Room

**Lead Presenter:** Lindsey Fish, Denver Health/University of Colorado  
**Co-Presenter(s):** Jennifer Adams  
**All Author(s):** Lindsey Fish, Denver Health/University of Colorado; Jennifer Adams, Denver Health

**Abstract:**

**INTRODUCTION** Urgent care (UC) medicine is an expanding clinical field of medicine and the common conditions seen in UC settings are applicable to many medical specialties. However, UC incorporation into medical training is limited. UC settings provide learners with broad exposure to undifferentiated patients, of varying ages and acuity, and teaching from generalists and specialty consultants [1].

**AIM** We aimed to demonstrate that UC clinical exposure allows students to achieve competency across multiple specialty domains making it an ideal learning space for LIC students.

**METHODS** University of Colorado School of Medicine LIC medical students are assigned a longitudinal UC preceptor in addition to traditional specialty preceptors. Evaluations of teaching and learning environment in UC are obtained annually and students use a passport to track exposure to core clinical conditions in this setting.

**RESULTS** Students rate the quality of teaching and learning environment in UC highly. Students report high levels of autonomy, exposure to diverse clinical patients and conditions, and the ability to obtain new continuity patients. Students report learning in this setting as distinct from emergency department and primary care settings.

**DISCUSSION** UC settings add unique value to LICs in providing broad exposure to core clinical conditions and educational flexibility outside of specialty specific silos. This can be especially strategic and valuable for LIC sites that may have limited clinical and faculty options in some core specialties.

**CONCLUSION** The UC setting can be a foundational aspect of an LIC curriculum providing unique clinical exposure which fill important training gaps.

**References/Citations:**

Can Longitudinal Integrated Clerkships help protect against a decline in professional attributes in medical students? Evidence from a longitudinal cohort study

Impact

Oral Presentation
Tuesday, OCT 29
10:15-10:30
Pacific Ballroom

Lead Presenter: Ravi Parekh, Imperial College
Co-Presenter(s): Andrew McKeown
All Author(s): Ravi Parekh, Imperial College; Andrew McKeown, Imperial College London; Judith Ruzangi, Imperial College London; Sonia Kumar, Imperial College London

Abstract:

Background
Longitudinal integrated clerkships (LICs) can promote patient centredness and resilience in medical students, however evidence has shown a decline in wider professional attributes (1-3). Imperial College has developed an LIC entitled the "Integrated Clinical Apprenticeship" (ICA) to better prepare our students for their transition to clinical practice (4).

Aims
We aim to understand the impact of LICs on wider professional student attributes, with the following research questions:
- Do professional attributes change within students (traditional block rotation (TBR) students and ICA students)?
- Is there a difference in the development of professional attributes when comparing the two groups of students?

Methods
5th year medical students were invited to complete validated inventories at the beginning and end of the year, looking at: tolerance of uncertainty, risk-taking, patient-centredness, empathy, resilience and empowerment. Analysis was done using paired T-tests and ANOVAs.

Results
ICA students had an improved tolerance of uncertainty (p<0.05). TBR students became more risk adverse (p<0.02), less resilient (p<0.002), and less empowered (p<0.0002). No significant changes were seen in any other attributes. There was no statistical difference found on comparison using an ANOVA.

Discussion
This UK longitudinal study adds to the evidence showing a decline in professional attributes of medical students. Results suggest that LICs may be a model that protects this decline, however further research is needed to evaluate this.

Conclusion
As UK medical students enter a challenging, fragmented healthcare system with an increasingly complex and multimorbid workload, LICs may be an educational model that protects against the erosion of professional attributes in medical students.
References/Citations:


“Lost in the crowd”: What are medical students’ experiences of belonging in Longitudinal Integrated Clerkships?

**Future Directions and Educational Theory in LIC**

**Oral Presentation**
Wednesday, OCT 30
11:15-11:30
Pacific Ballroom

**Lead Presenter:** Ravi Parekh, Imperial College

**All Author(s):** Ravi Parekh, Imperial College

**Abstract:**

**Introduction**
There are growing concerns around mental wellbeing in medical students (1). The lack of continuity in medical education has been shown to increase stress in students (2). The impact of belonging on wellbeing and learning is well established in nursing, however a gap exists in the medical education literature (3–5).

**Aims**
Imperial College has developed an LIC entitled the “Integrated Clinical Apprenticeship” (ICA), to better prepare our students for clinical practice (6). This study aims to explore the ICA students’ experiences and impact of belonging.

**Methods**
Semi-structured interviews were conducted with ICA students, to understand their experiences and impact of a sense of belonging within the course and medical school more widely. Transcripts were analysed using thematic analysis.

**Results**
Students’ experiences of belonging were categorised into: belonging to the clinical team, belonging with peers and belonging to the wider institution. The theoretical lens of communities of practice (CoP) (7) demonstrated key sub-themes including: developing a meaningful role, shifting from competition to collaboration, breaking down of team hierarchy and peer support in transitioning from student to doctor.

**Discussion**
The lens of CoP can be used to understand how medical students develop a sense of belonging in LICs. This sense of belonging is linked with the students’ professional identity and learning.

**Conclusions**
Students’ sense of belonging is vital in tackling concerns in medical students’ wellbeing and their feeling of being “lost in the crowd” within their institutions. LICs focussed on the development of meaningful membership to the community of practice can increase students’ sense of belonging.

**References/Citations:**


#48

**Tackling a perceived misalignment between curriculum and assessment in a pilot LIC.**

**Lead Presenter:** Ravi Parekh, Imperial College  
**Co-Presenter(s):** Andrew McKeown  
**All Author(s):** Ravi Parekh, Imperial College; Andrew McKeown, Imperial College London

**Abstract:**

**Background**  
Imperial College is piloting a fully integrated, longitudinal integrated clerkship (LIC) across primary and secondary care. This follows from the success of running a hybrid LIC for three years (1). This new LIC, entitled “F-Zero”, which signifies the precursor to intern training (known as foundation training or F1 in UK), is focussed on the transition to clinical practice, to address the lack of preparedness for practice within UK medical students (2,3).

The F-Zero course involves 30 self-selected final year students. Students spend time in a GP, general medical ward and general surgical ward throughout the academic year, taking a meaningful role within the team and responsibility of their patients. The course will be rolled out to all students over the coming years.

As a pilot course, F-Zero students will complete the same assessments at the traditional block rotation students (TBR). This consists of a written paper and clinical examination focussed on examinations and detection of clinical signs.

**Aims:**  
The aim of this PeARL is to explore the challenge of the perceived misalignment of the LIC course design with traditional TBR assessments.

**Issues for exploration:**

- How can we best address student/faculty concerns about performing as well in the traditional assessment?
- What assessments might we use within the F-Zero course, to encourage meaningful participation within the clinical teams and with their patients?
- What lessons may have been learnt by other institutions in the process of rolling out an LIC, where there is a perceived misalignment between course design and assessment?

**References/Citations:**


#49

Using a Holistic, Competency-Based Grading System to Determine Year 3 LIC Grades

Assessment

Oral Presentation
Monday, OCT 28
16:45-17:00
Pacific Ballroom

Lead Presenter: Jennifer Foster, Schmidt College of Medicine at FAU
Co-Presenter(s): Sarah Wood    Lacey Sorrentino
All Author(s): Jennifer Foster, Schmidt College of Medicine at FAU; Lacey Sorrentino, Schmidt College of Medicine at FAU; Sarah Wood, Schmidt College of Medicine at FAU

Abstract:

Significant variability and subjectivity exist in clerkship grading across disciplines. This contributes to heightened student anxiety and frustration with the process. Moreover, within the competitive Match process, residency directors place tremendous value on achieving “Honors” in clerkships, yet the definition of “Honors” is unclear and inconsistent. We aimed to create a holistic, competency-based system to standardize LIC grading. Our institution utilizes distinct grading committees for six core disciplines within our LICs. These committees consist of clerkship directors and key clinical faculty that meet at the end of each LIC. The committees review a combination of discipline-based assessments, including clinical evaluations, assignments, and other skill assessments. Using holistic grading descriptors, each committee determines a “Patient Care Grade” for each student through the review of these assessments. A “Medical Knowledge Grade” is determined separately based on NBME Subject Exam performance. Both grades are combined using a rubric to determine a final Overall Clerkship grade. After three iterations, we noted a slight increase in the overall number of “Honors” grades across all specialties when compared to our previous grading system. Grading committees and the use of rubrics provide standardization across all sites. However, this increase in “Honors” grades could be a limiting factor for institutions who desire a strict cap on the number of students achieving this grade. Assessing students during LICs can be challenging given the variety of clinical sites and difficulty standardizing an inherently subjective process, however, the combination of grading committees and standardized rubrics could be a feasible solution to this nationally.

References/Citations:


Schilling DC. Using the clerkship shelf exam score as a qualification for an overall clerkship grade of honors. Acad Med. 2019;94(3):328-332.
Where are we now? A UK LIC Survey

Future Directions and Educational Theory in LIC

Poster

Lead Presenter: Andrew McKeown, Imperial College London

All Author(s): Andrew McKeown, Imperial College London; Jenna Mollaney, Imperial College London; Neha Ahuja, Imperial College London; Sonia Kumar, Imperial College London

Abstract:

Background
The publication of an LIC typology in 2016 aimed to demonstrate the prevalence and variety of LICs across the globe (1). However, UK institutions were underrepresented, just as the concept of LICs was beginning to emerge as a tool to train medical generalists fit for the future NHS.

Aims
To gather information on LICs from UK medical schools currently running or planning one, as well as feedback from schools currently not running one.

Methods
An electronic questionnaire was sent to the heads of teaching of each of 37 UK institutions.

Results
24 institutions responded. 9 institutions (38%) reported that they are currently offering an LIC to undergraduate students. 14 (58%) are currently not offering LICs. Of the 14 not running an LIC currently, 7 (50%) were likely to create one in the future.

7 LICs were based in Primary Care; one based in secondary care and two were Primary Care-based with students following patients into secondary care. The number of students in each LIC ranged from 7-334. Those institutions not planning to run an LIC saw curriculum space and faculty interest as barriers to implementation.

Issues for Discussion
The UK is beginning to embrace the culture of LICs, with Primary Care the most natural setting for students to accrue patient panels that represent the multimorbidity and the generalist approach required for the future NHS. However, the picture in the UK is evolving, as institutions try to apply the CLIC definition contextually, contributing to an emerging UK typology of LICs.

References/Citations:

#51

Don't overeat at the buffet: The unique challenges of managing imposter syndrome in LICs.

*Reflection and Engagement*

**PeArLs**
Tuesday, OCT 29
10:45-11:15
Saltspring B Room

**Lead Presenter:** Michael Lawson, University of Minnesota

**Co-Presenter(s):** Matthew Young

**All Author(s):** Michael Lawson, University of Minnesota; Matthew Young, University of Minnesota

**Abstract:**

**Introduction**

LICs afford each student the ability to pursue patient care in many different domains and settings. In contrast to students in traditional block clerkships, this autonomy allows the self-directed learner to determine the amount of time and effort they can commit to seeing patients from their primary panel when those patients seek care in the clinic, hospital or emergency department. Over the past two years directing our LIC, we have had an unexpected challenge: one student each cohort worked significantly more time than their peers (2,256 hours compared to an average of 1,551 equating to 45% more time and 2,640 hours compared to an average of 1,950 equating to 35% more time). We hypothesize that this disproportionate effort stems from imposter syndrome.

**Objectives**

We would like to share the strategies we used to identify these students and to address the problem. We used hour tracking, clinical competency committee reviews, and multiple individual meetings with each student to address their specific needs.

We would like to relay our own experience/strategies addressing the needs of these students, and ask the CLIC community what they have found to be useful.

**Specific areas for discussion/exploration:**

How can these students effectively be identified?

Once identified, what strategies can be employed to address imposter syndrome and prevent moral injury?

Are there steps we can take to help prevent this situation for students?
#53
Longitudinal Integrated Reflective Learning

Reflection and Engagement

Workshop
Monday, OCT 28
10:30-12:00
Tweedsmuir Room

Lead Presenter: Matthew Young, University of Minnesota
Co-Presenter(s): Michael Lawson
All Author(s): Michael Lawson, University of Minnesota; Matthew Young, University of Minnesota

Abstract:

Introduction:
Medical students enter their clinical experiences with optimism and enthusiasm, but their expectations often do not match the realities of clinical practice. Without an outlet to resolve this cognitive dissonance or, more simply, to slow down and share the powerful emotions experienced, students struggle to make sense of this in isolation.

Reflective practice in medical education lacks research evidence of improved quality of care. However, the principle upon which it is thought to be beneficial dovetails quite well with already known benefits of LICs.

Meaningful and effective reflection requires a vulnerability from students that is often inaccessible in the fast moving clinical setting. As a supportive learning community is often core to LICs, there is opportunity to offer a safe place for this. Our early experience suggests that reflective sessions in an LIC, when guided by skilled facilitators and combined with deliberate curriculum and goals, can accelerate the already powerful humanizing and transformational aspects of LICs.

Learning Objectives:
- Identify portions of your LIC that could be enhanced by guided reflection
- Practice participating in and facilitating a reflective conversation
- Develop a curriculum with specifics topics and an overall goal for your LIC

Issues:
- Describe barriers to implementing this approach
- Anticipation or experience: What works? What doesn’t? Why?
- How might we assess whether the desired outcomes are being met?

Activities:
- Discussion of current practices amongst members.
- Role-play scenarios to practice facilitator and learner perspectives
- Design a curriculum and set a goal

References/Citations:


Education in Caring for Patients with Intellectual and Developmental Disabilities in a Longitudinal Clerkship

Future Directions and Educational Theory in LIC

Poster

Lead Presenter: Erik Wallace, University of Colorado School of Medicine

All Author(s): Erik Wallace, University of Colorado School of Medicine; Heather Cassidy, University of Colorado School of Medicine; Priya Chandan, University of Louisville

Abstract:

Background

Approximately 1-3% of people globally have an intellectual or developmental disability (IDD). Significant health care disparities exist in this population, particularly among adults with IDD. The failure of medical education programs to educate clinicians on the provision of high-quality, culturally competent care for patients with IDD has been identified as a root cause of the observed disparities, and few medical schools report inclusion of curricula on disabilities in their training programs. In 2018, the Alliance for Disability in Health Care Education developed core competencies to help schools integrate disability-related content into health professions education. The National Curriculum Initiative in Developmental Medicine, a multi-year partnership between the American Academy of Developmental Medicine and Dentistry and Special Olympics, provides funding to medical schools to implement and evaluate a variety of pedagogies for IDD content via assessments of knowledge and attitudes of learners in these curricula. The LIC model could provide an ideal structure to implement high-quality education in caring for patients with IDD, improving outcomes in this population.

Objectives

• Describe the core competencies on disability for health care education
• Discuss teaching methodologies that can be effectively implemented in an LIC model to improve learners’ knowledge and attitudes in caring for patients with IDD.

Discussion Questions

• How can the LIC model be leveraged to effectively address the core competencies on disability for health care education?
• How can longitudinal panel patients with IDD be effectively used to achieve the core competencies on disability for health care education?

References/Citations:


Peer-Led Didactics in an LIC

Future Directions and Educational Theory in LIC

Oral Presentation
Monday, OCT 28
11:30-11:45
Pacific Ballroom

Lead Presenter: Christine Waasdorp Hurtado, University of Colorado
All Author(s): Christine Waasdorp Hurtado, University of Colorado; Chad Strickrath, University of CO

Abstract:

Introduction/background: Peer teaching has been shown to be an effective educational methodology. In medical education, it has been utilized in problem-based learning (PBL), team-based learning (TBL), and other courses with demonstrable benefits in medical knowledge acquisition and clinical reasoning skills. Peer teaching in the core clinical year has not been well-described. Our LIC implemented peer-led didactics at our new Regional Medical Campus.

Aims/objectives: Review effectiveness and feasibility of a peer-led didactic program to support clinical learning within a LIC.

Methods: Our LIC implemented peer-led didactics to achieve the goals, objectives, and competencies for the core clinical at our medical school. Students selected topics, were provided goals/objectives, developed and presented peer-led sessions with faculty member assistance. The feasibility and effectiveness of the program was evaluated with surveys, focus groups, post-session evaluation and standardized medical knowledge assessments (NBME and Step 2).

Results: Ninety-five percent of students reported student-led didactics were relevant to their clinical work and eighty percent reported the sessions enhanced their knowledge. Students ranked preparing didactics as one of their most valuable learning experiences. Students standardized test scores were comparable to traditional clerkship curriculum. Match outcomes have been favorable.

Discussion: Utilizing peer-led didactics is feasible and effective in helping students achieve the goals, objectives, and competencies of the core clinical year. Students show preference for this pedagogy. This methodology may offer advantages to peer teachers and peer learners while placing lower demands on teaching faculty than traditional faculty-led didactics.

Conclusion: A peer-led didactics program within an LIC is effective and feasible with outcomes that compare to more traditional teaching models.

References/Citations:


The Long-Term Impact of Participation in a Longitudinal Integrated Clerkship (LIC) on Professional Identity Formation.

Impact

Oral Presentation
Tuesday, OCT 29
10:00-10:15
Pacific Ballroom

Lead Presenter: Ann Poncelet, University of California, San Francisco, School of Medicine
Co-Presenter(s): Jill Konkin
All Author(s): Ann Poncelet, University of California, San Francisco, School of Medicine; Jill Konkin, University of Alberta; Joseph Sullivan, UCSF; Maria Wamsley, University of California, San Francisco; Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Tal Ziv, Kaiser Permanente and University of California, San Francisco; Lindsay Mazotti, Kaiser Permanente School of Medicine; Arianne Teherani, UCSF; Daniel Lemoine, University of Alberta; Alyssa Tao, UCSF

Abstract:

Introduction/background
Medical education transforms the lay person to a physician as core professional values and principles integrate into one’s identity in a process known as professional identity formation (PIF). The clerkship year serves as a critical transition period which further forms or re-forms students’ identities. There is evidence that LIC students’ PIF follows a unique trajectory. However, studies of LIC graduates exploring the long-term impact of the LIC on PIF are lacking.

Aims/Objectives
The purpose of this study is to explore LIC graduates’ perspectives on the influence of the LIC on their development as a physician.

Methods
This qualitative study of graduates from three LIC programs from two institutions (UCSF and University of Alberta) used a phenomenological frame. Semi-structured interviews are underway. The research team has reviewed the first three anonymized transcript individually and are now reviewing them as a group. The analysis will capture the PIF journey of participants as it emerges from the transcript. Two members of the research team will analyze subsequent interviews with periodic input from the research team.

Results
The study is in progress with completion anticipated fall of 2019.

Discussion
Anticipated outcomes include identification of the long-term impact of an LIC on the PIF of participants in these programs. This will further understanding of the PIF process in LICs and improve and strengthen how LIC programs support student PIF.

References/Citations:


Jarvis-Selinger S, Pratt DD, Regehr G. Competency is not enough: integrating identity formation into the medical education discourse. Acad Med 2012;87 (9):1185–90.


Virtual Reality in a Distributed Longitudinal Integrated Clerkship: Groundwork and Future Plans

Abstract:

Introduction
Virtual reality (VR) is an emerging technology with broad reaching impact and is of particular interest in medical education. However, efforts to bring VR into widespread use in medical education have been limited. In the context of a longitudinal integrated clerkship (LIC), VR has potential to be a powerful educational modality to improve engagement and further ensure comparability of experience among students at various campus sites.

Objectives
• Develop competency with VR
• Empower students to utilize VR in their scholarly endeavors
• Design opportunities for VR in curriculum

Discussion
Our institution procured 4 HTC Vive VR headsets with support from our information technology team. We trained medical students to guide VR experiences at ten events over the past year. The subsequent exposure has driven interest in VR, resulting in three news stories, two VR-based research projects, and a student interest group in technology. As students disperse to regional campuses for the LIC, we plan on using this momentum to incorporate pilot VR projects into shared distributed curricular activities, allowing students to remain connected to their peers at distant sites as well as further improving comfort using VR. Students will be prepared to rapidly integrate VR into their learning as new applications become available that enhance clinical training, and will have opportunities to participate in the development of such applications.

Conclusion
Experience to date has demonstrated exposure to VR has increased interest among students, faculty and the lay public. We believe this will foster innovation in the next generation of healthcare providers.
Introduction/background

In 2018, the Norwegian University of Science and Technology (NTNU) established a longitudinal integrated clerkship program (NTNU Link) split on two local hospitals about 80 kilometers and 150 kilometers from the university hospital campus as a part of the six-year medical program. NTNU Link is the first longitudinal integrated clerkship program in Scandinavia.

Aims/objectives

NTNU Link offers third and fourth year medical students clerkship in local hospitals in partnership with community health systems. NTNU Link combines clerkship with problem-based and team-based learning as well as interprofessional simulation-based education. In addition, students return to the university hospital one day every four week for selected courses and clinical services not available at the regional campuses.

Discussion

The first year of NTNU Link implementation proceeded according to plan. Clinical teachers and local communities showed great enthusiasm and engagement. Student perceptions of the program were positive. Their initial struggle of simultaneous learning of multiple disciplines gave way to better understanding of the overlapping features and interconnection between different clinical and laboratory fields.

Conclusion/ issues for discussion

NTNU Link provides decentralized medical education beyond the university hospital campus. Over the next few years, the program will increase its size to 16 medical students per year. Based on our experiences from the first year, we plan to provide more instructional scaffolding during the students’ initial weeks to improve the transition into the longitudinal integrated clerkship way of learning medicine.
#60
Application of Propensity Score Matching in Evaluation of LICs

Assessment
Poster

Lead Presenter: William Pieratt, Texas A&M College of Medicine

All Author(s): William Pieratt, Texas A&M College of Medicine; Yuanyuan Zhou, Texas A&M College of Medicine; Cayla Teal, Texas A&M College of Medicine

Abstract:

Introduction The A&M Integrated Medicine (AIM) program is a Cluster B longitudinal integrated clerkship (LIC), according to Worley et al, and is the sole LIC among Texas A&M’s distributed model. Prior research suggests that LICs allow for more constructive feedback and better preserve patient-centered attitudes. However, data regarding student performance on summative evaluations of knowledge, clinical performance, and clinical skills have been mixed. The methods used to evaluate programs have varied, but the choice of methods should meet rigorous evaluation standards. Any comparative evaluation of the AIM and traditional programs must account for the fact that students self-select into the program of their choice. Methods Propensity score matching (PSM) is a statistical technique developed to estimate the treatment effect. In this case, a student who receives the treatment (participates in AIM), can be matched to a traditional student using the calculated propensity score, which simulates a counterfactual of the “same person” as an AIM student and a traditional student, thus enabling the calculation of the AIM program (or “treatment”) effect. This study included 726 students from four cohorts. Results AIM students performed higher in 5 of 6 clerkships’ NBME exams. Using PSM method, positive differences were enhanced no matter which covariate or covariate combination were used. Discussion Results from direct comparison and PSM both indicate the AIM program produces stronger NBME performance. Additional analyses indicate that AIM students were poorer preclerkship performers overall, and that this difference was overcome by the AIM experience. Conclusion PSM is an advanced statistical method that may help improve the quality of LIC program evaluation.

References/Citations:


Web based tool to promote clinical skills at the bedside in early learners.

Background
For students to succeed in the clinical setting, three key factors must be maximized: the application of content learned in the classroom to the clinical setting, clear expectations between student and preceptor for each session, as well as frequent feedback to improve performance. Unfortunately, there are not many documented solutions in the medical education literature for how to address all of these needs.

Objectives
We have created a web-based application for students and preceptors to utilize to improve clinical skills application, communication around expectations, goal setting, and feedback on performance during students first clinic experience in a Longitudinal Integrated Curriculum.

Methods
Our web-based application was designed for students and preceptors to use at the point of care, highlighting weekly session objectives with links to clinical skills content and agenda setting questions for the day modeled after the One Minute Learner. Student will maintain a preceptor feedback checklist in the application of observable skills that can be used for continued improvement until mastered. A survey will be conducted of students and preceptors’ attitudes about the utility of the tool as well as its intended ability to facilitate and improve student’s performance in the Longitudinal Integrated Curriculum.

Discussion and Conclusions
We anticipate that the use of a web-based communication tool tailored to the student and preceptors’ needs at each clinical encounter will enhance the educational goals of early clinical experiences by improving not only application of medical knowledge and skills from the classroom but provide timely feedback to improve competency mastery.

References/Citations:


3. Can a mobile app improve the quality of patient care provided by trainee doctors? Analysis of trainees’ case reports Katie Webb,1 Alison Bullock,1 Rebecca Dimond,2 Mark Stacey3, BMJ


Lessons Learned in Clerkship Innovation: A Qualitative Study of the Design and Implementation of Longitudinal Integrated Clerkships

New LIC

Oral Presentation
Tuesday, OCT 29
14:30-14:45
Pacific Ballroom

Lead Presenter: Galina Gheihman, Harvard Medical School
All Author(s): Michael Chilazi, Harvard Medical School; Dana Callahan, Harvard Medical School; Galina Gheihman, Harvard Medical School; David Hirsh, Cambridge Health Alliance, Harvard Medical School; Mark Schuster, Kaiser Permanente School of Medicine

Abstract:

INTRODUCTION
In the process of developing the first multi-year, comprehensive LIC in the United States as its core clerkship model, the newly established Kaiser Permanente School of Medicine recognized an absence in the literature of an empirical study, survey, or review of LIC leaders’ perspectives on LIC design.

AIMS
We interviewed LIC leadership across the United States, Canada, and the United Kingdom to explore experiences related to designing and implementing LICs at their institution.

METHODS
Using convenience sampling, we conducted in-depth, semi-structured interviews with leaders (i.e. clerkship directors, discipline directors, or administrative coordinators) of established LIC programs. We performed qualitative thematic analysis on interview transcripts.

RESULTS
We interviewed 29 participants representing 20 LICs. Major themes identified key challenges in LIC implementation and possible solutions. These included: (1) Administration: facilitating continuous learning relationships with preceptors and patients requires administrative support and technological solutions; (2) Faculty development and support: outpatient education necessitates targeted faculty development and support that acknowledge current practice and productivity demands; (3) Buy-in: appealing to outcomes data and shared professional values promotes engagement of key stakeholders; and (4) Comparability: rigorous program evaluation enables innovators to demonstrate comparable learning outcomes, validate innovations, and contribute to the literature.

DISCUSSION
Program leaders experienced similar challenges during the design and implementation of LICs. Rogers’ theory of “Diffusion of Innovations” provides a theoretical framework to organize these challenges and identify LIC features that promote successful adoption.

CONCLUSION
Similar challenges identified during the design, implementation, and expansion of LICs highlight opportunities for collaboration towards shared solutions.
References/Citations:


Supporting the Growth and Development of Threads: An Online Student-Run LIC Narrative Medicine Journal

Impact

PeArLs
Wednesday, OCT 30
10:00-10:45
Saltspring B Room

Lead Presenter: Greeshma Somashekar, UNC School of Medicine
All Author(s): Greeshma Somashekar, UNC School of Medicine; Galina Gheihman, Harvard Medical School; Katherine McDaniel, Harvard Medical School; Joanna Schneider, UNC School of Medicine

Abstract:

Introduction/Background: Narrative medicine is a powerful tool for reflecting upon and sharing stories of medical encounters. The unique experience of participating in a longitudinal integrated clerkship (LIC) provides rich material for narrative medicine - and gathered narratives can help illuminate the richness of LICs. In 2018, Students for Longitudinal Integrated Clerkships and Curricula (SLICC) members created a platform for students from LICs across the world to publish and share personal narratives from their LIC experience. Threads Journal of Narrative Medicine is an online, student-run, theme-based quarterly journal that publishes writing by students and alumni of LICs and other longitudinal curricula.

Aims/Objectives:
- To identify strategies for the growth and development of Threads.
- To explore ways this robust online collection of student narratives and professional writings might serve as a catalyst for new LICs in establishing their ethics, humanism, and narrative medicine curricula.
- To streamline our publication and distribution process so that Threads reaches a wider audience.
- To enhance the Threads website to serve as a platform for LIC students to submit their own narratives to their faculty.

Discussion / Questions for Exploration:
1. How do LIC narrative medicine instructors collect, distribute, and discuss narratives?
2. How can Threads' theme-based pages be incorporated into narrative medicine curricula?
3. How can Threads help facilitate the development of new LIC narrative medicine programs?
4. What modifications should Threads make to the website to best serve LIC students, alumni, and teachers?
5. What other advice do participants have for the growth and future directions of Threads?
#64

The Art of Risk-Taking: Practical tools for successful risk-taking behavior

Reflection and Engagement

Workshop
Tuesday, OCT 29
10:00-11:30
Tweedsmuir Room

Lead Presenter: Galina Gheihman, Harvard Medical School
All Author(s): Galina Gheihman, Harvard Medical School; Agatha Brzezinski, Harvard Medical School; Dalia Larios, Harvard Medical School

Abstract:

Introduction/Background
The practice of medicine demands consistent, exceptional performance to minimize the risk of patient harm. As such, medical schools commonly select for highly driven, successful individuals. Yet these individuals may have little experience with failure. Students and faculty may be risk-averse and uncomfortable with uncertainty, while simultaneously being asked to hold clinical and leadership positions that require these skills. Consequently, comfort with failure, leadership in uncertain situations, and healthy risk-taking may help distinguish truly effective clinical leaders.

This workshop will help participants reflect on their own risk appetite and apply specific tools to understand, practice, and reflect on healthy risk-taking behavior. We have developed the Take RISKS! Framework and several practical tools to introduce participants to the cycle of risk-taking. Attendees will experience the workshop and be equipped to introduce these materials with learners in their home institution.

Learning Objectives:

• Define risk-taking and understand the benefits of risk-taking vs. remaining in our “comfort zone”
• Apply tools to assess, mitigate, and plan risk-taking as well as reflect on the consequences of risk
• Understand the cycle of risk-taking through the Take RISKS! framework and articulate the value of sustaining healthy risk-taking behavior

Activities/Areas for Exploration (90 mins):
1. Review risk-taking scenarios and self-assess one’s risk appetite
2. Apply the Comfort Zone Tool to explore barriers to risk-taking
3. Apply the Percent Likelihood Tool and the Planning for Failure Tool to mitigate risk-taking
4. Discuss consequences of risk and strategies to learn from failures and successes
5. Introduce the Take RISKS! framework as an approach to the cycle of risk-taking
#65
Working with Learner Difficulties in Longitudinal Integrated Clerkship

Assessment
Poster

Lead Presenter: Sarah Smith, University of Alberta
All Author(s): Sarah Smith, University of Alberta; Darren Nichols, University of Alberta; Jill Konkin, University of Alberta

Abstract:

Background:

Difficult learning situations occur in all clerkships. However, there are some unique opportunities in longitudinal integrated clerkships (LICs) to diagnose the issue and to tailor the learning for the student and thereby avoiding what might become the need for remediation if they were in rotation-based clerkships.

With continuity of patient care, continuity of supervision and the continuity of learning environment/curriculum, LICs have the learning context in which to explore the issues and to develop solutions that will contribute to success for learners with all levels of knowledge, skills and attitudes.

This workshop will explore these affordances in LICs that support student success and strategies to use them effectively.

Objectives: By the end of this workshop, participants will:
1. Identify common learning difficulties for learners in LICs
2. Discuss strategies for making a learning diagnosis in a setting with continuity
3. List and discuss learner-centered approaches to difficult learning situations

Areas for exploration:
1. Difficult learning situations using the LIC lens and exploring the affordances of LIC.
2. The role of relationships in resolving difficult learning situations with regard to learner, preceptor and context.

Activities:

After a short opening presentation the participants will work in small groups to discuss examples from their own LICs to identify the issues of learner, preceptor and context. They will then explore measures from the collective experience that were put in place to increase the learner’s chance for success. The small groups will report back and there will be a short presentation to conclude using the the key points.
#66
“We’re not at the coalface”: Involving students in Longitudinal Integrated Clerkship design, an international mixed-methods study

*Future Directions and Educational Theory in LIC*

**PeArLs**
Monday, OCT 28
10:30-11:15
Saltspring A Room

**Lead Presenter:** Galina Gheihman, Harvard Medical School

**Co-Presenter(s):** David Hirsh

**All Author(s):** Galina Gheihman, Harvard Medical School; Dana Callahan, Harvard Medical School; Joshua Onyango, University of North Carolina School of Medicine; David Hirsh, Cambridge Health Alliance, Harvard Medical School

**Abstract:**

**Introduction/Background**
The rapid international growth of longitudinal integrated clerkships (LICs) suggests opportunity for student involvement in LIC curricular design. The literature lacks an empiric description of student involvement in LIC development.

**Aims/Objectives**
We sought to identify best practices for student involvement in LIC design, including methods of involvement, benefits, and barriers.

**Methods**
In this mixed-methods study, we conducted an email-to-web survey of LIC faculty and students. Participants were asked to describe student involvement in their LICs. Twenty volunteers (10 faculty, 10 students) participated in follow-up semi-structured interviews. We used inductive qualitative analysis to elicit key themes from survey free-text responses and interviews.

**Results**
We received responses from 104 faculty and 143 students, representing 57 universities and eight countries. Methods for student involvement included informal consultation, committee membership, and focus groups/town hall meetings. Students and faculty perceived few barriers to involvement; structural barriers (e.g. time, scheduling) were most common. Benefits included improvements to LIC program culture, curricular design, student/learner development and student-faculty relationships. Qualitative analysis identified novel themes: learning from other LICs, student-initiated feedback, “turn-around time” (time from feedback-to-implementation), need for LIC cohort customization, and opportunities for future student involvement.

**Discussion/Conclusion**
Student involvement in LIC design allows faculty to make impactful and responsive curricular changes, encourages students to hone their professional development skills, exposes students to careers in medical education, and supports a culture of collaboration and trust. As more medical schools implement innovative approaches to clinical teaching, including LICs, our study offers guidance for optimally engaging students in curricular design.
Preceptor Recruitment for a Community-based LIC: Challenges and Curricular Development

New LIC

PeArLs
Monday, OCT 28
15:45-16:30
Saltspring C Room

Lead Presenter: Jackson King, Washington State University Elson S. Floyd College of Medicine
Co-Presenter(s): Kiah Sullivan
All Author(s): Jackson King, Washington State University Elson S. Floyd College of Medicine; Kiah Sullivan, WSU Elson S Floyd College of Medicine; Farion Williams, Elson S Floyd College of Medicine at Washington State University; Jaime Bowman, Elson S. Floyd College of Medicine; Dawn Dewitt, WSU Elson S Floyd College of Medicine

Abstract:
Introduction: The newly developed Longitudinal Integrated Clerkship (LIC) at the Elson S. Floyd College of Medicine (ESFCOM) was built in a distributed campus model across the state of Washington, most of which is designated as a Health Professional Shortage Area (HPSA). The learning objectives and schedule structure of the LIC focus on patient care encounters, not on disciplines, in an attempt to encourage care overlap and manage statewide health professional shortages. We seek to find other curricular development strategies to engage rural communities when physician preceptors are at a scarcity.

Learning Objectives:

1. Compare and contrast the scope of care for physicians in each of the six core disciplines of clerkship learning (Family Medicine, Internal Medicine, Pediatrics, Obstetrics/Gynecology, Psychiatry/Behavioral Health, Surgery).
2. Design learning objectives that explore the overlap in scope of care.
3. Prioritize other learning opportunities that integrate community engagement in LIC curricular development.

Issues for Exploration: ESFCOM has developed its LIC across four community campuses: Vancouver, Everett, Tri-cities, and Spokane, WA. Each of these communities is located within an HPSA. When learning communities include areas of physician and other allied health professional shortages, how do you train physicians within the environment of resource scarcity? What other community engagement opportunities support LIC learning? What medical specialties provide the best overlap in care to facilitate achieving learning outcomes?
Are Longitudinal Integrated Clerkship Models the Way Forward in Medical Schools? A Systematic Review Analyzing the Effectiveness of this Educational Approach

Abstract:

Background: In response to social accountability mandates, medical schools have developed and implemented a longitudinal integrated clerkship (LIC) model rather than use the traditional block clerkship (BC) during rotations. The objective of this systematic review is to explore, analyse and synthesise evidence relating to the effectiveness of the LIC model.

Methods: An extensive online search was performed using the statement “longitudinal integrated clerkship” in Pubmed, Cochrane Central Register of Controlled Trials, and Cochrane Database of Systematic Reviews. Studies that did not examine a LIC model, contained ineligible comparators, and described results of meta-analyses and systematic reviews were excluded.

Results: 99 studies were retrieved and 96 were excluded. Three studies with a total of 180 students met the eligibility criteria.

Discussion: Two papers focussed on viewpoints of students in LICs and BCs, while one examined perspectives of LIC students only. Most outcomes were measured using qualitative surveys and one trial used observational tools. The success of LICs compared to BCs was observed in significant increases in student confidence, better opportunities to grow into the role of a physician, and more time performing direct patient care activities alone with longer patient follow-up. Limitations relating to small cohort size, recruitment bias, and an inadequate number of variables assessed reduce the generalizability of the outcomes presented in these studies.

Conclusion: LICs are gaining support as an alternative to traditional BC rotations. Further research is required to ascertain more generalizable results with fewer biases and evaluations that span several years to ensure future medical students are trained.
#69
The Impact of community engagement: the Elson S. Floyd approach to partnership and integration within rural communities

Reflection and Engagement
Poster

Lead Presenter: Kiah Sullivan, WSU Elson S Floyd College of Medicine
All Author(s): Kiah Sullivan, WSU Elson S Floyd College of Medicine; Meredith Morrow-Okon, Washington State University; Farion Williams, Elson S Floyd College of Medicine at Washington State University; Lawrence Schecter, Elson S. Floyd College of Medicine

Abstract:
Introduction/Background:
The Elson S. Floyd College of Medicine’s (ESFCOM) mission is to serve as a unique resource for the State of Washington, with the goal of developing healthier populations in challenging healthcare environments. This is highlighted in our approach to community engagement throughout each student’s Longitudinal Integrated Clerkship.

Aims/Objectives:
• Integration of community engagement into core curriculum through relationship building, service, and reflection
• Emphasis on rural medicine and multimodal community engagement
• Increase awareness of our new medical school and our novel program throughout Washington State

Discussion:
Beginning with Clinical Campus Weeks and culminating during clerkships, the ESFCOM seeks to place students from Washington state into the communities where they will eventually serve as physicians. By placing fifteen students in one of four different anchor locations with emphasis on engagement with outlying rural sites, students are guaranteed exposure to different healthcare environments and their subsequent unique needs and challenges.

Conclusion:
Recognizing that new physicians often remain in the region where they complete their clerkships and residency, the goal of these placements is to improve patient outcomes and integrate hands-on practice into our clinical education, while simultaneously creating long-term providers to address the healthcare shortages in our state. Not only do we seek to improve patient well-being and continuity of care through the use of Longitudinal Integrated Clerkships, but we also seek to build partnerships within our local healthcare systems that will last a lifetime.
#70
Multi-Specialty Applied Learning Sessions in the LIC

New LIC
Poster

Lead Presenter: Shanna Combs, TCU and UNTHSC School of Medicine

All Author(s): Shanna Combs, TCU and UNTHSC School of Medicine; Claudia Perez, TCU and UNTHSC School of Medicine; saji pillai, TCU/UNTHSC SCHOOL OF MEDICINE; Whitney LeFevre, TCU and UNTHSC School or Medicine; Adam Jennings, TCU and UNTHSC School of Medicine; Amani Terrell, TCU and UNTHSC School of Medicine; Brian Dixon, TCU and UNTHSC School of Medicine; John Birbari, TCU and UNTHSC School of Medicine; Stephen Scott, TCU and UNTHSC School of Medicine

Abstract:

Introduction: In the Longitudinal Integrated Clerkship (LIC) for our new medical school, we have engaged all our core clerkship specialties in developing educational sessions for students. After completing a 14-month foundational curriculum, all students transition to one year of dedicated LICs. During this intensive clinical phase, all students will gather for applied learning sessions developed and led by multi-specialty facilitators.

Aims: We sought to identify key educational topics that highlight high-yield content in clinical medicine and further develop skills to integrate basic science concepts, as well as across traditional clinical disciplines. Our model incorporates clinical content in the areas of medical knowledge, clinical skills, professionalism, and communication to develop goals and objectives for each session.

Discussion: The purpose of this multispecialty approach to educational sessions is to allow students to gain an understanding of the various perspectives in reasoning utilized to address clinical problems and to help minimize the inherent bias that comes from looking at a situation through the lens of only one specialty. By sharing our model, we hope to both inform and learn from others who are using multi-disciplinary approaches to designing and delivering applied sessions to augment learning during student experience in an LIC.

Conclusion: Our goal is that this structure will allow students to ultimately feel the “joy” or deeper meaning, from working through complex clinical problems and realize how these fit into the broader scope of medicine.
#71
Moving on from a pilot: roll out in a varied LIC landscape.

*Sustainability/Expansion of Existing LIC*

PeArLs
Tuesday, OCT 29
10:00-10:45
Saltspring C Room

**Lead Presenter:**  Maggie Bartlett, University of Dundee School of Medicine

**All Author(s):**  Maggie Bartlett, University of Dundee School of Medicine; Jon Dowell, University of Dundee School of Medicine

**Abstract:**

**Introduction and Background**

Dundee School of Medicine has been running a pilot 40 week long comprehensive and ‘dispersed immersed’ LIC for up to ten students since 2016. Scotland has a densely populated central region and a dispersed population elsewhere, served by general practices and small regional or community hospitals, with often distant tertiary teaching hospitals. Dundee’s LIC will be the curriculum for the penultimate curricular year for a whole cohort (55 students) on Scotland’s new graduate entry medical programme (ScotGEM), which aims to increase the number of general practitioners (family physicians) in Scotland. The variety of geographical and demographic characteristics of potential teaching sites suggest that a number of different models will be needed.

**Aims and Objectives**

To benefit from the knowledge and experience of others who have experience of setting up LICs in a variety of remote locations and to share ours arising from our work to date.

**Discussion**

We anticipate that this will cover the following areas
- the feasibility of having different LIC models within a single programme
- the challenges of recruiting, developing and supporting dispersed and varied teaching sites
- the practicalities of the potential models which depend on regional and community-based health services
- how to promote engagement and achieve sustainability in a health service in crisis
- how to evaluate the LIC overall given the variety of its component models

**References/Citations:**


#72
Beyond Altruism: Assessment of learners and community partners engaged in service-learning curricula

Assessment

Workshop
Tuesday, OCT 29
14:30-16:00
Boardroom

Lead Presenter: Heather Cassidy, University of Colorado School of Medicine
Co-Presenter(s): Jennifer Adams    Janet Meredith
All Author(s): Heather Cassidy, University of Colorado School of Medicine; Jennifer Adams, Denver Health; Janet Meredith, University of Colorado

Abstract:

Introduction
Service-learning aligned with community goals can cultivate engagement between learners and their communities. Moreover, evidence suggests that when medical students engage in service-learning curricula there can be benefits for students, community partners, and the well-being of the community. Students develop a more nuanced view of physician leadership and sustain higher levels of civism including commitment to underserved populations, while community partners may recognize economic benefits, increased productivity, and intercultural exchange. While medical education institutions, medical students, and community partners appreciate the altruistic spirit behind the collaborations, rigorous formative assessment strategies—for both learners and community partners—are lacking. Traditional assessment tools, such as examinations and direct observation, are inadequate. Similarly, there is a need to evaluate non-clinical community-based learning environments such as non-profit or social service organizations and the “teachers” our students learn with in those settings. This is critical in the same way we evaluate clinical sites and faculty for strengthening the learning environment for future iterations.

Learning Objectives

- Define service-learning and describe emerging best practices in service-learning curricula.
- Develop formative assessment strategies for medical students participating in service-learning curricula.
- Develop assessment strategies exploring community partners’ experiences working with medical students.

Areas for Exploration: service-learning, outcomes, assessment, students, community partners

Activities

- Large group review: definition of service-learning and emerging best practices in service-learning curricula
- Small group analysis of three exemplars from the University of Colorado
- Facilitator-led overview of curriculum
- Discussion of bi-directional outcomes and assessment models
- Large group debrief

References/Citations:


Longitudinal narratives as a novel tool for Longitudinal Integrated Clerkship (LIC) didactics

Future Directions and Educational Theory in LIC

Oral Presentation
Wednesday, OCT 30
11:00-11:15
Pacific Ballroom

Lead Presenter: Joshua Bernstein, University of North Carolina School of Medicine-Asheville Campus
Co-Presenter(s): Greeshma Somashekar
All Author(s): Joshua Bernstein, University of North Carolina School of Medicine-Asheville Campus; Greeshma Somashekar, UNC School of Medicine

Abstract:

Introduction: LIC structure allows students to follow patients over time, allowing them to better understand disease within the context of their patients' lives. Learning through longitudinal experiences is a cornerstone of LICs. Many LIC programs include formal weekly didactics but may not leverage the longitudinality of LICs during these teaching sessions. Narratives can be a useful pedagogical tool and may be used to incorporate longitudinal continuity into formal teaching sessions.

Aims/Objectives: To describe students' acceptance of a narrative-based longitudinal didactics program.

Methods: We have created a longitudinal didactics program using detailed or “rich” narratives following fictional characters over time and through different specialties. Over the course of three months, students engaged with the same characters every other week as part of a small group problem based learning (PBL) approach. Surveys were used to assess students satisfaction in comparison to standard didactics.

Results: Results are forthcoming.

Discussion: We present a novel LIC didactics program using rich narratives to leverage the advantages of a longitudinal medical curriculum.

Conclusion: Group teaching sessions are an important component of LIC programs, but have not always incorporated continuity over time. We have created a new pedagogical tool to educate medical students. Our longitudinal, narrative-based, PBL didactics could be implemented by other LIC programs to potentially improve student engagement, learning, and satisfaction.

References/Citations:


Faculty development for Preceptors in Longitudinal Integrated Clerkships (LICs): Are Podcasts an answer?

Lead Presenter: Joshua Bernstein, University of North Carolina School of Medicine-Asheville Campus
All Author(s): Joshua Bernstein, University of North Carolina School of Medicine-Asheville Campus; Joanna Drowos, Charles E. Schmidt College of Medicine, Florida Atlantic University

Abstract:
Introduction: LICs create opportunity for continuity and create student and preceptor experiences that differ from traditional programs. This creates the need for unique faculty development specific for LIC clinical faculty. Despite this, there are relatively few teaching resources addressing teaching in LICs specifically. In 2017, five educational podcasts addressing clinical teaching in LICs for community-based preceptors were shown to be well received and resulted in self-reported teaching changes by preceptors. However, these podcasts covered a limited range of the overall teaching topics relevant for LIC teaching.

Aims/Objectives: We aim to introduce and disseminate five additional LIC specific podcasts, and suggest strategies for implementation for individual preceptors and LIC programs.

Methods: Five additional faculty development podcasts addressing clinical teaching in LICs were created, peer-edited, and recorded into MP3 format.

Discussion: Despite the known differences for preceptors teaching in LICs, there continues to be a paucity of focused faculty development tools. Podcasts on specific teaching strategies in LICs can fill this void. Disseminating materials and strategies during a CLIC conference will provide opportunities for feedback and collaboration for future faculty development projects.

Conclusions: Through the introduction of additional LIC-specific faculty development podcasts, programs will have additional faculty development resources for clinical teachers.

References/Citations:


LIC context and graduate practice: trends over a thirteen-year period

Abstract:
Introduction: Longitudinal integrated clerkships (LICs) often aspire to meet workforce needs, for example to rural or academic practices.1,2 Studying practice settings of LIC graduates relative to LIC practice and institutional contexts3 can help institutions better understand if programmatic goals are being met.

Aim: To evaluate whether context impacts professional practice of graduates from three LICs.

Methods: We distributed a questionnaire by email and mail to all 328 medical school graduates who completed LICs in three different practice and institutional contexts: urban academic (UCSF-PISCES), urban community (UCSF-KLIC) and rural remote (UAlberta-ICC). The questionnaire included questions about specialty choice and rural versus urban practice setting. Descriptive statistics were used to summarize results.

Results: Response rates per program for ICC, PISCES, and KLIC were 35%, 53%, and 54% respectively. Training program correlated with current practice locations, with more ICC students practicing in rural settings compared to PISCES and KLIC in a chi-squared analysis (p < 0.05). Among ICC respondents, 65% chose family medicine, compared to 10% in PISCES and 0% in KLIC. 27% of PISCES respondents chose internal medicine, compared to 0% in ICC and 12% in KLIC.

Discussion: Context is associated with practice trends of LIC graduates, particularly regarding rural or urban practice location. Further study is required to determine how context impacts student selection into a specific LIC and if this is associated with future practice setting. Conclusion: These results may guide LIC programs to consider the impact context may have on future graduate practice and how this aligns with related programmatic goals.

References/Citations:
Beyond SMART goals: Using Coaching Kata to stimulate medical student self-efficacy and growth

Reflection and Engagement

Workshop
Tuesday, OCT 29
10:00-11:30
Boardroom

Lead Presenter: Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine
Co-Presenter(s): Lindsay Mazotti, Tali Ziv, Michael Lombard
All Author(s): Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Lindsay Mazotti, Kaiser Permanente School of Medicine; Tal Ziv, Kaiser Permanente and University of California, San Francisco; Michael Lombard, Kaiser Permanente

Abstract:

Background:
Coaching in medical education improves clinical skills and supports student well-being.1 Coaching, as differentiated from advising or mentoring, involves structured goal-setting, planning, observation and reflection. The Coaching Kata approach, a structured coaching framework first researched at Toyota Motor Company,2 has spread to many industries including healthcare. Coaching Kata aims to develop self-efficacy through a deliberate practice of striving toward challenges and using scientific thinking to overcome barriers, thereby transcending the common habit of setting Specific, Measurable, Achievable, Relevant and Time-bound (SMART) goals. This coaching model holds promise for longitudinal integrated clerkships (LICs) with continuity fostering meaningful student advancement.

Learning objectives:
1. Describe how students develop new habits in practice-based learning and improvement
2. Identify and apply the four steps of Coaching Kata
3. Consider applications of Coaching Kata principles in helping medical students build skills

Areas for exploration:
We will explore how Kata practice can inform coaching medical students in a longitudinal setting for students learning clinical skills. We will link the Coaching Kata model to Dweck’s model of growth mindset3 and Ericson’s framework of deliberate practice.4

Activities:
The facilitators will:
1. Introduce Coaching Kata practice and principles and how this relates to educational literature (30 minutes).
2. Lead participants in an improvement Kata exercise, which involves working in groups of four and using Coaching Kata to improve proficiency in solving a simple puzzle. Participants will have the opportunity to coach and receive coaching (40 minutes).
3. Lead a discussion about the benefits and challenges of applying this model at their medical center and in their LIC (20 minutes).

References/Citations:

1. "Coaching in Medical Education Improves Clinical Skills and Supports Student Well-Being."
2. "Coaching Kata Approach..."
### LIC Faculty Development through Asynchronous Online Module Creation: A Primer

**Future Directions and Educational Theory in LIC**

**Workshop**
Wednesday, OCT 30
10:00-11:30
Tweedsmuir Room

**Lead Presenter:** Brian Lin, Kaiser Permanente, San Francisco

**Co-Presenter(s):** Myles Nickolich

**All Author(s):** Brian Lin, Kaiser Permanente, San Francisco; Myles Nickolich, Duke University School of Medicine

**Abstract:**
Delivering faculty development in a longitudinal integrated clerkship can be challenging. Engaging preceptors across varied specialties with demanding clinical schedules, sometimes in geographically remote locations, encompass some of these challenges. Asynchronous delivery of faculty development content can be a means of delivering materials to core teachers. Technical issues, such as production time, cost, and length, and implementation challenges exist in seamlessly integrating videos into a well-rounded development curriculum while maintaining personalized and relevant content. When performed well, an online curriculum can serve as a useful adjunct to a comprehensive faculty development strategy.

In this workshop, participants will learn:
1. How to create content using affordable (often free) software and recording media
2. Practical tips in how to create content including storyboarding, recording, and editing/saving files
3. How to store videos securely vs creating open-access content

Areas for exploration in the workshop will include privacy concerns, faculty engagement, and application of these principles to the “flipped classroom” model.

Participants must bring a laptop computer to participate. Workshop activities include: creation of a short “Faculty development” video, including writing slides, video recording of slide narration, and playback with basic editing. We will also show how to publish videos in public and private forums.

**References/Citations:**

PMID: 25110154 (Dong C, Goh PS. Med Teach. 2015 Feb;37(2):140-5. Twelve tips for the effective use of videos in medical education.)


#78

**Leveraging LICs for experiential learning of health systems science: advancing patient outcomes through systems learning and continuity**

*New LIC*

**Oral Presentation**

Tuesday, OCT 29

15:00-15:15

Pacific Ballroom

**Lead Presenter:** Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine

**All Author(s):** Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Lindsay Mazotti, Kaiser Permanente School of Medicine; Craig Robbins, Kaiser Permanente School of Medicine; Marc Klau, Kaiser Permanente School of Medicine; Nancy Spiegel, Kaiser Permanente School of Medicine; Jung G Kim, Kaiser Permanente School of Medicine; Carla Lupi, Kaiser Permanente School of Medicine; Abbas Hyderi, Kaiser Permanente School of Medicine; Paul Chung, Kaiser Permanente School of Medicine

**Abstract:**

Introduction: Health Systems Science (HSS) is an emerging discipline recognized as a key skill for new physicians.1 Longitudinal integrated clerkships (LICs), by offering continuity of patients, site and system, have the potential to advance HSS education.

Aim: To train students in HSS within an integrated health care delivery system using a two-year LIC as a framework for experiential learning.

Methods: The Kaiser Permanente School of Medicine (KPSOM) curriculum will integrate HSS with didactic case-based learning, applications in the clinical environment within Kaiser Permanente medical centers and community health sites, and through inquiry, self-reflection, and scholarly projects. Drawing on the principles of workplace-based learning, competency-based medical education, and continuity,2 HSS will closely link to a LIC spanning the first two years and a longitudinal specialty clinic in years three and four. Students will have access to outcomes data of their own patient cohorts at a single clinical site. HSS faculty developing the larger KPSOM curriculum will work with clinical faculty to achieve relevant graduation competencies in systems-based practice and life-long learning and ensure meaningful assessment.

Discussion: In full implementation, competency assessments will include data on LIC patient cohorts and systems outcomes. This will further support students to drive improvement in clinical microsystems, provide high value health care, and improve population health.

Conclusion: KPSOM aims to educate physicians who will be change agents within their fields of practice. Synergy between health systems science and longitudinal integrated clerkships has the potential to address our nation’s growing and increasingly complex health care needs.

**References/Citations:**

#80

Longitudinal Integrated Clerkship (LIC) meets Programmatic Assessment for Learning (PAL)1.

*Future Directions and Educational Theory in LIC*

**Poster**

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**Lead Presenter:** William Heddle, Flinders University/Flinders Medical Centre

**All Author(s):** William Heddle, Flinders University/Flinders Medical Centre; Jordan Li, Flinders University

**Abstract:**

Two major disruptions to the MD program at Flinders University have occurred since 2013. 1. In that year the first pilot LIC (8 of 120 students) at Flinders Medical Centre (FMC) started, with adaptations each year until 2017 to apply the benefits already noted in the smaller cohorts of students in the Parallel Rural Community Curriculum (PRCC). In 2018 a modified LIC commenced for all students at FMC. 2. Programmatic Assessment for Learning (PAL)1 was developed at the University of Maastricht, with the emphasis on assessment with feedback driving learning. This method uses a wide spectrum of continuous assessments including Progress Tests (PT) to drive student learning and to guide student progression. In the MD program at Flinders University (graduate 4 year program with full or hybrid LIC in Years 3-4) PAL was introduced for the cohort doing Year 1 in 2017; this cohort has continued to use PAL and is now in Year 3. Unlike the limited feedback received by students in the preceding block rotation program, PAL is ideal for LIC students; in particular it requires the students to continually reflect upon eight course major Learning Outcomes (LOs) Scholarship, Knowledge, Skills, Communication, Society, Learning, Leadership, Professionalism, and empowers the students in self directed learning which converges with the principles of LIC.

The first Semester is still in progress and it is too early at the time of writing to present initial results.

**References/Citations:**

Should patient continuity be part of Longitudinal Integrated Clerkship (LIC) learner assessment?

**Introduction:**
Continuity is the guiding principle underlying LICs. Some forms of continuity are readily supported by LIC structure including learner-preceptor and learner-student relationships. Learner-patient continuity may be the most important component of LICs. Seeing patients in clinic multiple times, following patients into the hospital, to specialists’ appointments, or into other health care settings over time offers unique learning experiences specific to LICs. However, there may be learner skills, knowledge, and effort required to achieve excellence in patient continuity and maximize learning and patient care. Learner assessment may be an opportunity to measure learner contributions to the quantity and quality of patient continuity.

**Aims/objectives:**
To consider whether learner-patient continuity should be a part of learner assessment and explore creative mechanisms for assessment of excellence in patient continuity.

**Discussion and questions for exploration:**
LIC programs often have multiple components of learner assessment. Programs may have adapted learner assessment from traditional block programs. However, learners in LICs have unique experiences which may require novel assessment tools.

Given that learner-patient continuity is a core principle of LICs, should formal assessment of this be part of LIC learner assessment?

**Key questions to ask include:**
- Should learner-patient continuity be considered a key component of LIC learner assessment?
- If so, then what strategies could programs use to adequately assess this?
#82

From baby steps to a toddler’s run: SLICC (Students for Longitudinal Integrated Clerkships and Curricula) at two years old

Reflection and Engagement

Poster

Lead Presenter: Galina Gheihman, Harvard Medical School

All Author(s): Galina Gheihman, Harvard Medical School; Joshua Onyango, University of North Carolina School of Medicine; Katherine McDaniel, Harvard Medical School; Nicholas Randall, Elson S. Floyd College of Medicine; Alexandra Bocharnikov, Duke University School of Medicine; Aarti Thakkar, Duke University School of Medicine; David Hirsh, Cambridge Health Alliance, Harvard Medical School

Abstract:

Introduction/Background:
Founded in 2017, SLICC (Students for Longitudinal Integrated Clerkship and Curricula) is now entering its second year. SLICC, the student arm of CLIC, aims to (1) Connect and support students and alumni interested in longitudinal educational programs internationally; (2) Advise leaders and advocate for longitudinality and integration in medical education reform; and (3) Promote scholarship and interdisciplinary collaboration on student research and innovative projects.

Aims/Objectives:
We present an update of SLICC’s accomplishments and outline opportunities for growth and future directions.

Methods:
SLICC follows a distributed leadership structure with two co-leads supporting a team of project leads. We communicate through our website (https://sliccedu.org/), Facebook, teleconference calls, and shared online documents. We maintain a SLICC listserv with administrative help.

Results:
SLICC includes >125 current students and >80 alumni members, representing >40 programs across five countries. In 2018-2019, we implemented the following: the restructured SLICC website and Facebook page, a quarterly submission/publication process for Threads: The SLICC Journal of Narrative Medicine, administrative support and recruitment materials, and student representation at CLIC 2019. We commenced SLICC’s second student-led medical education research project.

Discussion/Conclusion:
Future aims include forging international learning connections via scholarly and clinical exchanges for students, strengthening social media engagement, and offering in-person retreats for research and advocacy projects. We are exploring sustainable funding for SLICC. SLICC fills a need for support and connection LIC students face in embarking on a non-traditional clinical training experience. The network cultivates community, fosters innovation, and promotes student advocacy for educational transformation.
#83

**Staying “SLICC”: Maintaining SLICC’s momentum in meeting the needs of medical students internationally**

*Future Directions and Educational Theory in LIC*

**PeArLs**

Monday, OCT 28  
11:15-12:00  
Saltspring A Room

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**Lead Presenter:** Nicholas Randall, Harvard Medical School

**Co-Presenter(s):** Galina Gheihman, Aarti Thakkar

**All Author(s):** Galina Gheihman, Harvard Medical School; Joshua Onyango, University of North Carolina School of Medicine; Nicholas Randall, Elson S. Floyd College of Medicine; Katherine McDaniel, Harvard Medical School; Aarti Thakkar, Duke University School of Medicine; Alexandra Bocharnikov, Duke University School of Medicine; David Hirsh, Cambridge Health Alliance, Harvard Medical School

**Abstract:**

**Introduction/Background:**

At CLIC 2017, student members of CLIC founded SLICC, Students for Longitudinal Integrated Clerkship and Curricula. As student representatives of the CLIC community, SLICC aims to connect students who are involved in longitudinal integrated clerkships and other longitudinal programs internationally. This network strives to provide peer-to-peer and alumni support, access to shared resources, ideas, and mentors, as well as research and educational opportunities.

SLICC includes >125 current students and >80 alumni members, representing >40 programs across five countries. SLICC has student representation on the CLIC Conference Committee and will host student-centered events at the conference. The founding of SLICC demonstrates the potential of undergraduate medical students to self-organize and lead reform in medical education. However, questions remain about how best to sustain our distributed network, grow membership beyond the US, Canada, and the UK, collaborate with CLIC, and maintain our momentum in meeting the evolving needs of our members.

**Aims/Objectives:**

- Summarize SLICC’s aims and achievements thus far;
- Brainstorm opportunities to sustain and enhance SLICC’s momentum in serving the needs of students;
- Brainstorm opportunities for ongoing SLICC-CLIC collaboration.

**Discussion Questions/Issues for Exploration:**

**Expansion:**

- How do we expand, strengthen, and maintain the SLICC network?
- How do we reach and stay connected with students outside Canada, the US, and the UK?
- What are unmet needs of LIC students and alumni that SLICC could address?

**Barriers:**

- What are the barriers to student participation in SLICC/CLIC activities and how can we reduce them?
- Collaboration: How can SLICC and CLIC collaborate most effectively to serve the needs of students and faculty?
The language of medicine: how does clinical reasoning develop in students in a year-long LIC? A validation study

Future Directions and Educational Theory in LIC
Poster

Lead Presenter: David Garne, University of Wollongong
Co-Presenter(s):
All Author(s): David Garne, University of Wollongong

Abstract:
Introduction/background
There is an increasing body of knowledge emerging showing the value of exposing medical students to a longitudinal integrated approach to their education. However, much remains unknown about how or why this approach is so successful.

Aims/objectives
The objective of this study is to provide some of the missing how and why gaps in our knowledge by examining how clinical reasoning develops in medical students within one longitudinal integrated clerkship (LIC) program. The aim of the study (which at the time of writing has not yet been completed), is to validate in an Australian LIC setting a method of measuring the development of clinical reasoning in medical students and residents developed by Bordage and colleagues in the US.

Methods
Senior medical students at the University of Wollongong, Australia, are required to maintain an electronic clinical log to record all clinical encounters during their year-long LIC. Students were invited to give permission for de-identified cases from the clinical log to be used to determine the semantic and syntactic content (i.e. the language used) used in the log as a marker of their clinical reasoning abilities. This method, developed by Bordage and colleagues in the US during the 1980s and 1990s, was shown in that context to be a reliable method for this purpose. The results of this Australian validation process will be presented.

Results and discussion
The results are as yet incomplete, but will be presented and the practical implications discussed.

References/Citations:


#85

**Knowing is Seeing: Student Biography Cards to Facilitate Longitudinal Patient Care in Obstetrics and Gynecology**

**Impact**

**Oral Presentation**
Tuesday, OCT 29
14:45-15:00
Saltspring C Room

**Lead Presenter:** Tara Singh, Harvard Medical School, Cambridge Health Alliance

**All Author(s):**
Tara Singh, Harvard Medical School, Cambridge Health Alliance; Kathleen Harney, Harvard; Allison Seitchik, Merrimack College; John Dalrymple, BIDMC; David Hirsh, Cambridge Health Alliance, Harvard Medical School

**Abstract:**

**References/Citations:**


Creating an LIC Community of Practice - lessons learned

Administrative Perspectives

Workshop
Tuesday, OCT 29
14:30-16:00
Waddington Room

Lead Presenter: Jess Blum, University of Minnesota Medical School
Co-Presenter(s): Anne Pereira, Kirby Clark, Matthew Young, Rachel Dahms, Erin Raci Wetherbee
All Author(s): Anne Pereira, University of Minnesota Medical School; Jess Blum, University of Minnesota Medical School; Kirby Clark, University of Minnesota Medical School; Matthew Young, University of Minnesota; Rachel Dahms, Regions Hospital, HealthPartners; Erin Wetherbee, Veterans Affairs Medical Center; Patricia Hobday, University of Minnesota Medical School

Abstract:

Introduction: A Community of Practice (CoP) is a group of people who share a passion for something they do and learn how to do better as they interact regularly (Wenger, 1998). For schools with multiple LICs, a CoP organized and supported by central administration can drive innovation, learning, and best practice to move the educational mission of each LIC, and the institution as a whole, forward. The University of Minnesota Medical School hosts five LICs that vary in curricular focus, size, included disciplines, and site. We have developed a CoP across LICs that serves a number of functions:

1. Identifying and disseminating best practices in recruitment, selection, curriculum, assessment, and remediation
2. Creating a fair, standardized and transparent selection process
3. Identifying opportunities for collaborative scholarship
4. Providing a consistent message about options for training in the required clerkships.

We will provide a brief overview of our experience, including lessons learned, and lead the participants through exercises to explore the possibility of developing or enhancing a CoP of LICs at their home institution or across institutions.

Learning Objectives/defined outcomes:
1. Define a CoP and describe the three required components of a CoP
2. Identify the value of establishing a CoP across LICs in their institution, with a specific focus on topics that could benefit from the work of a CoP
3. Develop a strategy to build or enhance their CoP

Areas for exploration:
1. Potential benefits of a CoP at participants’ institutions
2. Barriers to and opportunities for development of CoP
3. Next steps for individual institutions’ CoP

References/Citations:

The Evolution of Integrated Clerkship based on Community Response

Sustainability/Expansion of Existing LIC

Oral Presentation
Wednesday, OCT 30
10:45-11:00
Saltspring C Room

Lead Presenter: Michelle Hunter, Collingwood General and Marine Hospital
All Author(s): Michelle Hunter, Collingwood General and Marine Hospital; Nok-hin Law, Rural Ontario Medical Program

Abstract:

Background: The Rural Ontario Medical Program has initiated a Longitudinal Integrated Clerkship (CLIC) and put the model for rural Ontario in the community of Collingwood. The planning for the integration of the CLIC began in 2016 with the partnership of Queen’s University Undergraduate Medical Education and the Rural Ontario Medical Program (ROMP). Aim: The purpose of the study was to outline the success and challenges highlighted in the initial iteration of CLIC learners, to examine the length of time to initiate a CLIC, and to provide suggestions for the future CLIC sites. Methods: An initial pilot study was conducted from March 19 to July 13, 2018 among two learners (n=2). The second iteration of learners (n=2) is scheduled for April 9 to July 25 of this year. The 2019-2020 learners are schedule to undergo a total of 4.5 month rotation consisting of 3 weeks in general surgery, 2 weeks in obstetrics/gynaecology, 1 week of anesthesiology, 7-8 shifts in emergency, and the remainder in family medicine, as well as integration activities. Results: From surveys, the first iteration of learners felt while their rotations were better organized, better matched to their rotation, and were more likely to have routine check-in with their school/preceptors; learners also felt there should have been more consistency with the patients. Organizers have learned that preceptors’ schedules often change, pre-schedules do not work; flexibility is essential. Discussion: Integration of school and learners into the community fabric in all sectors and promotes long-term benefits and how that is done is imperative.
#88

**Development 101: Fundraising Tips for LICs**

*Sustainability/Expansion of Existing LIC*

**Workshop**

Monday, OCT 28
15:45-17:15
Waddington Room

**Lead Presenter:** Lisa Graves, Western Michigan University Homer Stryker M.d. School Of Medicine

**Co-Presenter(s):** Bruce Peyser, Sally Schatz

**All Author(s):** Lisa Graves, Western Michigan University Homer Stryker M.d. School Of Medicine; Bruce Peyser, Duke; Sally Schatz, Duke

**Abstract:**

Introduction/background
The current medical education climate is challenging for educators and administrators. Financially supporting longitudinal integrated clerkships (LIC) is one area of such challenges. Most health care educators, physicians and administrators lack experience in development or fundraising. Failing to access the resources of development offices and planners removes a critical resource from LICs. This workshop will provide participants with the Development 101 skills needed to work successfully to fund LICs.

3 learning objectives/defined outcomes
Following this workshop, participants will be able to:
- Define key principles of development in the LIC context
- Explore funding opportunities within their own educational environments
- Plan to work with development offices to fund aspects of LICs

Issues/areas for exploration
During this workshop participants will explore why development is needed and necessary for LICs. They will share positive and negative experiences related to development including working with development offices. Participants will be able to define the principles of development especially how providers and learners can work collaboratively with institutional partners. Participants will be able to define an approach to development including the importance of establishing a partnership between the provider and gift officer. During the workshop, participants will identify potential donors and plan how a provider can be involved in the fundraising process.

Activities
This workshop will use small and large group discussion, think-pair-share techniques, case based discussion and role plays to deliver the workshop material

References/Citations:

Rum, S., Wright, SM A randomized trial to evaluate methodologies for engaging academic physicians in grateful patient fundraising.

Acad Med 2012 Jan;87(1):55-9
The Dundee Longitudinal Integrated Clerkship - a phenomenological exploration of the experiences of patients.

Introduction
The Dundee Longitudinal Integrated Clerkship (LIC), in which medical students spend their fourth year attached to a GP practice, is the first of its kind in the UK (Bartlett & Muir, 2018). Students consult with patients in general practice and follow them into secondary care as they receive further investigations or treatment. The LIC is currently a pilot in its third year. The patient experience is yet to be evaluated.

Aims/objectives
This study will explore the patient experience of the LIC in main areas: 1. the impact of involvement of LIC students on patient care; 2. the impact of the involvement of the LIC student on patients’ understanding of their illness or disease and its management; 3. the effects of patients’ relationships with LIC students on their experience of healthcare.

Methods
The study is a qualitative exploration of the patient experience of the LIC through semi-structured interviews which will be audio recorded and transcribed then analysed by two researchers.

Results
Results are not yet available. Patient interviews will be carried out towards the end of the current academic year (June 2019), with results available for presentation at CLIC 2019.

Discussion
Discussion will focus on the impact the students’ involvement had on patients’ understanding of their illnesses and their experiences of healthcare.

Conclusion
There is limited literature exploring the patient experience of involvement in the clerkship model of undergraduate education, this study will increase our understanding of the impact the LIC has on individual patients’ experiences of healthcare.

References/Citations:
#91

**What can a LIC Administrator do for you?**

*Administrative Perspectives*

**PeArLs**  
Monday, OCT 28  
16:30-17:15  
Saltspring A Room

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**Lead Presenter:** Jessica Poston, UNC School of Medicine Asheville Campus  
**All Author(s):** Jessica Poston, UNC School of Medicine Asheville Campus  
**Abstract:**

This PeArLs session will focus on the value and innovation that Administrators can bring to a new or existing LIC program. It is known that LIC Administrators will perform duties such as scheduling, credentialing and onboarding, recruitment of students, and evaluation management, but what else do they bring to the table? Along with CLIC’s theme of Disruption for this year’s conference, this session will allow for discussion of creative ideas for utilizing and empowering Administrators in a LIC setting.

**Introduction/Background**  
Brief introduction of administrative lead and program she represents. Will also look at list of general duties that are shared among most LIC Administrators on a day-to-day basis.

**Aims/Objectives**  
- To generate creative and innovative ideas to utilize LIC Administrators besides just the basic duties they perform on a daily basis  
- To empower LIC Administrators to be innovative and see their value in their own LIC program  
- To justify the importance of LIC Administrators in a LIC program  
- To generate a list of comprehensive “not on the job description” duties that LIC Administrators perform to enhance an LIC program

**Discussion Questions**  
- What can an Administrator do for you? Either from the perspective of a Program Director who is needing help or from an Administrator who is new or seasoned.  
- What innovative ideas or processes have you come up with that have been implemented in your program?  
- What duties as a LIC Administrator do you perform that go above and beyond the call of duty?
Lead Presenter:  Barbara Sheline, Duke University

Abstract:

Introduction – Encouraging resiliency in medical students may lead to better long term professional satisfaction and retention. Resiliency has been previously defined in the medical education literature as "the capacity to resist or manage adversity without developing physical or psychological disabilities." Duke’s Primary Care Leadership Track has incorporated activities to help students develop resiliency before and during the Longitudinal Integrated Clerkship (LIC). We are open to learning new ways from others.

Aims - The oral presentation will briefly share our strategies for developing resiliency of our medical students in PCLT. Discussion will allow attendees to add reactions and suggestions.

Discussion - The literature on resiliency for medical trainees, much of it from nursing, identifies several strategies that appear to enhance resiliency of learners. These include effective connection with peers and social support, positive role modeling, time to engage in recreation, self-care, identification and focus on values and priorities, having some choice and control in the educational process, finding meaning in the school work, reflection, and coaching toward professional goals. Duke’s PCLT offers students activities in each of these areas starting in year 1 with team development, self-care and risk-taking and continuing into the LIC with continued peer support, some control over personal schedules and value-based activities.

Conclusion – LICs have been shown to retain students’ empathy. Resiliency training can further enhance the professional development of medical students to help them achieve short and long term professional success.

References/Citations:


#93
Building Community Across the Years

Reflection and Engagement

PeArLs
Wednesday, OCT 30
10:45-11:30
Saltspring A Room

Lead Presenter: Barbara Sheline, Duke University
All Author(s): Barbara Sheline, Duke University

Abstract:

Introduction – The mission of Duke’s Primary Care Leadership Track (PCLT) is to create change agents for the health of the population through primary care. PCLT students form a special community at Duke starting in the first year of medical school. This connection seems to erode in the last 2 years – the research year and elective year, when students are scattered. We feel that encourage a continuation of the community would strengthen the students’ experience through possible engagement of role models and mentor opportunities. We are looking for ways to encourage interaction with those who have gone before – whether the next higher class or graduates of the program.

Aims – We will briefly present what we are currently doing to expose our learners to upper level students (facilitator roles, upper level student instructor in the weekly seminar during LIC, first/second-year student dinner), and some of our aspirations – Facebook, Instagram, blog posts, on-line social gatherings. We would like to hear what others are doing and brainstorm ways we could all expand these connections.

Discussion – Which ideas are most likely to generate participation by learners and lead to increased community?
#94

**Moving Beyond Journal Clubs: A Novel Student-Led, Mentor-Assisted Evidence-Based Medicine (EBM) Curriculum in a Longitudinal Integrated Clerkship at the Minneapolis VA**

*Future Directions and Educational Theory in LIC*

**Oral Presentation**
Wednesday, OCT 30
10:30-10:45
Pacific Ballroom

**Lead Presenter:** Erin Raci Wetherbee, University of Minnesota Medical School

**All Author(s):**
Leah Soderberg, University of Minnesota Medical School; Alexander Zanotto, University of Minnesota; David MacDonald, University of Minnesota; Nacide Ercan-Fang, Minneapolis VA Health Care System; Erin Wetherbee, Veterans Affairs Medical Center

**Abstract:**

Introduction: EBM teaching is critical to medical education but has not been widely implemented in longitudinal integrated clerkships (LIC). The Minneapolis VA has an LIC for ten third-year medical students, which includes a nine-month EBM curriculum consisting of didactic and experiential sessions. Didactic sessions introduce foundational EBM concepts, and experiential sessions are student-led applications of concepts to medical literature and clinical scenarios. To our knowledge, this is the first comprehensive, longitudinal EBM curriculum in undergraduate medical education.

Objectives: To assess the impacts of a comprehensive, longitudinal EBM curriculum in an LIC on students’ confidence using evidence-based medicine.

Methods: Student confidence was assessed with anonymous pre-clerkship and post-clerkship surveys containing ten questions. Students rated their confidence numerically using a five-point Likert scale. For analysis, the scale responses were collapsed to scores of 1 (disagree/strongly disagree), 2 (neutral), or 3 (agree/strongly agree). A post-clerkship focus group was also conducted to solicit student feedback. The session was recorded, transcribed, and analyzed for themes by an independent reviewer.

Results: Students’ mean pre-clerkship confidence was 2.19 (SD=0.33) and mean post-clerkship confidence was 2.68 (SD=0.38). The mean difference in confidence was 0.47 (95% CI, 0.09 to 0.86, P=0.02).

Discussion: Students expressed comfort evaluating study quality, discerning clinical versus statistical significance, and applying study findings to specific patient populations after completing the curriculum. In order to achieve full mastery, students requested further education on meta-analyses, practice with statistical interpretation, and opportunities to apply EBM principles to patient encounters.

Conclusion: A comprehensive, longitudinal, student-led EBM curriculum as part of an LIC increases student confidence in analysis and clinical application of evidence-based medicine.
#95
Going out on a LIM – adapting a LIC to a new environment

Sustainability/Expansion of Existing LIC

Oral Presentation
Tuesday, OCT 29
14:30-14:45
Saltspring C Room

Lead Presenter: Ian Couper, Faculty of Medicine and Health Sciences, Stellenbosch University
All Author(s): Ian Couper, Faculty of Medicine and Health Sciences, Stellenbosch University; Francois Coetzee, Faculty of Medicine and Health Sciences, Stellenbosch University

Abstract:

Introduction
Stellenbosch University’s Ukwanda Centre for Rural Health runs a small-scale LIC, called the Longitudinal Integrated Model (LIM), in small rural hospitals in the Western Cape, South Africa, since 2011. In 2019, 4 students volunteered to pioneer a “modified LIM” programme in a new site, a regional hospital in Upington, Northern Cape, 840km from Cape Town. Extending into uncharted territory has involved an exciting and challenging process of adapting the LIC to this environment.

Aim
We aimed to describe the situation in the context at baseline and the experiences of the initial stages of expanding the LIM to this site, as part of a planned long-term study.

Method
A qualitative evaluation was undertaken. Interviews were conducted with the four pioneer students and with key staff at the site, and records of meetings, reports of visits and related documents were reviewed. Reflecting on these, together with personal experiences of the process, key themes emerged.

Results
The themes offer lessons for our own Faculty as well as for other programs, around issues of expansion, context, adaptation and sustainability.

Conclusion
Expanding a LIC to a different context – both geographical and systemic – provides insights that need to be considered for the future of the new site and sustainability of the program itself. These also highlight assumptions that are easily made and may enhance or undermine expansion efforts.
Addressing complex problems in Authentic Learning – Being and Belonging

Reflection and Engagement

Workshop
Wednesday, OCT 30
10:00-11:30
Boardroom

Lead Presenter: Ian Couper, Faculty of Medicine and Health Sciences, Stellenbosch University

All Author(s): Ian Couper, Faculty of Medicine and Health Sciences, Stellenbosch University; Paul Worley, Department of Health, Government of Australia

Abstract:

Introduction
As educators working with multiple partners in developing authentic, longitudinal, integrated learning, we operate in a very complex environment, playing many different roles across different contexts. Small obstacles easily become wicked problems that appear to have no solution. Approaching such issues is not simply a matter of acquiring new techniques or using better tools, but critically also about having a sense of who we are (understanding how we see ourselves and our own values) and who we are connecting with, in order to find a shared way forward.

Learning objectives
- Explore the place of personal understanding and values in addressing wicked problems.
- Discuss some techniques used in complex situations, arising from the adaptive action and symbiosis models.
- Reflect on principles for communicating your ideas for impact, in community and academic environments.

Areas for exploration
The workshop will explore the interaction of our own journeys (inner space) in relation to the context we are facing (outer space), and how they impact on each other. Using techniques from established models, we hope to gain shared insight regarding how our sense of being and belonging can make a difference.

Activities
The workshop will involve small group discussions around the key objectives listed above, after a brief input from the facilitators on each. Participants are encouraged to bring a complex problem they face as a basis for discussion. The aim is not to find solutions but rather to reflect on how we might reframe our perspectives on the issues.
#97

Introduction of a Longitudinal Clerkship for Wales: Community and Rural Education Route (CARER)

New LIC
Poster

Lead Presenter: Stephen Riley, Cardiff University
All Author(s): Stephen Riley, Cardiff University; Katie Webb, School of Medicine, Cardiff University; Sue Fish, Cardiff University; Ffion Williams, Cardiff University; Alan Stone, Cardiff University; Rhian Goodfellow, Cardiff University

Abstract:

Introduction
Healthcare delivery faces significant challenges due to changing patient needs and clinician recruitment. Within five years a shortfall of 400 General Practitioners (GPs) in Wales, UK, is projected. Sustainable medical education models in rural populations shows other healthcare systems facing similar challenges.

The CARER programme is the first phase of a coordinated programme, utilising inter-university collaborative provision, of evidence based medical education to encourage students to work in underserved areas. Using a social accountability framework and offering more educational continuity, cultural awareness and engagement of the rural workforce, we discuss the effectiveness and impact for students, the rural workforce and patients.

Aims/objectives
To evaluate the impact of the CARER programme and guide future innovations.

Methods
Longitudinal and mixed-methods evaluation follows three cohorts of CARER students (2018/2019/2020) before, during and after their CARER experience.

Results
Findings: one-to-one learning experiences enhances; confidence; engagement in patient-facing clinical encounters; and increases understanding of the patient journey.

Unintended benefits: greater links to other GP practices within/outside the CARER; development of alternative mentoring, teaching and communication sessions to support students achieving learning outcomes; presence of CARER students encourages multi-professional teams to reflect on all aspects of own practice.

Discussion
CARER has provided opportunities for students/practices to take part within a professional learning community.

Conclusion
CARER provides students with a sense of purpose, direction and confidence in their abilities. Findings indicate sustained exposure to patients fosters relationships and provides greater understanding of the key political ambition of integration of health and social care.
#98

**Breaking Down Silos: The Integration of Psychiatry and Primary Care for Teaching and Care Delivery in the Denver Health Longitudinal Integrated Clerkship**

*Interprofessional/Team-Based Care*

**Oral Presentation**

Tuesday, OCT 29  
15:00-15:15  
Saltspring C Room

**Lead Presenter:** Michelle Cleeves, University of Colorado  
**All Author(s):** Michelle Cleeves, University of Colorado; Jennifer Adams, Denver Health; Elizabeth Lowdermilk, Denver Health

**Abstract:**  

Introduction: Both integrated behavioral healthcare (IBH) and longitudinal integrated clerkships (LIC) are highly effective innovations and therefore experiencing rapid dissemination (1,2, 3.) The principles of IBH align with the approach LIC students adopt toward patient care: high quality patient-centered healthcare focused on lowering barriers to access and removing specialty-orientated silos. Within the Denver Health (DH-LIC), students participate in care of patients within community healthcare centers with co-located behavioral health specialists as well as a mental health center with co-located primary care. This session will explore how a clinical model of integrated care provides opportunities to strengthen the core objectives of an LIC including longitudinal care of patients, integrated learning, continuity with faculty, learning of health care systems, and contextual understanding of mental illness.

**Objectives:**  
- Demonstrate how IBH and LIC principles align and promote integration of psychiatry competencies into primary care and vice versa.  
- Discuss how psychiatry competencies can be met in integrated settings by multidisciplinary team members.  
- Develop models for integrating behavioral health teaching into LICs with and without IBH.

**Issues/Areas for Exploration:** psychiatry, behavioral health, primary care, integration.

**Activities:**  
- Exemplar from the University of Colorado DH-LIC  
- Interactive discussion about challenges of teaching psychiatry in LICs (limited psychiatrists, clinical settings, exposure to core competencies)

**Breakout discussions (choose 1)**  
- Integration of psychiatry competencies in other care settings  
- Exposing students to wide spectrum of psychiatric conditions and severity in systems with limited psychiatric care services  
- Improving student skill with mental health assessments

**Group debrief**

**References/Citations:**


Developing a Framework for an Effective Rural Longitudinal Integrated Clerkship: Lessons Learned

Lead Presenter: Martha Seagrave, UVM Larner College of Medicine
Co-Presenter(s): Christine Payne
All Author(s): Martha Seagrave, UVM Larner College of Medicine; Christine Payne, UVM Larner College of Medicine

Abstract:

Introduction/background
Medical schools are increasingly incorporating Longitudinal Integrated Clerkships (LICs) into their curricula. Outcomes suggest comparable if not stronger performance on clinical skills and knowledge-based evaluations, enhanced satisfaction with the educational experience and demonstration of patient-centeredness than traditional block clerkships. Designs vary significantly, impacted by other curricula, geographic distribution of students, available clinical experiences as well as motivation to identify more effective models.

Since 2015, the Larner College of Medicine has launched three Longitudinal Integrated Clerkship sites in rural locations. Transitioning from a traditional clerkship model to longitudinal design identified surprising elements, providing invaluable insight into building an effective structure. We will present our experience of developing a multi-site, rural LIC program with lessons learned for a successful program. The focus will be on developmental pearls rather than curricular design.

Aims/objectives
Participants will be able to:

- Articulate necessary elements for a successful off-site, rural LIC.
- Discuss how to embrace variance in programs while preserving comparability.
- Identify strategies for implementation of an off-site LIC at their home institution.

Discussion
In the initial launch of our LIC, we determined that the best model for our rural environment utilized small satellite LIC sites. We identified locations 1 hour to 5 hours from the home institution. We will share our insights into the development of a framework for a new LIC. We will discuss consideration of sites, collaborators, preceptor selection, faculty development, identification of resources, student support, and oversight which can influence the success of a program.

References/Citations:


#100
ReStorying Our Lives: A multidisciplinary approach to longitudinal mental health care of sexual violence survivors

Interprofessional/Team-Based Care
Poster

Lead Presenter: Julia Black, Duke University School of Medicine
All Author(s): Julia Black, Duke University School of Medicine

Abstract:

Background: Despite a lifetime prevalence of sexual violence of 63.1% in women and 25.4% of men[1], there are a limited number of mechanisms through which survivors can seek longitudinal care and support in a group setting, and even fewer opportunities for medical students to gain experience in providing effective mental health care for these patients. While group modalities involving medical student participation serve other patient populations including CenteringPregnancy[2], National Association for Mental Illness Family-to-Family[3], and Alcoholics/Narcotics Anonymous[4], there is no analogous group for survivors of sexual violence. Objective: We aim to introduce ReStorying Our Lives, a pilot narrative group therapy intervention developed to provide multidisciplinary, longitudinal care to survivors. Methods: Facilitated by both a medical student and a social worker, ReStorying is a weekly 10-week long series that brings together survivors and engages them in the principles of narrative therapy. Discussion: ReStorying provides a space for survivors to gain perspective on their assaults, develop a support network, and reframe their experiences, while simultaneously exposing medical students to multidisciplinary longitudinal mental health care. Conclusion: ReStorying serves as a model through which to expand traditional psychiatric care of survivors, and as an opportunity to expose medical students to longitudinal mental health care and experience in providing care to sexual violence survivors.

References/Citations:


#101
Evaluation of Faculty Development Practices in the Longitudinal Integrated Clerkship model

Assessment
Poster

Lead Presenter: Tara Singh, Harvard Medical School, Cambridge Health Alliance
All Author(s): Tara Singh, Harvard Medical School, Cambridge Health Alliance; Bianca Shagrin, Cambridge Health Alliance, Harvard Medical School; Yamini Saravanan, Harvard Medical School, Cambridge Health Alliance; Galina Gheihman, Harvard Medical School; David Hirsh, Cambridge Health Alliance, Harvard Medical School

Abstract:

Introduction/Background
Physician educators often receive little formal continuing education on learning theories and evolving best practices of teaching and learning. Faculty development is a key opportunity for faculty to improve their teaching practices. Faculty development is especially key in Longitudinal Integrated Clerkships (LIC) given the potential impact the clinical faculty has on students, as there are key opportunities for faculty to collaborate with students on clinical skills and professional role development.

Aims/Objectives
• To assess LIC faculty satisfaction with a highly interactive faculty development workshop, focused on practices of giving feedback and narrative writing.
• To evaluate whether faculty incorporated specific practices from the faculty development session in teaching.

Methods
In 2017, LIC faculty, through a survey, identified topics for faculty development workshops. Following this, we created these faculty development workshops. All LIC faculty completed pre-session surveys to report their practices around feedback and narrative writing. The faculty development session, a three-hour, interactive workshop identified current practices, provided frameworks for the topics covered, and gave faculty the opportunity to practice new skills. All faculty will be re-surveyed to understand the impact of the session on their teaching skills, with particular focus on giving feedback and narrative writing.

Results
Sixteen faculty attended the evening session. We will present the pre- and post-session data at the conference.

Discussion/Conclusions
Timely, accessible and engaging faculty development sessions can be beneficial for longitudinal faculty who often feel siloed with their individual students. Our current data finds that our LIC faculty are motivated to learn new skills to benefit student learning.
#102
The Hull York Medical School LIC journey

New LIC
Poster

Lead Presenter: Kevin Anderson, Hull York Medical School
All Author(s): Kevin Anderson, Hull York Medical School

Abstract:

Background
Founded in 2003, Hull York Medical School is a collaboration between the Universities of York and Hull. The school has a strong reputation for its innovative curriculum as well as providing early and sustained clinical placement experience, much of which takes place in primary care. A relatively high proportion of Hull York graduates choose careers in general practice and psychiatry, both of which are shortage specialties in the UK. Following a successful expansion bid, the school is growing by 70% (up to 240 students) which includes the development of a longitudinal integrated clerkship (LIC).

Aims
Outlining development of the Hull York ‘dispersed immersed’ LIC based in general practice in rural North Yorkshire. The pilot phase (6 volunteer year 4 students) is due to start August 2019 with hopes to expand towards a larger cohort across multiple parts of the medical school’s footprint, targeting areas of clinician shortage including the Yorkshire Coast. During the development phase the project team reviewed LIC types and identified key factors for success in implementation. This led to the development of a paper entitled ‘A narrative literature review considering the development and implementation of LICs, including a practical guide for application’ which has recently been accepted for publication1.

Discussion
Reflections on the process so far - highlights, challenges, current dilemmas. It will also outline plans for evaluation and LIC-related research including use of a cultural history activity theory (CHAT) framework2 and analysis of how an LIC impacts on medical professional identity development.

Conclusion
Key findings

References/Citations:

1 Brown M, Anderson K, Finn G. ‘A narrative literature review considering the development and implementation of longitudinal integrated clerkships, including a practical guide for application.’ (2019) Due for publication shortly.

2 Larsen D, Med M, Nimmon L, Varpio L. Cultural Historical Activity Theory: The Role of Tools and Tensions in Medical Education (2019)

DOI: 10.1097/ACM.0000000000002736 Uncomposed, edited manuscript published online ahead of print in ACADEMIC MEDICINE
#104
Optimizing radiology education in the core clinical year: an integrated, individualized approach within an LIC

*Future Directions and Educational Theory in LIC*

*Poster*

**Lead Presenter:** Jaime Baker, University of Colorado-Colorado Springs LIC

**All Author(s):** Jaime Baker, University of Colorado-Colorado Springs LIC; Chad Strickrath, University of CO

**Abstract:**

**Background**
Formal radiology curricula in the core clinical year of medical school is uncommon and typically employs a traditional lecture or module-based methodology with minimal efficacy.

**Objectives**
We implemented a new integrated, patient-centered radiology curriculum into our LIC to provide core radiology learning.

**Methods**
Our curriculum consisted of an experiential individualized component where students completed radiology objectives by discussing images of their patients in real time with their preceptors. In addition, during selected inpatient internal medicine days, students met a radiologist to review patient images. Students also presented a radiology case presentation to their peers. We evaluated the curriculum using pre and post-tests, student attitudinal assessments and focus groups.

**Results**
Following the new curriculum, student’s pre/post scores increased (60% to 71%). Among students, 100% agreed or strongly agreed that radiology education is important in the core clinical year and 66% felt that this new curriculum was helpful in increasing their radiology knowledge.

**Discussion**
We found an improvement in radiology learning and student satisfaction by utilizing a patient-centered radiology curriculum that was integrated into our LIC. We suspect that the patient-centered, integrated nature of the curriculum led to benefit; whereas, other models that have provided independent, or stand alone, radiology curriculum in the core clinical year have shown less benefit and satisfaction.

**Conclusion**
Integrating patient-centered radiology education into an LIC may improve student learning of radiology.
Indigenous Cultural Safety Training for Medical Students: How Do We Fill the Gaps?

Abstract:

Background: Until this year, there has been no formal curriculum for cultural safety and humility in the Longitudinal Integrated Clerkship (LIC) at the University of British Columbia (UBC). This is a critical gap, as poor cultural safety harms Indigenous peoples and leads to poor health outcomes. At our site we piloted a program of two teaching sessions led by Indigenous physicians plus one community visit with an elder healer. This initiative is an early step to address this gap in medical education and to be accountable to Truth and Reconciliation Commission of Canada Calls to Action.

Aims/Objectives:

- Define cultural safety and humility
- Share and discuss what is being taught globally regarding cultural safety and humility.
- Explore the gaps in cultural safety and humility education at LIC UBC and elsewhere.
- Evaluate the cultural safety and humility curriculum that was delivered at our site.
- Inspire a curriculum regarding cultural safety and humility that can be implemented more broadly in the LIC community.

Questions:

- How have other programs in the LIC community approached cultural safety and humility teaching and what are the barriers?
- How can we best evaluate the teaching and development of these skills?
- How does the UN Declaration on the Rights of Indigenous People apply to medical education?
Longitudinal service-learning cultivates intrinsic motivation and protects against burnout in medical students

Impact

Oral Presentation
Tuesday, OCT 29
11:15-11:30
Pacific Ballroom

Lead Presenter: Heather Cassidy, University of Colorado School of Medicine
Co-Presenter(s): Erik Wallace  Chad Stickrath
All Author(s): Heather Cassidy, University of Colorado School of Medicine; Erik Wallace, University of Colorado School of Medicine; Chad Strickrath, University of CO

Abstract:

Introduction:
Burnout is common among health professionals—including medical students—and has consequences for patient care and clinician well-being. A robust sense of intrinsic motivation is correlated with enhanced physician well-being and may protect against burnout. Service-learning curricula may cultivate intrinsic motivation by tethering learners to their core values and enabling learners to make an impact on their communities.

Objective: Assess the impact of longitudinal service-learning integrated into a LIC on learners' intrinsic motivations and experience of burnout.

Methods:
Students participated in an 8-month service-learning curriculum during the core clinical year whereby they collaborated with local community organizations to develop interventions aimed at improving the health of the community. We provided learners with operational definitions of burnout and intrinsic motivation, and queried whether their intrinsic motivations and sense of burnout were impacted by the service-learning curriculum. Quantitative and qualitative data was collected.

Results:
Eighteen of 20 students (90%) completed post-curriculum surveys. Among respondents, 14 learners (78%) reported a positive impact in their intrinsic motivation due to longitudinal service-learning, and 13 (72%) agreed that engaging with community via service-learning protected them from burnout during their core clinical year.

Discussion:
We found that service-learning can positively enhance learners’ intrinsic motivations. Qualitative analysis identified community impact, personal fulfillment, and professional identity formation as themes linking learners’ enhanced intrinsic motivation to protection from burnout.

Conclusion: Longitudinal service-learning placing students in meaningful partnerships in the community amidst a LIC can strengthen intrinsic motivation and prevent burnout in susceptible students.

References/Citations:


A Rural LIC Response to Shortening of Core Clerkships at UIC

Sustainability/Expansion of Existing LIC

Oral Presentation
Tuesday, OCT 29
15:45-16:00
Saltspring C Room

Lead Presenter: James Barnett, University of Illinois College of Medicine Peoria
All Author(s): James Barnett, University of Illinois College of Medicine Peoria

Abstract:

Introduction: The University of Illinois Chicago (UIC) Medical School has been undergoing major curriculum change. The required weeks for Phase 2 (year 3 of medical school) has been lowered from 48 to 40 weeks. Eight weeks elective time was also added to Phase 2.

These changes threatened to remake the UIC longitudinal integrated clerkship (LIC) based in the Peoria campus such that the time at the rural site would be the minority of the year’s experiences. We were at risk to no longer meet the definition of a LIC. Therefore, the Rural Student Physician Program (RSPP) worked towards enhancement and collaboration to maintain the majority of the Phase 2 learning experience to be in the rural community.

Objectives: We sought to maintain the integrity of the LIC through the growing pains of major curriculum change. This was done in two ways: increased the OB Gyn time in the rural site; created electives with the requirement to fulfill 4/8 weeks of this time at the rural site.

Discussion: The changes have increased collaboration with the OB Gyn department and some other specialties working with RSPP to provide elective credit in the rural communities. Further information is needed to demonstrate enhancement of the education. Step scores for OB Gyn, student evaluations, and faculty qualitative responses could be gathered over the coming years.

Conclusion: Curriculum change can be destabilizing. However, it is an opportunity for growth with new learning and collaboration opportunities to enhance our students and the potential rural workforce.

References/Citations:

From the Ground Up: The Design and Implementation of the New Longitudinal Integrated Clerkship at the Elson S. Floyd College of Medicine

New LIC

Lead Presenter: Nicholas Randall, Elson S. Floyd College of Medicine

All Author(s): Nicholas Randall, Elson S. Floyd College of Medicine; Alaina George, Washington State University; Meredith Morrow-Okon, Washington State University; Joshuel Pahang, Washington State University Elson S. Floyd College of Medicine; Jackson King, Washington State University Elson S. Floyd College of Medicine; Kiah Sullivan, WSU Elson S Floyd College of Medicine; Jaime Bowman, Elson S. Floyd College of Medicine

Abstract:

Introduction: The Elson S. Floyd College of Medicine (ESFCOM) is one of the first medical schools in the United States at which all third-year students participate in a longitudinal integrated clerkship (LIC). In June 2019, the inaugural class of 60 students will begin the new LIC at four community sites across the state of Washington. The magnitude of this new program has provided experience in learning methods for meaningfully involving students in the design of a new LIC, learning how to efficiently recruit preceptors across multiple communities across the state, and learning how to effectively track personal student development. We hope that in sharing our experiences, other programs will be empowered to implement new LICs or expand/improve existing ones. Learning Objectives: 1) Demonstrate the impact of significant student representation in LIC design. 2) Discuss/practice strategies to recruit an entire state of physicians to a community-based LIC. 3) Explore innovative ways to effectively monitor student achievement during the LIC. Areas for Exploration: As a new program, we are excited to see how our student representation in planning, our extensive preceptor recruitment, and our unique milestone tracking translate to success in the LIC. We plan to gather data throughout the first years of the LIC to present how effective, or ineffective, our interventions have been in promoting student success at future meetings. Activities: 1) Think, pair, and share strategies to promote meaningful student participation in meetings. 2) Practice different techniques of the “preceptor pitch” in groups. 3) Role-play student driven workplace-based assessments.
Abstract:

Introduction: The inaugural class at the Elson S. Floyd College of Medicine (ESFCOM) is scheduled to begin longitudinal integrated clerkships (LICs) across the state of Washington in June, 2019. The developed assessment plan for this new LIC is competency-based, utilizes Entrustable Professional Activities (EPAs), and includes students as partners in the assessment process. Recent studies show that EPAs are an effective form of measuring student development during LIC education because the longitudinal relationships established between students and their preceptors naturally promote trust and a strong educational alliance. Effective methods of implementing EPA-based student driven assessment warrant further investigation and discussion. Aims: 1) Outline an EPA assessment framework to support learning in the LIC. 2) Analyze a student-driven assessment process that elicits personal feedback in the context of longitudinal preceptor relationships. 3) Discuss methods to engage students in their own learning and the assessment process. Discussion: The longitudinal relationships developed in an LIC have been shown to promote trust, allowing students to engage more fully in clinical care. The trust in the student-preceptor relationship that is built through the LIC establishes an ideal environment for using EPAs as part of LIC assessment. Several issues remain that require further exploration in order to effectively implement a student-driven, EPA-based assessment plan for the new LIC at ESFCOM. Exploration of the student-preceptor relationship in an LIC with emphasis on building trust to make EPA assessment effective. How do we ensure that student-driven assessment doesn’t overburden busy preceptors? How to best incorporate EPAs into LIC
Students Monitoring their own Learning Trajectory: Dashboards and Coaching

Assessment

Oral Presentation
Monday, OCT 28
16:30-16:45
Pacific Ballroom

Lead Presenter: Alaina George, Washington State University
Co-Presenter(s): Nicholas Randall  Dawn Cooper
All Author(s): Alaina George, Washington State University; Nicholas Randall, Elson S. Floyd College of Medicine; Jaime Bowman, Elson S. Floyd College of Medicine

Abstract:

Introduction: The Elson S. Floyd College of Medicine (ESFCOM) will have 60 students begin a Longitudinal Integrated Clerkship (LIC) in June 2019. Tracking the progress of an LIC across the four community sites in Washington State presents a unique assessment challenge. The LIC provides more continuous progression data compared to a traditional rotation schedule. ESFCOM is developing a student-driven, relationship-focused assessment approach to monitor student growth throughout the LIC.

Aims: 1) Illustrate use of a learning trajectory to guide student assessment. 2) Demonstrate use of dashboards for student lead progress monitoring in an LIC. 3) Examine the role of coaching in an LIC assessment.

Discussion: Workplace-Based Assessments (WBAs), designed to target Entrustable Professional Activities (EPAs), are collected routinely through the LIC to provide a picture of longitudinal clinical skills development. The ESFCOM assessment team will produce monthly progress reports that will be available on a dashboard. Students will use their own learner analytics, with the dashboard, to understand their progression in the LIC. The dashboard also includes a periodic self-assessment and learning plan. Clinical coaches work with students to analyze their dashboard and facilitate their learning. Coaches will not be part of direct student assessment, to further encourage a mentor relationship. Students can approach their coach without fear that sharing their concerns will negatively impact their scores.

Conclusion: Both the dashboard and coaching empower students to use their own assessment information to inform their learning and skills development. This approach enables students to develop lifelong learning skills that promote self-directed growth.
Effectiveness of multilevel teaching and learning during attending staff ward rounds in longitudinal integrated clerkship: an ethnographic study

Background
Ward rounds are widely regarded as an essential part of attending physicians, interns, residents, nurses, pharmacists and undergraduate medical students with various tasks and roles they will need as medical professionalism. So, ward rounds challenges in teaching the multi-level learner. However, very few studies have examined this subject.

Objectives
To explore the effective multilevel teaching and learning on attending ward rounds.

Methods
The samples were attending physicians, undergraduate medical students, interns, patients, nurses, and pharmacists at Kalasin Hospital received from cluster random sampling by participant observation and semi-structured interview. The data were gathered through the multi-phase qualitative method during January to April 2019. Discussions were transcribed and analyzed via thematic content analysis.

Results
The overall sample included 50 participants (15 Attending physicians, 15 learners, 10 patients, 5 Nurses, 5 Pharmacists). There were three factors affecting teaching through ward rounds consisting of techniques of instructor, knowledge exchange and supportive network for learners.

Discussion
Those opinion could also be classified into 3 factors affecting learning from ward rounds which were 1) techniques (broadening question to make it more challenging, directing questions at specific team members, teaching newly published information) 2) knowledge exchange with others 3) supportive network for learners. The presence of multi-level learners promoted sharing of knowledge with all staff, a sense of community, an increase in patient services and enthused supervisors.

Conclusion
There were many factors affecting the effectiveness of multilevel teaching and learning on attending ward rounds. While having to balance education with patient care, the Faculty of Medicine should consider management changes to maximize the benefits to students from attending ward rounds.
References/Citations:


Abstract:
Background/Introduction:
Medical students’ longitudinal care of patients motivates clinical learning, professional development, and patient-centeredness. LICs offer opportunities for longitudinal learning and the longitudinal care of patients. The literature has yet to define empirically the best practices for educators to facilitate students’ longitudinal learning.

Aims:
We sought to identify specific activities and strategies clinical teachers use to promote students’ effective longitudinal learning and care of patients.

Methods:
Using a mixed methods approach, we surveyed 62 faculty members at Cambridge Health Alliance who teach clinically. Select faculty (n=12) participated in two focus groups to further elucidate perspectives and strategies to promote longitudinal learning. Qualitative content analysis identified specific best practices that promote longitudinal clinical learning.

Results/Outcomes:
Sixty-nine percent (43/62) of faculty completed the survey. A majority (79%) felt longitudinal care was “very” or “extremely” important and that teaching longitudinal care enhanced their experience as preceptors (91%). Barriers to longitudinal learning were scheduling and time constraints. Qualitative analysis revealed four major themes: value of longitudinal learning, goals for student learning, barriers and enablers, and specific teaching practices supporting longitudinal learning.

Discussion/Conclusion:
Faculty valued the opportunity to work with students in a longitudinal context and felt this model benefited their skill and satisfaction with teaching and improved student learning. We identified specific teaching practices preceptors use to support trainees’ longitudinal learning in clinical settings. Medical schools are increasingly adopting longitudinal teaching in clinical training. Education leaders and teachers may use empirically-derived educational strategies to guide program and faculty development and support student learning.

References/Citations:

Not "just a PA" - exploring the role of Program Administrators

Administrative Perspectives

Workshop
Monday, OCT 28
10:30-12:00
Boardroom

Lead Presenter: Sarah Hanson, UBC
Co-Presenter(s): Manon Joice, Stacey Taylor, Kim Furlong, Wendy Rayner
All Author(s): Sarah Hanson, UBC; Stacey Taylor, UBC; Wendy Rayner, UBC Faculty of Medicine; Kim Furlong, UBC ICC; Manon Joice, xxx

Abstract:
In the world of medicine, administrator often describe themselves as 'just a Program Assistant'. It is often hard to describe what it is that program administrators do, and it’s importance to the success of a medical education program.

In this workshop we will use personal reflection, small and large group activities to achieve the following objectives/outcomes:

- Learn about the CanMEDS-ATA (CanMEDS Applied to Administration) model. An introduction for Canadian Program Assistants and Administrators; A potential tool for creation of similar standards for international administrators.
- Explore through small group work/discussion the roles that Program Assistants have in medical education – beyond the official job description.
- Empower Program Assistants to recognize the value of their roles as an essential part of medical education and share resources others use to enhance their skills/training in medical administration.

References/Citations:
Fostering Inter-professional Engagement in a Longitudinal Community Agency Site Immersive Experience

Interprofessional/Team-Based Care

Oral Presentation
Tuesday, OCT 29
15:15-15:30
Saltspring C Room

Lead Presenter: Jeffrey Wong, Penn State
All Author(s): Jeffrey Wong, Penn State

Abstract:

Introduction/Background
Twenty-first century health care is provided most effectively through inter-professional teams. Medical students, as patient navigators, learn about the health system by working on such teams while helping patients negotiate the system. The innovative immersion-based curriculum of the Penn State University Park Regional Campus disrupts traditional educational practices by placing first-year medical students longitudinally in a community agency site thus facilitating experiential learning of that agency’s role in the community.

Aims/Objectives
- Working with the agency’s inter-professional team, the students will gain knowledge of the agency’s function and have experiences distinct from those of primary care clinics.
- Medical students will provide value to the agencies, their clients, and the community.

Methods
Twelve first-year medical students engaged with one of four community agencies one-half day each week for the entire year. They performed professional roles within the agency, engaged with clients, and served on inter-professional teams. A five-point Likert-type survey assessed the perceived value of the longitudinal immersion and compared asked about any differences between the agency and the clinic. Free-text responses about inter-professional teams and about student’s value to the agency were collected.

Results
Students learned how the agency functions within the community and felt that the experience was unique from their primary care clinics (3.83/5.0). Students worked in inter-professional teams with care managers, nurses, dentists, social workers, therapists, and administrators. The agencies uniformly reported that the students provided value to their organization and their clients.

Conclusions
Longitudinal experiences in community agencies provided medical students with an inter-professional experience that was valued and unique from the clinic.
Maintaining LIC identity within a larger traditional medical education program

Administrative Perspectives

PeArLs
Monday, OCT 28
15:45-16:30
Saltspring B Room

Lead Presenter: Stacey Taylor, UBC
Co-Presenter(s): Kim Furlong, Manon Joice, Wendy Rayner
All Author(s): Stacey Taylor, UBC; Kim Furlong, UBC ICC; Manon Joice, xxx; Wendy Rayner, UBC Faculty of Medicine

Abstract:
Most LICs are smaller programs, attached to larger Medical Schools. The LIC offers a distinct model that is often not understood by everyone in the medical school. LIC’s are required to provide the same curricular objectives and education opportunities, but ultimately is a very different education model.

Our question to explore is how does a smaller LIC program remain relevant and visible within the larger traditional program, while still retaining its autonomy and independence?
How do graduates of longitudinal integrated clerkships fare on the medical council of Mahasarakham qualifying national licensing examination steps III?

Impact
Poster

Lead Presenter: Puttiporn Naowaset, General surgeon
All Author(s): Puttiporn Naowaset, General surgeon

Abstract:

Background: Passing National Licensing Examination is required for assuring and standardization of medical students before graduation. Medical students must pass all 3 steps examination before doing medical practice. However, some of the students could not pass this exam especially step III. Those students forgot what they have learnt was the significant factor from semi-structured interview. Kalasin hospital where the place for clinical practice has implemented the longitudinal integrated clerkships (LIC).

Objective: To study the achievement of steps III by the use of LIC for 6th year medical students in the academic year 2018 at Kalasin Hospital.

Methods: This research employed action research of qualitative study. The subjects were 24 students who learnt through the LIC. The subjects spent one day in family medicine, internal medicine, obstetrics & gynecology, pediatrics, and surgery over the course of 38 weeks. In addition, students complete time in family medicine (2 weeks), internal medicine (9 weeks), surgery (9 weeks), pediatrics (6 weeks), obstetrics & gynecology (6 weeks), orthopedic surgery (3 week) and emergency medicine (3 week). They studied through inpatient, outpatient, core session, and comprehensive care of patients overtime. Moreover, every 2 months, there were multidisciplinary learning and testing.

Results: The results revealed that 100% of 24 students with the GPA of 3.2 could pass the step III.

Discussion: LIC could help the students for often reviewing of the multidisciplinary learning. Moreover, These experience helped them for effective general practice.

Conclusion: LIC might help them not only to get better to the achievement of the step III but also to be effective general practice.

References/Citations:

Engaged Learning for Practicing Ethics, Communication, and Professionalism in LICs

**Future Directions and Educational Theory in LIC**

**Workshop**
Monday, OCT 28
15:45-17:15
Boardroom

**Lead Presenter:** Katharine Meacham, UNC SOM Asheville Campus

**Co-Presenter(s):** Greeshma Somashekar    Lindsay Richier    Ira Sloan

**All Author(s):** Katharine Meacham, UNC SOM Asheville Campus; Greeshma Somashekar, UNC School of Medicine; Lindsay Richier, University of British Columbia

**Abstract:**
Teaching and learning the art of medicine – whether looking at professionalism, ethics, or communication requires a process-approach to education. Underlying this workshop are adult learning theory for transformational education (Mezirow) and a methodology of being “the guide on the side, rather than the sage on the stage” (Palmer).

Mezirow’s theory of transformative adult education is built on three premises: the experiences of learners, frames of reference, and disorienting dilemmas. Longitudinal integrated clerkships have been shown to be ideal settings for process-oriented education with the possibilities for transformation. This workshop will use the experiences of two different longitudinal integrated clerkship sites—one in Canada and one in the US—to explore ways of approaching teaching the art of medicine—especially ethics, professional identity formation, and communication in the particular contexts of the workshop participants, building on a process-oriented approach to education.

**Proposed desired learning outcomes for workshop participants:**
- To imagine adapting the models for doing ethics and professionalism developed at one US and one Canadian clerkship in the settings of the participants;
- To learn from other participants about challenges and ways of addressing them in specific contexts;
- To practice examples of engaged learning developed at two different LICs.

**Issues for exploration:**
- Adult learning theory
- Transformative educational possibilities for LICs
- Intentional teaching of professionalism, communication, and ethics

**Activities:**
15 min exercise – introductions of all and desired outcomes, etc.
30 minute exercise with a toolkit on professionalism & communications
30 minute exercise on narrative ethics
15 min wrap-up exercise

**References/Citations:**

The impact of LIC medical educators as reciprocal community partners in a local history project

Reflection and Engagement

Poster

Lead Presenter: Kath Weston, University of Wollongong
All Author(s): Kath Weston, University of Wollongong; Louella McCarthy, University of Wollongong

Abstract:

Introduction: It is well-established that patients in rural areas with workforce shortage allow LIC medical students to learn directly from them, and recognise the benefits of LIC medical students as contributors to a sustainable medical workforce in their area. Medical programs directly benefit from this positive community sentiment because the curriculum is actually delivered by those patients walking through the practice doors. The question then arises: what else can medical educators contribute to these communities as reciprocal partners?

Aim: This research investigated how medical educators engaging in a rural history project could contribute to the community and broaden the sphere of impact of the university beyond the medical practice.

Method: One rural teaching location in New South Wales, Australia, was selected as the pilot project for medical educators to contribute to a local volunteer historical group. Medical education academics worked with community volunteers to develop a project charting the history of rural medicine in that area.

Results: The academics organised and contributed to community meetings, provided expert knowledge about historical artefacts, and contributed photographic and historical material to the community, and were invited to important community events.

Discussion: The medical educators were embraced by the community as partners with valuable skills and became part of the conversation of the community.

Conclusion: Working with the community to develop a local project of interest or importance is one way that the university can reciprocate the contribution of a community which is a teaching partner in a LIC medical education program.
#122
Enhancing Curriculum of LIC Inpatient Medicine Through Problem-Based Sessions (ECLIPSe): A Local Pilot Project

Sustainability/Expansion of Existing LIC
Poster

Lead Presenter: Whitney Lum, Dalhousie University
All Author(s): Anthony Vu, Dalhousie University; Whitney Lum, Dalhousie University; David Vaillancourt, Dalhousie University

Abstract:

Introduction:
Longitudinal Integrated Clerkship (LIC) is a new approach to medical education that was recently implemented at Dalhousie Medicine New Brunswick in Fredericton. Review of literature identified gaps in student learning with respect to inpatient care.

Purpose:
This project aims to identify whether learning gaps exist in current LIC structure in Fredericton with respect to inpatient medical education, introduce a case-based educational tool for LIC students to develop core skills concerning inpatient medicine, and assess the role of this educational tool as a supplement to current LIC curriculum.

Methods:
Two cohorts of medical students participated in a case-based educational tool and completed pre- and post- surveys containing both quantitative and qualitative measures.

Results:
Participants identified learning gaps in LIC structure with respect to balance between inpatient and outpatient experiences, exposure to inpatient medicine, and addressing their personal learning objectives. Students from both cohorts felt increased comfort and continuity with inpatient medicine after participating in the case-based educational tool.

Discussion:
Several learning gaps in inpatient care were identified at the Fredericton LIC program. A case-based educational tool was developed that shows promise at addressing these gaps. Despite being delivered at different times during their clerkship, both cohorts felt the case-based educational was a valuable resource and should be continued.

Conclusion:
Future iterations of the educational tool are required to assess its full potential, but preliminary findings provide insight on how learning gaps with respect to inpatient medicine can be addressed at LIC programs.

References/Citations:


McLean SF. 2016. Case-Based Learning and its Application in Medical and Health-Care Fields: A Review of Worldwide Literature. Journal of Medical Education and Curricular Development. 3: MECD.S20377.


One Team, Two LICs: Shared Structure, Different Communities

Administrative Perspectives

Oral Presentation
Wednesday, OCT 30
10:00-10:15
Pacific Ballroom

Lead Presenter: Brinsley Davis, University of Minnesota Medical School
Co-Presenter(s): Kirby Clark
All Author(s): Brinsley Davis, University of Minnesota Medical School; Kirby Clark, University of Minnesota Medical School

Abstract:

Introduction/background
The University of Minnesota (U of MN) Medical School is home to the oldest Longitudinal Integrated Clerkship (LIC), the Rural Physician Associate Program (RPAP). In 2008 the RPAP team of physicians and administrators created the Metropolitan Physician Associate Program (MetroPAP). MetroPAP shares the same structure and administrative team as RPAP, but differs in location, immersed in urban underserved communities. As MetroPAP has grown from 1 site and 2 students to 8 sites and 9 students, both shared and unique administrative and structural challenges have emerged. The team of physicians and administrators that runs both programs has become nimble in navigating these differences.

Aims/Objectives
- identify ways that program goals can be shared despite different locations
- identify differences between rural and urban LIC structures
- demonstrate that one team can support similar LICs

Results
Both RPAP and MetroPAP are thriving: participants have increased in the past 4 years and student residency match satisfaction continues to be high. Student feedback is worked into a continual process improvement plan for both programs.

Discussion
Both RPAP and MetroPAP are comprehensive, community-based LICs with predominantly Family Medicine preceptors. The differences in size of host communities and distance from the Medical School do not override these other typological similarities. Further work is needed to improve the coordination between MetroPAP and the traditional block clerkships that share the same sites.

Conclusion/Discussion
We have identified shared and unique functions in overseeing community-based LICs in rural versus urban areas. How would a different setting allow you to grow your LIC?

References/Citations:
Is it Burst or Bust for your LIC?

Sustainability/Expansion of Existing LIC

Oral Presentation
Wednesday, OCT 30
10:15-10:30
Pacific Ballroom

Lead Presenter: Kirby Clark, University of Minnesota Medical School
Co-Presenter(s): Brinsley Davis, Javad Keyhani
All Author(s): Brinsley Davis, University of Minnesota Medical School; Kirby Clark, University of Minnesota Medical School

Abstract:
Introduction/Background: The Rural Physician Associate Program (RPAP), a third-year 9-month longitudinal community-based curriculum, has coexisted with traditional block clerkships (TBC) for nearly 50 years. In response to TBC scheduling changes, and to adapt to practice patterns in rural Minnesota, “burst” experiences were added to the RPAP curriculum in 2017. Burst experiences/immersion blocks have been employed by a number of LIC’s to ensure specific patient experiences, particularly inpatient experiences1-2. Our three, two-week bursts employ sites and physicians teaching primarily TBC students. Development of burst-specific objectives, post-burst, and post-LIC student surveys evaluated effectiveness of the bursts.

Aims/Objectives
• Identify curricular or institutional needs that could be addressed with bursts
• Develop strategies to add bursts to an established LIC model
• Plan feedback strategies for improving burst experiences

Results
With bursts, RPAP students were able to complete most core required clerkships, including psychiatry, during their 3rd year. RPAP was able to sustain students in communities that were no longer providing inpatient experiences in pediatrics or obstetrics/gynecology. Initial survey data show that most, but not all, students met expected curricular goals during their bursts and identified specialty specific gaps mapped to particular burst or LIC-community sites.

Discussion
Two-week bursts allowed the RPAP program to adapt to meet a medical school charge to complete most core clerkships in the 3rd year. Initial survey data has identified that the “burst” needs of students varies depending on their community LIC site placement.

Conclusion/Discussion
Bursts can be added to a very established LIC curriculum and the future may lie in tailored burst objectives/placement based on LIC-community site placement.

References/Citations:
**Training in the Era of the EHR: Examining the Experience of Medical Student Documentation**

*Future Directions and Educational Theory in LIC*

**Oral Presentation**
Monday, OCT 28
11:45-12:00
Pacific Ballroom

**Lead Presenter:** Julia Bellantoni, Duke University School of Medicine

**All Author(s):** Julia Bellantoni, Duke University School of Medicine; Charlton Tsai, Duke University School of Medicine; Omar Martinez-Uribe, Duke University School of Medicine; Bruce Peyser, Duke

**Abstract:**

Introduction: Medical schools across the U.S. have increasingly adopted Longitudinal Integrated Clerkships (LIC) as a way to implement a developmentally progressive curriculum that emphasizes continuity as learners develop the skills of a physician. One important skill is documentation in the EHR. The AAMC has identified clinical documentation as a core entrustable professional activity for starting residency, while the AMA has emphasized EHR training to prepare medical students for practicing in the modern healthcare system. Reflecting this increased emphasis, CMS revised their policy in 2018 to allow medical student documentation to be utilized for billing. With students now playing an active role in the documentation process, the challenge becomes finding a way to seamlessly integrate the note into the clinical workflow and optimize the educational value of notewriting. 

**Aim:** Examine the experience of medical student documentation in an LIC curriculum, including: 1) How student note writing is incorporated into clinic workflow, 2) Benefits derived by students from documenting in the EHR, 3) Areas of improvement to the experience of documentation. 

**Methods:** Data from this study will come from an online survey administered to a target of 50 medical students participating in an LIC-type program. The survey will include both Likert scale and free response questions in order to capture both quantitative and qualitative data.

**Discussion:** We will provide a holistic review of the medical student experience with documentation and emphasize the key elements that optimize a student’s learning. 

**Conclusion:** This study will identify future directions for student documentation in LICs.

**References/Citations:**


2. Medical Student Documentation in the Emergency Department in the Electronic Health Record Era—A National Survey

Virden, Ryan A., MD*; Sonnett, F. Meridith, MD*†; Khan, Abu N.G.A., MD, MSc*†


https://journals.lww.com/pec-online/fulltext/2019/03000/Medical_Student_Documentation_in_the_Emergency.12.aspx
3. Medical Student Documentation in the Electronic Medical Record: Patterns of Use and Barriers.

Kathleen Wittels, MD,* Joshua Wallenstein, MD,† Rahul Patwari, MD,‡ and Sundip Patel, MD§

Author information Article notes Copyright and License information Disclaimer


4. Evidence for longitudinal ambulatory care rotations: a review of the literature. Ogrinc G1, Mutha S, Irby DM.

Scheduling tool to manage fully distributed LIC

New LIC

Oral Presentation
Wednesday, OCT 30
10:30-10:45
Saltspring C Room

Lead Presenter: Kayla Beeler, TCU AND UNTHSC School of Medicine
Co-Presenter(s): Brian Dixon
All Author(s): Kayla Beeler, TCU AND UNTHSC School of Medicine; saji pillai, TCU/UNTHSC SCHOOL OF MEDICINE; Whitney LeFevre, TCU and UNTHSC School or Medicine; Brian Dixon, TCU and UNTHSC School of Medicine; Stephen Scott, TCU and UNTHSC School of Medicine; Adam Jennings, TCU and UNTHSC School of Medicine; Shanna Combs, TCU and UNTHSC School of Medicine; Claudia Perez, TCU and UNTHSC School of Medicine; John Birbari, TCU and UNTHSC School of Medicine; Amani Terrell, TCU and UNTHSC School of Medicine

Abstract:

Background
In our fully distributed Longitudinal Integrated Clerkship (LIC), students will complete their ambulatory clinical clerkships over forty weeks. Each student will be paired with a single preceptor for each of their eight clerkships and will have an individualized schedule. These schedules will be dependent on approximately 480 different clinical educator schedules. We sought to create a personalized scheduling tool to help us create and manage our LIC.

Objectives
We created a web-based scheduling application that interfaces with both student and preceptor schedules and provides students autonomy to generate their own schedules.

Methods
We recruited a group of undergraduate computer science students, in collaboration with their faculty instructor, to help design a web-based application to pair students with their eight preceptors and assist in tailoring schedules to the students' time and geographic preferences. Key features of the application include a mechanism for preceptors to submit their availability and for students to build and submit their preferred schedules. All preceptor information including name, clinic, and hospital is hidden from the students when generating schedules to avoid bias. Students only see available times they can complete a specific clerkship and the location or community. Once submitted, the LIC office will review and publish individual schedules for each student and preceptor. Constraints and variables such as distance traveled and cluster of rotations are included.

Discussion and Conclusions
We anticipate that the ease of this tool will allow the LIC team to generate clerkship schedules with confidence in a timely and less labor-intensive manner.
#129
The NOSM Administration Model – Keeping Connected is Key

Administrative Perspectives

Oral Presentation
Monday, OCT 28
10:30-10:45
Pacific Ballroom

Lead Presenter: Claudia Rocca, NOSM
Co-Presenter(s): Sue Featherston
All Author(s): Claudia Rocca, NOSM; Susan Featherston, Northern Ontario School of Medicine

Abstract:

Introduction:
The Northern Ontario School of Medicine (NOSM) runs a mandatory Longitudinal Integrated Clerkship (LIC) in the third year of the MD program called the Comprehensive Community Clerkship (CCC). There are currently, 15 separate sites distributed across Northern Ontario. The administrative relationship between NOSM and the Site Administrative Coordinator (SAC) has proven to be crucial for how both the learners and physicians experience the CCC.

Objectives:
- Describe how the administrative model of NOSM’s LIC functions in a distributed community-engaged learning model
- Explain how NOSM administration and the Site Administrative Coordinators support achieving balance between comparability of sites and contextualized community-engaged learning
- Identify advantages and challenges in setting up administrative support for a LIC in a community setting

Discussion:
The CCC can be a challenging year for students and the NOSM administration model works to minimize challenges, eliminate barriers to learning, support students and ensure comparability across the distributed sites. NOSM has an administrative coordinator responsible for supporting the CCC and a SAC in each CCC community. Keeping connected to the CCC sites ensures the medical students have an enhanced educational experience.

Conclusion:
Having the right administration model in place makes successful CCCs possible. The NOSM Administration model works to ensure 15 CCCs are providing a positive LIC experience. There are many unique challenges to running a distributed LIC and having a connected administration works to meet these challenges, learn from each other, all with the shared goal of ensuring the success of the students.
The Preceptor Card: High Value Teaching Behaviors of Family Medicine Preceptors in a Longitudinal Integrated Clerkship

Future Directions and Educational Theory in LIC

Poster

Lead Presenter: Payam Sazegar, Kaiser Permanente

All Author(s): Payam Sazegar, Kaiser Permanente

Abstract:

Introduction: Over the past two decades, several tools for clinical preceptors have been developed to provide a framework for teaching but their successful application produces variable results. Nuances between teaching practices of different preceptors can create significant variability in the quality of clinical teaching. This feasibility study has a two-fold purpose: to create a tool that will familiarize preceptors with practical teaching tips based on student feedback and to apply the tool to promote a learner-centered culture in our longitudinal family medicine (FM) clerkship. The development of a ‘preceptor card’ is described here as a feasible tool for understanding teaching behaviors associated with high learning value.

Methods: A list of 37 distinct teaching behaviors were compiled by FM faculty at a teaching practice. Behaviors ranged from direct observation to the maintenance of a dermatology photo bank. All 6 medical students from years 1-3 at this faculty practice were surveyed to determine which teaching strategies had the highest value to them, based on a 5-point likert scale.

Results: Our response rate was 100%. Survey responses were analyzed for statistical significance and the top 15 strategies were compiled into a one-page preceptor guide. Teaching behaviors including in the card had an average score of 4.2/5 or higher. Initial impressions of this preceptor card from our FM residency faculty were consistently positive.

Conclusions: A hierarchy of learner preferences exists pertaining to teaching behaviors of FM preceptors. Creation of a customized preceptor card is a potential strategy for learner-centered teaching in the longitudinal clerkship.

References/Citations:


Cayley WE. “Effective Clinical Education: Strategies for Teaching Medical Students and Residents in the Office”. WMJ. 2011 August. 110(4): 178-181


#134
Narrative Assessment Protocol for Medical Students in a Longitudinal Integrated Clerkship

Assessment

Oral Presentation
Monday, OCT 28
17:00-17:15
Pacific Ballroom

Lead Presenter: Michael McShane, Penn State College of Medicine
All Author(s): Michael McShane, Penn State College of Medicine; Daneil Wolpaw, Penn State College of Medicine; Britta Thompson, Penn State College of Medicine

Abstract:

With the goal of achieving objectivity in assessments, educators have relied on methods that deconstruct observed behaviors into likert scales. These values fail to offer either meaningful feedback or the promised “objectivity”. This has led to increased emphasis on narrative assessments, which have demonstrated to reliably identify learners at risk, and provide authentic feedback. However, it is challenging to get clinical faculty to do more than write short narratives such as “read more”. Here, we describe our efforts to overcome these barriers through a narrative assessment protocol (NAP).

Four months into our LIC, we implemented the NAP. Narrative prompts were created using clerkship specific feedback opportunities (FO) combined with two semi-scripted statements. Faculty and students were surveyed by email. Students met with the LIC director in a “Calibration Meeting”, where this information was reviewed to recalibrate about clerkship performance, and create an across clerkship goal. In a collaborative meeting, clerkship directors discussed how to best help the student fulfill their goal. To better understand the quality of the NAP, qualitative analysis of faculty narrative statements and student goals was performed.

Response rate for faculty narrative statements was 77%. Narrative statements were with limited judgmental or non-specific feedback. The clerkship director’s discussion was characterized by supportive conversation and helpful recommendations.

Using this protocol, we were able to create a meaningful combination of narrative feedback and refined goals for LIC students.

We feel that this approach to capturing narrative faculty feedback and supporting student learning and professional growth in the clerkships is promising.

References/Citations:

#135
NOSM’s Theme-based integrated curriculum framework: Balancing standardization with contextualized experiences during an LIC

Sustainability/Expansion of Existing LIC

Poster

Lead Presenter: John Dabous, NOSM

All Author(s): John Dabous, NOSM; Peter Istvan, NOSM

Abstract:

Introduction
The Northern Ontario School of Medicine (NOSM) utilizes a Theme-based integrated curriculum to deliver a distributed community-engaged Longitudinal Integrated Clerkship called the Comprehensive Community Clerkship (CCC). The CCC takes place during the 3rd year of the MD program, across 15 different sites. The Theme-based curriculum framework organizes the content of NOSM’s MD program by clearly articulating which content needs to be covered during the mandatory LIC. Students achieve learning outcomes at all sites through a mix of clinical time, whole group sessions, small group sessions, and self-directed study.

Aims/objectives
- Describe the NOSM Theme Integrated Curriculum and how it is applied during the Longitudinal Integrated Clerkship to maintain comparability of experiences across sites
- Describe the various learning modalities and approaches used to achieve the intended learning outcomes across all sites

Discussion
NOSM utilizes a standardized Theme based curriculum to ensure students achieve the same learning outcomes regardless of which site they learning in. The structure of the LIC builds in formal academic sessions, both whole group and small group, in a flexible schedule to support students in achieving the learning outcomes. The schedule also supports community-engaged learning and clinical time to allow for rich, contextualized learning resulting in positive LIC experience.

Issues for discussion
A challenge for LICs is to ensure comparability of learning experiences and achievement of learning outcomes for all students at all sites. The model NOSM has developed clearly articulates the requirements for student progress, but also allows for flexibility in scheduling of academic events to support contextualized learning.
Let's Learn from Each Other: Navigating Student Scheduling in a LIC Program

Abstract:

Introduction
Longitudinal Integrated Clerkships (LICs) are becoming increasing popular among medical schools as an alternative way of teaching the clinical clerkships. Although “LIC” is the accepted terminology for all of these experiences, they are implemented in a wide variety of ways. Specialists at two American medical schools, UNC and UWSOM, will lead this 90-minute workshop to discuss their experiences with the unique nature of scheduling a LIC program. The session will review the many levels of scheduling an integrated experience, beginning with the registration setup with the Registrar to the day-to-day scheduling. Participants will break into small groups, mixed with new and seasoned LIC administrators, to discuss the challenges and potential solutions to scheduling a LIC. Each group will report back to the larger audience at the end of the workshop to share ideas and knowledge with the group.

Learning Objectives/Outcomes
At the end of this workshop, participants will be able to:
- Explain different ways longitudinal integrated clerkships are scheduled.
- List challenges in scheduling a longitudinal integrated clerkship.
- Determine potential solutions to scheduling difficulties specific to the participant’s LIC.

Issues/areas for exploration
- What strategies do established LICs use to create and manage student scheduling?
- How do existing LIC programs schedule students to ensure clerkship goals and objectives are being met while still allowing for the unique fluidity of an LIC schedule?
- What resources/knowledge can be brought back by attendees to improve the current scheduling processes or assist with scheduling difficulties?

Activities
- Presentation of example LIC structures
- Small group breakout
- Large group report-back

References/Citations:
Poncelet A, et. al. (2011). Development of a longitudinal integrated clerkship at an academic medical center. Medical Education Online, 16:1, 5939-5948

#137

Balancing Education and Clinical Productivity: Exploring the Challenges in a Rural LIC

**New LIC**

**PeArLs**  
Wednesday, OCT 30  
10:00-10:45  
Saltspring A Room

**Lead Presenter:** Michael McShane, Penn State College of Medicine  
**Co-Presenter(s):** Sondra Struble  
**All Author(s):** Michael McShane, Penn State College of Medicine; Sondra Struble, PennState University; Daneil Wolpaw, Penn State College of Medicine

**Abstract:**

LICs in rural communities present both opportunities and challenges. One ongoing challenge is helping interested volunteer faculty “find the time” to teach in busy clinical practices and demanding compensation structures. How can we help volunteer faculty balance teaching with clinical productivity? Located in a rural setting, the Penn State College of Medicine University Park Track is now in the third year of a new four year curriculum that features extensive early clinical experience and full LIC in the second year. The LIC utilizes a high percentage of volunteer faculty from the community, working in a productivity-based clinical compensation model. “Finding the time” to teach and mentor our students is a problem. The challenge is not new, but rural LICs are uniquely vulnerable, and we would like to access the collective experience and wisdom of the CLIC group to explore potential solutions.

In this session, we aim to:

- Discuss individual and structural challenges that develop when balancing teaching with clinical productivity.
- Identify opportunities for authentic learning experiences for students that simultaneously reduce the impact on clinical productivity.

We anticipate that the discussion will focus on multiple levels including faculty development, curricular design, and health systems adjustments. How can faculty development be structured to help support professional development of volunteer faculty? How can we adjustment curricular structure to create authentic learning experiences for students that reduces the demand on clinical productivity? In what way can the health system be modified to promote teaching?

**References/Citations:**


The Parents of LIC’s: The Guiding Support and Impact of LIC Administrators on Student Mentorship

Lead Presenter: Sondra Struble, PennState University
All Author(s): Sondra Struble, PennState University; Michael McShane, Penn State College of Medicine; Daneil Wolpaw, Penn State College of Medicine

Abstract:
Core to LICs is longitudinal learning relationships with faculty, peers, and patients. Primary mentors are usually thought of as physicians. Mentors can be defined as those that provide personal support, role modeling, and career advice. While in an LIC, students interact with administrators on a daily basis, forming natural, mentoring relationships. These interactions are highly valued by students navigating new professional environments, but these relationships are often overlooked as key longitudinal mentors. We plan to explore how this group serves as important informal mentors for students, providing personal support, role modeling, and even career advice.

The University Park Curriculum Track of the Penn State College of Medicine features a full LIC during the second year. Using qualitative methods, we are exploring the nature and impact of longitudinal mentoring relationships between students and administrators. Interviewing students and administrators using a semi-structured guide we hope to unpack perceptions and experiences and explore frequent interactions.

Following IRB approval, interviews will be recorded, and subjected to a thematic qualitative analysis followed by member-checking to validate findings.

The importance of administrative staff in the professional development of trainees has been discussed and recognized. We would like to apply qualitative scholarship to unroof this area in the context of an LIC.

Administrators serve as key supporters for the professional development of students in an LIC. We believe that in-depth study of these relationships can help us to further leverage this additional layer of continuity to advance the goals of the LIC.

References/Citations:

#139
Student Perception of their Value to Patients, Physicians, Health Care Systems and the Community

Reflection and Engagement
Poster

Lead Presenter: Lori Hansen, University of South Dakota
All Author(s): Lori Hansen, University of South Dakota; Mark Beard, University of South Dakota

Abstract:

Introduction/Background: There has been a perception by some of a decline in the engagement of students in patient care roles. Students enter clinical sites as observers of attending physicians to learn “doctoring skills.” The longitudinal curricular model has promoted continuity with patients, preceptors and curriculum to engage students in direct patient care and be a valued member of the health care team. In 2016, medical educators met to explore value added medical student roles into care delivery systems. The impact of student value added roles in clinical settings, barriers and strategies were identified. The Sanford School of Medicine is a multi-campus community based medical school. The primary clinical year (Pillar 2) is longitudinal, ambulatory based, problem based, student centered and promotes continuity of care.

Objective: The purpose of this survey was to obtain student perceptions of their current value and areas that they could add additional value.

Methods: We surveyed the Pillar 2 students to obtain their perceptions of their value to the physicians, patients, community and hospital system. Students could also add comments.

Results:
Students perceived their highest value:

- Education of the patient
- Direct care of the patient
- Service learning benefit to the community

Lowest perceived value:

- Service learning to physicians
- Research and system projects value to patient

Student Comments: Will be reported.

Discussion: Students identified areas where they added value to physicians, patients, the community and the hospital. They commented on additional ways to be of benefit.

Conclusion: Curricular design should implement programs/opportunities to capitalize on student value.

References/Citations:

Promoting Self-Regulation through a Longitudinal Personalized Learning Plan

**Future Directions and Educational Theory in LIC**

**Oral Presentation**
Tuesday, OCT 29
15:30-15:45
Pacific Ballroom

**Lead Presenter:** Jo Anna Leuck, TCU and UNTHSC SOM

**All Author(s):** Jo Anna Leuck, TCU and UNTHSC SOM; Amber Heck, TCU and UNTHSC SOM

**Abstract:**

**Introduction/Background:**
Self-regulation is the process of defining and reaching goals by generating thoughts and behaviors that facilitate achievement. Skill in self-regulation is key to success as a life-long learner, and evidence demonstrates that it can be learned. One strategy to promote self-regulation is a personal learning plan (PLP), which is developed by learners as a way to achieve learning goals. Longitudinal Integrated Clerkships (LICs) require students to exercise self-regulated learning skills. We propose a PLP-based intervention within an LIC to promote self-regulation. We believe that increased skill in self-regulation will lead to improved academic performance and promote wellness.

**Aims/Objectives:**
By introducing a PLP with each student in an LIC, we aim to:
- Create a PLP that is satisfying to learners.
- Positively affect learner growth in self-regulation, academic performance, and wellness.

**Description of methods**
A PLP will be implemented across the LIC experience. Each PLP entry will allow learners to identify a need, a goal, resources, strategies, and outcomes to evaluate. Faculty will be able to provide feedback. Both quantitative and qualitative assessment will occur through interviews, focus groups, and the use of validated instruments.

**Anticipated outcomes**
We believe the PLP will impact learner self-regulation by establishing a strategic process for improvement across multiple affective and cognitive domains. After creation of student PLPs with our inaugural class in July 2019, we look forward to sharing experiences, feedback, and initial assessment. We anticipate learners will become more aware of their needs and the strategies they can employ to meet their goals, thus leading to improved academic success within the LIC.

**References/Citations:**


#141

**Bringing it back to the playground: Developing games as an approach for knowledge application and assessment in medical education**

*Future Directions and Educational Theory in LIC*

**Workshop**

Tuesday, OCT 29
10:00-11:30
Saltspring A Room

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**Lead Presenter:** Margaret Lewis, Carolinas Medical Center, Atrium Health

**Co-Presenter(s):** Courtney Brantley

**All Author(s):** Margaret Lewis, Carolinas Medical Center, Atrium Health; Courtney Brantley, Levine Children’s Hospital, Carolinas Medical Center, Atrium Health

**Abstract:**

In medical education, educators are looking for innovations that disrupt education and create a new model for competency-based learning. Adult learners benefit from active engagement. Serious games used as an education learning tool have been shown to increase learner satisfaction and knowledge over traditional methods. Traditional teaching is based on knowledge dissemination and memory whereas games offer an engaging situation in which the student must apply knowledge and utilize application and analysis.

Games in medical education can be creative games can force the learners to apply knowledge in new ways and to use critical thinking skills.

**Learning Objectives:**

1.) Discussion of gaming in medical education and our experiences
2.) Brainstorming and development of an educational game
3.) Testing of game and feedback and idea sharing

**Issues/Areas for exploration:**

We will discuss gaming in medical education as well as our experiences. Attendees will be able to brainstorm ideas for developing games that can be utilized for more innovative student education at their home institution followed by testing the games and giving feedback. Attendees will be encouraged to share ideas.

**Activities:**

Activities in this workshop include discussion of gaming in education as well as small group development of an education game and testing of each game. Following discussion, the audience will divide into small groups and each group will be tasked with developing a game based on a given topic in medical education. Once each group has developed their game, the small groups will test each other groups’ game and give feedback.

**References/Citations:**


Tinto V. Classrooms as Communities: Exploring the educational character of student persistence. J Higher Ed. 68(6): 599-623.
**#142**

**Pioneering the LIC in an Integrated Healthcare System**

*New LIC*

*Poster*

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**Lead Presenter:** Jonathan Holland, Mid-Atlantic Permanente Medical Group

**All Author(s):**
Jonathan Holland, Mid-Atlantic Permanente Medical Group; Susan Leggett-Johnson, Mid-Atlantic Permanente Medical Group; LoAn Nguyen, Mid-Atlantic Permanente Medical Group; Caleb Frank, Penn State College of Medicine; Shyama Sathianathan, Penn State College of Medicine; Jason Ni, Penn State College of Medicine; Marina Mizell, Penn State College of Medicine

**Abstract:**

**Introduction/background**
The Mid-Atlantic Permanente Medical Group (MAPMG) Longitudinal Integrated Clerkship (LIC) was launched in partnership with Penn State College of Medicine (PSCOM) in March 2018. This program implemented the LIC model within MAPMG’s own integrated healthcare system. With a strong partnership between MAPMG and PSCOM, the LIC has provided not only an excellent learning experience for students but also a robust professional development opportunity for the physician faculty.

**Aims/objectives**
- Discuss how an integrated healthcare delivery system for a large, diverse patient population is well-suited for developing a strong LIC program.
- Provide a road map and best practices for implementing a new LIC program.
- Share the student perspective on the LIC experience in an integrated healthcare setting.

**Discussion**
- Highlight necessary requirements and processes for creating and implementing an LIC program, including resources, system-based practices, and faculty recruitment and development.
- Describe the benefits experienced by participating students from their perspective, including mentoring and individualized learning from experienced practicing physicians, and opportunity to engage in Quality and Research projects and track the practical outcomes of their work.
- Share the benefits to the healthcare system from integrating the LIC program and engaging physicians as faculty.

**Conclusion or issues for discussion**
- Discuss how to leverage an integrated system in hosting a LIC and identify obstacles to anticipate and overcome.
- Share how students adapted to the LIC learning environment.
- Emphasize the strong collaborative relationship between MAPMG and PSCOM to ensure the program’s success.
#143
Bringing it Back to the Playground: Using Educational Games to Improve Medical Education

Future Directions and Educational Theory in LIC

Oral Presentation
Tuesday, OCT 29
15:15-15:30
Pacific Ballroom

Lead Presenter: Courtney Brantley, Levine Children's Hospital, Carolinas Medical Center, Atrium Health
Co-Presenter(s): Margaret Lewis
All Author(s): Courtney Brantley, Levine Children's Hospital, Carolinas Medical Center, Atrium Health; Margaret Lewis, Carolinas Medical Center, Atrium Health

Abstract:

Introduction: Educators are looking for new innovative models for competency-based learning. Adult learners benefit from educational tools with active engagement as they have been shown to increase learner satisfaction and knowledge over traditional methods. Traditional teaching is based on knowledge dissemination and memory whereas games allow students to apply knowledge and practice application and analysis. Medical educators worked to design a competition to challenge students to apply knowledge gained in the Transition to Residency Course (T2R). Educators planned games and were limited only by their imagination. Each challenge had a theme that was deemed an important skill for intern year.

Aims/Objectives: To design games where students apply knowledge gained during their T2R. Each challenge was based on the thirteen Entrustable Professional Activities or skills felt important for intern year. Following participation, students were surveyed regarding their experiences.

Methods: Fourteen students were placed into teams and completed ten games collectively named “Night on Call”. The team with the lowest cumulative time was declared winner. Students were then anonymously surveyed regarding overall effectiveness and individual success of each game.

Results: Students felt games were a fun addition to T2R and that they improved knowledge retention and application compared to traditional teaching methods. EKG interpretation, team-focused CPR, antibiotic selection, hands-offs, and prioritization were highly ranked challenges.

Conclusion: Students felt the “Night on Call” escape-room style challenge was a fun and successful teaching method that enhanced education. We plan to use collected feedback for improvement in creating future courses.

References/Citations:


Tinto V. Classrooms as Communities: Exploring the educational character of student persistence. J Higher Ed. 68(6): 599-623.
Title: A Health Professional (HP) Student-Led Approach to Building Interprofessional Collaborative Practice (IPCP) Skills

Abstract:

Background: IPCP is required to work effectively in today's healthcare system. The literature suggests that healthcare providers need to be trained interprofessionally to practice collaboratively. 40-60% of HP students' learning takes place in the clinical setting. Aims: TLEF funds supported the development and implementation of a model to ensure that all HP students receive comparable IPCP learning opportunities regardless of location or timing of their clinical placements.

Methods: Phase 1 The development of the Student-led Interprofessional Learning (SIPL) model included a literature search, needs assessment, and an environmental scan to identify current initiatives, resources, and fundamental principles. Phase 2 SIPL was piloted at 49 sites across BC, Alberta, and Ontario, with students from medicine and other HP disciplines. Outcomes were evaluated through student and preceptor focus groups, surveys, and stakeholder interviews.

Results: Key pillars of SIPL are comparable experiences, student assessment, portability, evaluative ease, and sustainability. SIPL can be leveraged in pre-existing placements with minimal resources. Pre-placement modules and educational tools prepare students for their placement. A student-led appreciative inquiry or collaborative practice can be selected based on local context and preference. These modalities provide opportunities for teaching and assessment in HP core competencies. Students complete post-placement reflections to consolidate learning.

Conclusion: Our findings suggest SIPL is highly effective. Educational programs found SIPL efficient to deploy with minimal effort, and patient-centred. Students enjoyed SIPL compared to previous IP training and benefit through engagement with other HPs. SIPL resources and preliminary findings from ICC integration will be shared at the conference.
#145
Building equity into advance care planning: a longitudinal student-led quality improvement initiative

**Impact**

**Poster**

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**Lead Presenter:** Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine

**All Author(s):** Nardine Riegels, University of California San Francisco and Kaiser Permanente School of Medicine; Camille Jones, University of California, San Francisco; Cara Eberhardt, UCSF; Elizabeth Ginelli, UCSF; Angela Mendoza, UCSF; Micha Zheng, UCSF; Christina Morris, UCSF; Jessie Mai, UCSF; Simon Ma, UCSF

**Abstract:**

**Introduction:** Advance care planning (ACP) clarifies and documents medical preferences, allowing medical teams and loved ones to align with patients’ goals and values. In 2018, medical students participating in the UCSF-Kaiser Permanente Longitudinal Integrated Clerkship examined local ACP practices, including racial inequities.

**Aim:** To improve ACP experience for Kaiser Permanente East Bay minority patients.

**Methods:** Students used lean methodology and design thinking to implement an outreach campaign with the input of a local patient advisory council. Patients emphasized the need for a trusted physician to recommend ACP. Students created videos of primary care physicians (PCPs) in English and Cantonese describing ACP. Links to these videos were then sent to these physicians’ English and Cantonese-speaking patients who were also eligible for ACP based on age or comorbidities. A short video primer on ACP for physicians was also disseminated to physicians in the department.

**Results:** Of the 118 messages sent to patients, 50% were read by patients within one week. Patient advisors described the videos as warm and inviting with 64% stating they would be highly likely to schedule an ACP session after viewing the video.

**Discussion:** Scripted videos in two languages enabled primary physicians’ outreach to minority patients. Physicians received favorable responses from patients and families. Students engaged preceptors and collaborated on a quality improvement initiative within the setting of a longitudinal clerkship.

**Conclusion:** Students successfully implemented a novel ACP outreach program for a local community of patients with language barriers to care. They acquired practical experience in using quality improvement methods.
Incorporating Social Determinants of Health Curriculum into Clinical Medical Training

Poster

Lead Presenter: Matthew Young, University of Minnesota
All Author(s): Matthew Young, University of Minnesota; Michael Lawson, University of Minnesota

Abstract:
Introduction: Clerkships are designed primarily to educate students on the diagnostics and treatment of diseases, but rarely include a standardized teaching model that allows for discussions of systemic barriers to care and social determinants of health. As our LIC is located in a large, urban safety net hospital with an underserved patient population, an appreciation and comfort with the latter information is critical to a clinician’s success.

Aim: We created a curriculum using numerous approaches to provoking critical thinking and understanding of social determinants of health. This included reflective and narrative discussions in didactics sessions, a simulation on the experience of poverty, workshops on historical trauma and political advocacy practice. The goal was to have students become more comfortable with these topics in order to more effectively treat underserved patients.

Discussion:
• Exposure to a variety of real-world issues faced by those living in poverty
#147
How can the education and training of students on Longitudinal Integrated Clerkships (LICs) transfer to practise and benefit patients? : An evidenced based model developed using realist inquiry

Future Directions and Educational Theory in LIC

Workshop
Monday, OCT 28
10:30-12:00
Waddington Room

Lead Presenter: Jan Illing, Newcastle University
All Author(s): Jan Illing, Newcastle University

Abstract:

Background
This workshop will present an evidence based model to explain how education and training of staff and students can transfer to practise and benefit patients (through improved clinical effectiveness, patient safety, and patient experience).

The model was developed using a realist approach, starting with a transfer of learning theory, then a systematic search of 24,000 papers from the international literature and draws on evidence from 368 studies which were synthesised to create a Four-Step Programme Theory. This was then tested using primary data collection from five live UK health service case studies, a survey with over 600 healthcare staff and tested by modelling National Health Service data.

The model identifies the processes and resources that are needed to gain a positive outcome and ensure education and training targeted at staff benefits patient. However, few studies focused on generating patient outcomes following pre-qualification education and training, as the student was the intended outcome. As LIC students have ongoing relationships with patients, LICs provide a strong instance of how data showing patient benefit could be collected at the pre-qualification level.

Learning objectives
• Participants will learn about the development and testing of the model.
• Learn how to ensure educational interventions transfer to practise to benefit patients.
• Learn how to apply the model to their own LIC intervention to ensure it generates patient outcomes.

Activities
Participants will be supported to work on their own topics and be guided through the application of the Four-Step model to generate patient data following LICs.

References/Citations: