

Consortium of Longitudinal Integrated Clerkships

CLIC Conference 2016

October 16-19, 2016

Toronto, Canada



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE

CONFERENCE ABSTRACTS

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POSTER PRESENTATION ABSTRACTS

Poster

Strengthening Student Substance Abuse Management Skills Through Development of a Multi-Modal Curriculum Within the Denver Health Longitudinal Integrated Clerkship (DH LIC)

Presenting Author(s)

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Co-Author(s)

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Background or Context

The DH LIC was established in 2014 to train third year medical students to meet the needs of an urban-underserved patient population. Evaluation data collected from the first two cohorts of students reveals a need for increased education related to screening and management of substance abuse.

Innovation or Solution

Development of a longitudinal substance abuse curriculum woven into the DH LIC.

Implementation or Evaluation

1. Needs assessment of students and clinical faculty revealed that only 27% of students participating in the DH LIC report a high level of comfort with patient counseling around management of substance abuse, despite 91% of faculty agreeing that this skill is important for clinical trainees.
2. Implementation of a multi-modal curriculum including team-based learning sessions, case presentations, structured didactics, reflective writing and discussion groups, and clinical preceptorships at a variety of sites where substance abuse is managed.
3. Ongoing formal evaluation of student satisfaction with individual sessions and of preceptor impressions about student knowledge and clinical skill will be used to measure efficacy in reaching curricular goals.

Take home messages

1. Dedication of adequate curricular time to substance abuse management is essential for training third year students to care this vulnerable population.
2. Integration of didactic and experiential learning may improve students' ability to screen for substance abuse and to counsel appropriately regarding intervention.
3. Aspects of this curriculum are exportable and individualizable to unique LIC programs.

Poster

The Best of Both Worlds: LIC Training at an Idaho Site Providing Exposure to Underserved Care in Rural and Urban Settings

Presenting Author(s)

Mary Barinaga

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Background or Context

University of Washington's Targeted Rural and Underserved Track (TRUST) selects medical students interested in working with rural and underserved populations and matches each student with a continuity community site over four years of medical school. A major curricular element of TRUST is a five month long LIC known as the WWAMI Rural Integrated Training Experience (WRITE) during year three. Some students express a desire to have exposure to both rural and urban underserved settings during their WRITE experience, so a need arose to develop a site that provided both opportunities.

Innovation or Solution

Terry Reilly Health System (TRHS) is a major safety-net provider in southern Idaho, providing full-scope primary care, mental health care, and dental care in both rural and urban community health centers (CHC's). TRHS became a TRUST/WRITE site in 2014, and students are based at the urban CHC in Nampa (population 81,577) but also spend significant time doing continuity clinics in nearby rural agriculture communities, such as Marsing (population 1,316) and Homedale (population 2,633).

Implementation or Evaluation

The urban CHC offers exposure to working in outpatient and inpatient settings caring for the working poor, indigent and homeless populations, as well as interactions with family medicine residents and subspecialty colleagues. In the rural CHC clinics, students care for Idaho's rural patients, including a large migrant farmworker population.

Take home messages

LIC students who are interested in future practice in underserved settings often desire exposure to both rural and urban settings during medical school. Partnering with TRHS allows LIC students to experience both practice environments.

Poster

Curriculum Innovation for the Rural Student Physician Program: Was Initiating the “Community First” Cohort a Success for the Students and the Scheduling Bottleneck?

Presenting Author(s)

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Background or Context

The RSPP (Rural Student Physician Program) was developed at the Peoria campus of UIC in 1996. Building on ideas from the RPAP program in Minnesota, our own version of a LIC was established to fulfill all the M3 requirements.

We have averaged 4.5 students per year. The original design: 20 weeks in Peoria utilizing 4 week blocks in psychiatry, pediatrics, OB/Gyne, IM, and surgery; this is followed by 30 weeks experiencing an integrated learning to complete all these clerkships as well as family medicine. During larger RSPP class sizes, a bottleneck in scheduling for the M3 clerkships occurred. We were asked to limit our class size to 5 students. However, our goal was to grow!

Innovation or Solution

We split our program into 2 cohorts: “community first” and “community last”. Community last was our traditional way of functioning. The community first M3's now went to the rural sites after orientation for 30 weeks of integrated learning. The students then returned to Peoria for the truncated block rotations for 20 weeks.

Implementation or Evaluation

We are concluding our second year of implementation. A total of 3 students have tried “community first”. We will gather qualitative evaluations from these students and compare with similar questioning of the “community last” students.

At least 2 students (1 from each cohort) and 3 faculty will participate in the overall evaluation of the curriculum change and presentation at the conference.

Take home messages

1. Be willing to try a new idea.
2. Evaluate the change.
3. Listen to students and conference participants.
4. Take home messages still developing.

Poster

Lessons from New Brunswick's First Urban LIC

Presenting Author(s)

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Background or Context

Two rural Longitudinal Integrated Clerkships (LICD) were instituted as part of the Dalhousie Medicine New Brunswick (DMNB) programme starting in 2014 and 2015. Discussions surrounding the possibility of an Urban LICD started in Moncton in 2012. Greater Moncton's population (including adjoining city of Dieppe and Riverview) is c 125,000 and the Moncton Hospital (400 beds) has a unique Family Medicine-based hospital model, and has offered Family Medicine and Specialty clerkship rotations. It also houses a Family Medicine Residency Programme with a Preceptor model.

Innovation or Solution

The LICD Working Group proposed a Co-preceptor model, with Family Medicine preceptors who did not take Residents (except for one). Teaching capacity increased to accept 6 LICD clerks. 5 half-days in a Co-Preceptors office were scheduled each week. 2 half-days were set aside for Hospital / Specialist offices, 2 more for Academic Learning and 1 for research. ER shifts and call occurred on evenings. No formal interactions with the Family Medicine residents were planned for the first 6 months of the 48 week LICD.

Implementation or Evaluation

. The Co-preceptor model proved ideal for Moncton. The LICD Clerks covered the majority of Clerkship Objectives within 4 months.

Take home messages

Scheduling difficulties prevented the smooth following of office patients through Specialist Clinic visits to Surgery / other investigations. Hospital Specialist knowledge and acceptance of LICD model has improved over time. Informal and formal LICD clerks-to-Fam Med Resident interactions developed, including joint call. LICD Clerk feedback will assist in resolving scheduling issues. This LICD co-preceptor model would be ideal for similar Urban Communities.

Poster

Selecting for More than the LIC—Combining LIC Admission with Residency Selection

Presenting Author(s)

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Background or Context

Education in Pediatrics Across the Continuum (EPAC) is a national pilot to test time-variable, competency-based advancement from medical school to residency. Students apply to the EPAC program at the University of Minnesota at the mid-point of their second year of medical school. Acceptance into the EPAC program leads to participation in a pediatric-focused Longitudinal Integrated Clerkship (LIC), transition rotations, and a guaranteed position in the University of Minnesota pediatric residency program.

In selecting students for this newly-designed LIC and a residency position, typical residency selection criteria including standardized exam scores (USMLE), letters of recommendation, clerkship performance, and residency interviews were unavailable due to the timing of the decision.

Innovation or Solution

We focused on factors that we felt were essential for success in our LIC and subsequently in residency. These included fit for pediatrics as well as key interpersonal traits: teamwork, internal motivation, adaptability, and stress tolerance. Applicants were required to be in good academic standing but their grades were not reviewed as a part of their application.

Implementation or Evaluation

We used faculty panel interviews with structured interview questions designed to measure past performance in the key interpersonal traits. Each applicant completed two 30-minute interviews with a faculty panel and answered a total of 4 structured questions. We have selected two cohorts using this approach.

Take home messages

We were able to adapt our selection approach for residency to an earlier time point. Interviewing for LIC admission with a specific focus on factors that contribute to residency success was a key component of our process.

Poster

Preventive Health Care for the Amish: An Example of a RPAP Rural LIC Medical Student Community Health Assessment Project

Presenting Author(s)

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Co-Author(s)

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Background or Context

A variety of experts recommend that physicians be trained in public health as a means to prevent disease, more effectively address acute and chronic health conditions and fulfill the social mission of academic medical centers

Innovation or Solution

To address the call to implement curricula that engage students in public health issues, the Rural Physician Associate Program (RPAP) at the University of Minnesota (UMN) requires its cohort of 30-40 third year medical students to complete community health assessment (CHA) projects while participating in a 9-month longitudinal integrated clerkship (LIC). Distinct from service learning, RPAP CHA projects promote authentic community engagement and collaboration. An example is a multi-year CHA project in Long Prairie, MN, where 4 successive RPAP students have partnered with their Family Medicine preceptor to offer preventive health services to the Amish.

Implementation or Evaluation

The goal of the CHA curriculum is for RPAP students to address health disparities in the communities in which they complete their LIC. RPAP students working specifically to improve Amish health care established a new model of care that has become a well established part of the Long Prairie health system.

Take home messages

CHA project work is complex and time consuming, yet 75% of RPAP students rate the experience as helpful, or very helpful to their overall learning. CHA project supervision and support is essential. Community and clinic resources play an important role in CHA project choice.

Poster

Interaction Between LIC and Traditional Block Students: A Challenge During the First Year of VALUE (VA Longitudinal Undergraduate Medical Education), an LIC at the Minneapolis VA Health Care System (MVAHCS)

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Kathryn delValle, 4th Year Medical Student - University of Minnesota Medical School

Nacide Ercan-Fang, MD - VALUE Co-Director, Minneapolis VAMC

Background or Context

A cohort of 10 students from the University of Minnesota successfully completed the VALUE clerkship at the MVAHCS, which already serves as a major training site for clinical undergraduate and graduate medical education. Longitudinal students were added to the already at capacity number of traditional clerkship students, leading to the challenge of preceptor overload, decreased patient exposure for both VALUE and traditional clerkship students and a confusion over scrubbing privileges in the operating room.

Innovation or Solution

During weekly feedback sessions with VALUE students, we identified interaction with other trainees as a unique challenge, even after our efforts to separate traditional block and LIC students, when possible. We addressed this problem by adding VALUE clerkship information to trainee orientation sessions. VALUE students posted their schedules in trainee workrooms. We then created an algorithm, prioritizing student involvement in patient care and trained students on how to communicate when conflicting situations arise. In clinics where there were excess students per preceptor, we recruited chief residents/senior residents as preceptors and/or expanded exposure to that specialty outside the traditional setting.

Implementation or Evaluation

We successfully implemented the VALUE clerkship while maintaining traditional block clerkships. Scheduling challenges were resolved by soliciting frequent feedback from students and implementing creative solutions such as integrating residents into VALUE student education, when needed.

Take home messages

Partnering with VALUE students to resolve problems efficiently and in a timely manner was critical to our success.

Trainee education is as critical as faculty development in implementing a successful LIC.

Poster

An Organizational & Operational Model of a 3rd Year LIC at a Regional Campus

Presenting Author(s)

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Co-Author(s)

Eric Runge, MBA - Assistant Vice President, Carolinas Healthcare System

Background or Context

As a large, independent academic medical center, Carolinas HealthCare System (CHS), has served as a regional campus of the University of North Carolina - School of Medicine (UNC SOM) since 2011. The regional campus piloted a Longitudinal Integrated Curriculum (LIC) in 2013 and has refined, adapted and expanded the LIC to accommodate all twenty-five 3rd year students. Located 2.5 hours driving distance from the main Chapel Hill, NC campus, CHS provides comprehensive services including all required clinical rotations, student services, testing, scheduling, ultrasound training, simulation, systems-based learning and an active didactic program. Student interest groups, research and community service opportunities are also available. Physical facilities include study space, library, lounge and locker rooms. Students return to the main campus at least twice during the third year for class meetings, and as needed for services not available at CHS.

Innovation or Solution

The regional campus partnership is an efficient and effective way to educate medical students using the LIC model. Partners share both an in-kind and financial commitment and the presentation will describe organizational and operational contributions, made by both CHS and UNC SOM.

Implementation or Evaluation

Presentation details:

- “Regional Campus At-A-Glance”: Background information
- “Partners Sharing the Commitment”: Monetary & in-kind contributions by partners (no dollar amounts provided)
- “Faculty & Staff at the Regional Campus”: Organizational structure with Full Time Equivalent (FTE) positions
- “Operational Costs for LIC”: LIC Preceptors, simulation, ultrasound education.
- “Summary Accounting and Capacity Questions”

Take home messages

The operational and organizational structure of one model of an LIC at a regional campus will be described.

Poster

A Schematic Model of a Longitudinal Integrated Curriculum for 3rd Year Medical Students at a Regional Campus

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Background or Context

As a large, independent academic medical center, Carolinas HealthCare System (CHS), has served as a regional campus of the University of North Carolina - School of Medicine (UNC SOM) since 2011. The regional campus piloted a Longitudinal Integrated Curriculum (LIC) in 2013 and has refined, adapted and expanded the LIC to accommodate all twenty-five 3rd year students. The current curriculum is composed of 24 weeks of outpatient LIC and 24 weeks of traditional inpatient blocks. Once a week, all students gather for a lecture from any one of the specialties, also promoting a sense of community and reinforcing concepts across specialties. During the LIC component, students have half days in each of six medical specialties, 1-2 half days of didactic instruction and 2-3 half days of self-directed learning time. Didactics are taught utilizing various modalities to include high-fidelity simulation, standardized patient encounters, chalk talks and lecture. Students have shifts in the Emergency Department and a systems-based learning project.

Innovation or Solution

This poster presentation illustrates the current state of the curriculum after two pilot and one fully-implemented years of experience. Using the strengths at the campus site, the 24/24 model optimizes capacity in both inpatient and outpatient settings for a cohort of 24-26 students.

Implementation or Evaluation

This curriculum model achieves the stated goals and objectives of the UNC SOM course of instruction for the MS3 year.

Take home messages

By describing our approach to a LIC, we hope the poster presentation will generate comments and suggestions for scalability and further enhancements to the curriculum.

Poster

Integrating Psychiatry into a Multisite Urban Longitudinal Integrated Clerkship

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Background or Context

In 2014, a pilot Longitudinal Integrated Clerkship (LIC) was introduced in Toronto Canada to run concurrently with a traditional block clerkship. Seven students successfully completed the pilot LIC. The program has since expanded multiple sites to increase LIC capacity. This poster describes the implementation of the expansion of the Psychiatry experience for the LIC.

Innovation or Solution

The successful implementation of the LIC at St. Michael's Hospital (SMH) and the Centre for Addiction and Mental Health (CAMH) was used as a model for expansion to other sites. Discussion with site coordinators and department chiefs occurred individually, and at the central undergraduate committee. Chiefs at community affiliated hospitals were engaged to increase capacity. SMH doubled its LIC capacity permitting CAMH to share students with hospitals with limited capacity.

Implementation or Evaluation

For the 2016-2017 academic year, 27 students enrolled in the LIC, distributed across 5 fully affiliated academic teaching hospitals, and 2 community teaching hospitals. Each student is paired with up to two psychiatrists with different clinical foci depending on characteristics of the individual hospitals. Each student spends 17-19 days in psychiatry clinics and follows a patient panel including patients with depression and a psychotic disorder. Five half-days of small group teaching is delivered at the fully affiliated teaching hospitals.

Take home messages

The LIC has been successfully expanded from 7 students in two hospitals, to 27 students in seven hospitals. The successful pilot, positive preceptor experiences, and chiefs' support facilitated expansion of the LIC to multiple sites with different populations and clinical foci.

Poster

An Intentional Approach to Interprofessional Training Within a Longitudinal Integrated Clerkship (VALUE) at the Minneapolis VA Health Care System (MVAHCS)

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Background or Context

A 4-credit, 150-hour, didactic and experiential course on interprofessional practice and education was designed and implemented with the inaugural cohort of ten third-year University of Minnesota medical students enrolled in the VALUE 10-month LIC at an urban VA Medical Center.

Innovation or Solution

The American Interprofessional Health Collaborative (AIHC) core competencies for interprofessional practice intentionally informed the development of the IPE curriculum, using direct input from faculty and trainees from multiple professions.

Implementation or Evaluation

Seven strategies were used to implement the IPE curriculum:

- 1) Participation in interprofessional patient-centered medical homes where the students actively followed a panel of patients.
- 2) Expected participation in their panel patients' non-physician appointments with tracking of their interprofessional contact.
- 3) Partnering with interprofessional trainees and faculty to complete longitudinal quality improvement projects.
- 4) Participation in existing interprofessional hospital conferences and committees.
- 5) Teamwork training utilizing didactics and interactive case discussions with social work, physical/occupational therapy, nutrition and pharmacy students.
- 6) Simulation sessions with nursing and pharmacy students focused on team training and care of inpatient urgencies led by an interprofessional faculty.
- 7) Reflective sessions allowing students to contemplate their interprofessional interactions as well as translate didactic material to their clinical experiences.

Faculty partnered with students to evaluate whether the IPE curriculum increased their interprofessional practice pattern, with preliminary data to be available.

Take home messages

We utilized a variety of successful strategies to implement IPE. A deliberate approach to implementation of IPE curriculum was key to our success. The LIC model is ideally suited for interprofessional training.

Poster

Developing a Longitudinal Humanities Course on Medical Communication at a Regional Medical Campus

Presenting Author(s)

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Background or Context

All Penn State College of Medicine students are required to participate in a yearly Humanities selective. During its first two years, the University Park Regional Campus relied on a faculty member from the main campus traveling 2 hours to provide Humanities instruction for fourth-year medical students. This presented significant challenges.

Innovation or Solution

An innovative longitudinal Humanities selective was developed for fourth-year medical students by a regional campus physician. Participating in the original "imported" Humanities class facilitated the faculty development required to create a completely new course. This new selective, "Impressionism and the Art of Communication", made use of film, team based learning, the flipped classroom and active painting assignments to deliver the curriculum.

Implementation or Evaluation

The study of the Impressionist Movement was used as a platform to provide a curriculum on effective medical communication. The course was designed to be delivered longitudinally, coinciding with the residency interview period, while avoiding scheduled acting internships and away electives. Standardized Patient sessions were also included. A formal evaluative survey was conducted at the end of the course. This Humanities selective culminated with an invited community exhibition to showcase the numerous intriguing paintings produced by the class.

Take home messages

Regional Campus faculty members can develop and deliver an innovative curriculum in Medical Humanities when dedicated faculty development is provided. Delivering content in a longitudinal format that integrates with other fourth-year rotations which may require the student to be away, is an effective approach.

Poster

Using the Healthcare Matrix to Teach Patient Safety Throughout Longitudinal Integrated Clerkships

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Background or Context

Patient Safety and Quality Improvement are topics that are sometimes difficult to teach and implement in undergraduate medical education. When discussing adverse events or near misses, it can be tempting for medical students to blame healthcare providers higher up in the medical hierarchy for mistakes or miscommunication. In addition, a new study garnering media attention suggests that medical errors may be the third leading cause of death in the US.

Innovation or Solution

The Healthcare Matrix is a standardized tool that can help students analyze and link the IOM aims for patient care to ACGME competencies. At the Charles E. Schmidt College of Medicine at Florida Atlantic University, we use the Healthcare Matrix as a year-long assignment that spans the course of our LICs in order to assess whether our students can work effectively within a healthcare system to provide patients with high value care.

Implementation or Evaluation

Students must choose a case they encounter in an LIC and then critically evaluate the patient care using the Healthcare Matrix. This is accompanied by a reflective essay describing their specific suggestions for improving the quality of care. The two best entries are then chosen by faculty to be presented in a Grand Rounds style presentation. Students were very satisfied with the conference, and felt more empowered to try and improve the quality of their patients' care in the future.

Take home messages

The Healthcare Matrix can serve as a practical way to explore Patient Safety throughout longitudinal integrated clerkships.

Poster

They are Learning More Than Us: Students' Perceptions of Educational Equity in a Distributed Integrated Lic

Presenting Author(s)

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Ian Wilson, Professor - Dean, University of Wollongong

Background or Context

The University of Wollongong, NSW, Australia operates a 12-month LIC across 11 geographic sites (one regional and 10 rural) distributed across the state, which is compulsory part of the program for all its senior medical students.

Although separated by considerable distance, students in the various sites communicate with each other regularly using social media, and this gives them a platform to compare their educational opportunities. Informal feedback from individual students to program staff indicates that some fear that they may be missing out on some educational aspects when compared to students in other sites, and that this could put them at a disadvantage.

Innovation or Solution

One-on-one structured interviews are offered to all students on main campus at the end of the LIC as part of an evaluation of the program. This year, interviews will have a focus on perceptions of educational equity.

Implementation or Evaluation

This short oral presentation will present the results of an analysis of the interview data from the 2015/2016 cohort of students, aggregated by site, to determine their views on perceptions of educational equity. The aim is to more formally assess these anecdotal perceptions and to determine how widespread they actually are.

Take home messages

Previous analysis of examination results has demonstrated that there is no significant difference in student performance by geographic location. We anticipate that formal exploration of their perceptions will reveal that their fears of education inequity are voiced by a few only and are not widespread.

Poster

Broadening Student Understanding of Complementary and Alternative Medicine (CAM) Through the Assessment of Educational Needs and the Development of an CAM Curriculum in the Denver Health Longitudinal Integrated Clerkship (DH-LIC)

Presenting Author(s)

Caitlin Heim

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Co-Author(s)

Jennifer Adams, MD - Attending Physician, Denver Health

Background or Context

Complementary and Alternative Medicine (CAM) is an emerging field and medical students tend to have only minimal understanding of its applications. Adding curricular content focused on CAM will allow LIC students to more openly discuss services already frequently accessed by our patients and allow them to better understand safe CAM options to supplement allopathic care (1).

(1) Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med.* 1993;328(4):246–252.

Innovation or Solution

We conducted a needs-assessment survey of DH-LIC faculty and students to assess gaps in knowledge and to determine which topics within CAM are important to focus on given limited curricular time to devote to this topic. Students and faculty agreed that the topics most important to address are identifying conditions that might benefit from CAM and the evidence behind CAM therapies.

Implementation or Evaluation

We developed an interactive workshop focused on these areas which will be integrated into the DH-LIC didactic curriculum. The curriculum's efficacy will be measured by student satisfaction with the workshop and faculty impression of student knowledge in this area.

Take home messages

- 1) We sought to understand student and faculty perspectives on the educational needs and importance of evidence-based Complementary and Alternative Medicine didactic learning.
- 2) We designed a workshop that will allow students to better understand the most evidence-based uses Complementary and Alternative Medicine.
- 3) We will evaluate the effectiveness of the CAM curriculum by examining satisfaction, confidence, and clinical skill.

Poster

Preparing Medical Students for Working with LGBTQ Patients Through the Assessment of Educational Needs and the Development of an LGBTQ Health Curriculum in the Denver Health Longitudinal Integrated Clerkship (DH-LIC)

Presenting Author(s)

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Background or Context

Despite receiving minimal education on LGBTQ health during their pre-clinical years, students will inevitably be involved in the care of LGBTQ patients during their clinical clerkships. These patients frequently feel uncomfortable in the medical setting due to their sexuality or gender identity (1). We aimed to develop a LGBTQ Health curriculum within the Denver Health LIC based on a needs assessment so that LIC students will be well-positioned to help this underserved population navigate the healthcare system.

(1) One Colorado Education Fund. (2011). Invisible: The State of LGBT Health in Colorado. In One Colorado. http://www.one-colorado.org/wp-content/uploads/2012/01/OneColorado_HealthSurveyResults.pdf

Innovation or Solution

We performed a needs assessment survey of two cohorts of DH-LIC students and the DH-LIC faculty. Curricular gaps identified include taking a sexual history from LGBTQ patients and understanding the unique health care needs of transgender patients.

Implementation or Evaluation

Based on the findings of this survey, we developed a LGBTQ Health curriculum to target these content areas. We plan to collect evaluation data from student satisfaction and faculty impressions of student skills and knowledge to refine the curriculum and ensure curricular goals are being met.

Take home messages

1. A needs assessment of both faculty and LIC students allowed understanding of both perspectives on the educational needs and importance of didactic learning related to LGBTQ Health.
2. We were able to target the highest yield LGBTQ Health curricular topics that will to better prepare students to serve this population.
3. Ongoing evaluation of the effectiveness of the curriculum will allow modification in future years.

Poster

Supporting Students with Attention-Deficit/Hyperactivity Disorder in Longitudinal Integrated Clerkships

Presenting Author(s)

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Background or Context

The literature suggests that 12% of US medical students have a disability--the largest proportion having attention-deficit/hyperactivity disorder (ADHD). Given that students with ADHD will enlist in LICs, program directors and faculty need to know the opportunities, challenges, and “lived reality” these students experience. Longitudinal learning offers value for students with ADHD: structured repetition, longitudinal relationships, and greater flexibility to meet students’ interests and needs. However, LICs also pose particular challenges for these students: switching among specialties (making it difficult to establish a daily routine), managing a complicated schedule, and limiting opportunities for leaves of absence given the longitudinal structure.

Innovation or Solution

We offer 5 key points grounded in ADHD literature. These points offer “on the ground” advice on how LIC preceptors, faculty, and administrators may recognize, support the growth of, and benefit from the abilities of students with ADHD.

Implementation or Evaluation

This poster presents a list of best practices, tips, and resources for stakeholders within LICs, including program directors, staff, advisors, and clinical instructors.

Take home messages

LIC educators and leaders have the special opportunity and responsibility to support students with ADHD. LICs may present challenges for students with ADHD but may also provide particular supports for students’ needs. LICs celebrate and enact intentional and individual educational design and thus offer opportunities to improve the quality and inclusivity of medical education. Such efforts should also allow preceptors, peers, and patients to benefit from the valuable perspectives and abilities students with ADHD offer.

Poster

Veterans Affairs Longitudinal Undergraduate Medical Education (VALUE) Clerkship Assessment: Learners' Perspective on a New Longitudinal Integrated Clerkship (LIC) at the Minneapolis Veterans Affairs Health Care System (MVAHCS)

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Background or Context

VALUE is a new LIC at the MVAHCS. Ten students participated in weekly focus groups with VALUE directors to provide timely feedback. In addition, we performed a comprehensive end of program evaluation with a goal to improve the clerkship for future cohorts.

Innovation or Solution

While the clerkship was highly successful, there was consensus among students on a handful of issues: 1) Related to scheduling: certain clinical experiences require a full day but student schedules were arranged in half-day increments; some preceptors have specialized practices resulting in a limited scope of experiences for their students; the medicine inpatient experience was unscheduled by design, leading to a somewhat intermittent and variable experience. 2) Related to feedback: evaluations were too frequent, their purpose not always well defined, and the iPads facilitating collection were cumbersome; while inter-professional simulation cases were valuable, students did not receive specific clinical feedback on their performance; the feedback mentor experience varied significantly depending on each student's assigned mentor.

Implementation or Evaluation

Students worked with VALUE Directors on solutions for each stated issue, including small reductions in independent learning time to allow for full-days, and for scheduled inpatient experiences; organized trading of student preceptors; reducing and clarifying the purpose of evaluations with an orientation session; scheduled debriefs following simulations, and clarifying expectations of feedback mentors with faculty development.

Take home messages

Students were proactive in delivering cohesive and timely feedback from their perspective.

Brainstorming solutions with VALUE directors was essential to the improvement of the program for current and future trainees.

Poster

Using LIC as a Framework to Build Curricular Effectiveness in a Three-Year Accelerated Medical Program

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Background or Context

For more than a decade, prominent organizations have called for educational reform to better align medical training with national healthcare needs. Education that is competency-based and individualized is encouraged. Student debt and national shortage of primary care physicians should be addressed.

Innovation or Solution

In response, Penn State College of Medicine developed and launched a 3-year accelerated program for students planning to enter Family Medicine, which allows medical students to complete medical school in 3 years followed by 3 years of Family Medicine residency training at Penn State. The goals of the program are to reduce students' debt and to build primary care workforce capacity. The purposeful curricular design helps ensure efficient and effective learning that meets all graduation requirements. Given literature demonstrates that longitudinal integrated clerkships (LIC) are efficient model of training where learners are more likely to engage in hands on learning activities, retain a patient-centered focus and possess higher knowledge retention, the LIC format was used rather than the block clerkships in the clinical year.

Implementation or Evaluation

The accelerated program was launched in 2015. Currently there are 3 students enrolled in the program. Student feedback was positive. Penn State has joined a consortium of 8 schools with accelerated programs to share best practices and conduct research.

Take home messages

With rising student debts and calls for individualized education, there is renewed interest in 3-year programs, which were piloted in the 1970s. LIC provides a great framework to improve curricular efficiency and effectiveness in accelerated programs.

Poster

Adjusting our AIM

Presenting Author(s)

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Background or Context

AIM - A&M Integrated Medicine is a the only LIC in the State of Texas and our campus is the only Texas A&M College of Medicine that is an LIC. We are a 2nd year program with strong administrative support and skeptical faculty support. We launched our 1st year with 22 students - it began with a 3 week Boot Camp and then went into 46 weeks of an integrated 2-week clinical schedule for each student. Each of the core clerkships insisted on numerous weeks of pull-outs for in-patient experiences. We recognized our design flaws as the student schedules lacked continuity for students, patients and preceptors.

Innovation or Solution

Survival of an LIC program in a predominately traditional medical school and community comes out of intense collaboration and concessions among the stakeholders. We identified flaws in year 1 so, we asked, we listened, we researched, and we redesigned our LIC schedule to meet the instructional needs of our clerkship requirements while, maintaining the characteristics most important of an LIC.

Implementation or Evaluation

Our preliminary data shows our collaboration and redesign has been successful as the students and preceptors have experienced the many advantages of an LIC this year. Students have been successful and preceptors have developed the relationships desired to become supportive mentors.

Take home messages

LIC's are ever changing! Do not give up on your LIC program when the going gets tough. Be willing to ask the tough questions and validate the difficult answers. Analyze the data and redesign - it will be worth it!

Poster

Developing a Longitudinal Integrated Clerkship in an Urban Setting: A Student Perspective

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Background or Context

Since the fall of 2012, Dalhousie University has offered a rural Longitudinal Integrated Clerkship (LIC) curriculum for the third year clerkship. In 2015 they added the first urban LIC in Moncton, New Brunswick. The Moncton Hospital is a tertiary care center with a hospitalist-based system that presented a unique challenge in translating the successful rural model to a more urban setting. The six students selected for the site prepared a feedback document comparing the unique clerkship experience at each Dalhousie LIC site with recommendations to improve the urban LIC from the learner's perspective.

Innovation or Solution

Student efforts to follow their family medicine patients through the healthcare system as a means of gaining exposure to various specialties proved more challenging than in rural centres. This was due primarily to staff preceptors being unfamiliar with the LIC model, and the increased availability and compartmentalization of specialty care in a tertiary center.

Implementation or Evaluation

It is clear from the urban students' experience that a key predictor of success or difficulty in each specialty was the enthusiasm and buy-in of each department. Students actively solicited feedback from preceptors, and worked as ambassadors in explaining and recruiting staff to the LIC.

Take home messages

The urban LIC model provides a unique opportunity for widened exposure to specialties and skill-building, but has its own challenges and barriers in fostering environments suitable for longitudinal learning. Although each LIC site has particular considerations, the overarching lessons learned in Moncton can be applied to other urban sites.

Poster

Implementing and Evaluating an Experiential Health Literacy Curriculum in the Denver Health Longitudinal Integrated Clerkship (DHLIC)

Presenting Author(s)

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Background or Context

Health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate healthcare decisions” (1). In order to utilize healthcare, patients must access services, communicate with providers, weigh risks and benefits of treatments, manage medications, and interpret test results (2). The Denver Health LIC was established in 2014 with a curricular focus on underserved medicine. In this setting, students witness the challenges inherent in caring for patients with low health literacy.

Innovation or Solution

Novel curricula was developed to provide students with specific tools to care for patients with low health literacy that will improve care of vulnerable patient populations.

Implementation or Evaluation

The DHLIC health literacy curriculum includes: 1) a small group session to discuss health literacy and tools to support patients with low health literacy, 2) an experiential assignment in which students select a patient encounter representing a specific health literacy challenge. Students then develop and implement an intervention to address this challenge. Participants meet again to reflect on the case and intervention with peers and faculty. Curriculum evaluation consists of student feedback and faculty evaluation of student presentations.

Take home messages

1. The impact of low health literacy on patient outcomes can be taught longitudinally within the LIC structure.
2. Providing students with specific skills and experience implementing health literacy interventions reinforces concepts and prepares students for independent practice.
3. This curriculum is generalizable to other LIC programs and can be tailored to different patient populations and practice environments.

Poster

Improving Interprofessional Care Team Communication, Patient Care and Safety in a Primary Care Module Through a Longitudinal Quality Improvement Initiative

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Background or Context

Students participating in the 2015-2016 UCSF-Kaiser Longitudinal Integrated Clerkship developed and implemented a quality improvement initiative to improve communication between physicians and medical assistants (MAs) in a primary care clinic. Literature review demonstrates that effective MA and physician teams are vital to distribution of clinical responsibilities and delivery of cost effective, efficient, and high quality patient care, but site visits revealed physician/MA pairs set aside time for team communication only 15% of the time.

Innovation or Solution

Students used data from focus groups and rapid cycles of change to develop a novel checklist for daily communication between physicians and MAs which they called the "Hi-5 Huddle." The final checklist included five questions, could be completed in five minutes or less, and addressed daily workflow, patient visits, and performance feedback.

Implementation or Evaluation

Two months after implementation of the Hi-5 huddle, huddling rate had increased from 15% to 87%. The percentage of MAs and physicians who agreed or strongly agreed that they were satisfied with team communication increased from 59% to 100%, that huddling helped them prepare for the day increased from 53% to 100%, and that huddling improved patient care increased from 59% to 100%.

Take home messages

Students in a longitudinal integrated clerkship were successful in developing and implementing an interprofessional communication tool in a primary care clinic. Use of the tool led to significant improvement in workplace communication and care delivery. Students acquired practical experience in interprofessional communication and collaboration as well as quality improvement skills.

Poster

Evolution of a Longitudinal Integrated Clerkship in an Academic Medical Centre

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Background or Context

This paper reports the evolution and learning from the first four years of a pilot longitudinal clerkship (LIC) at Flinders Medical Centre (FMC), the Academic Medical Centre in the School of Medicine, Flinders University.

The first pilot LIC of 8 students at FMC was in 2013 - the Longitudinal Integrated Flinders Training (LIFT). In the three years since modifications of the pilot to suit the local context have been made such that the fourth pilot in 2016 will in 2017 be expanded to include 80 year 3 (of 4) students in their first clinical year placed at FMC.

Innovation or Solution

Over three years the tertiary hospital LIC programme has improved as it has been simplified. The 2016 model gives students individual relationships with 2 clinicians for each semester with additional longitudinal family medicine, obstetrics and provides a mixture of inpatient contact and outpatient contact by students working with their consultants in both ambulatory and inpatient care.

Implementation or Evaluation

The principles behind the way this model was justified and explained to all participants will be discussed.

Take home messages

Influencing Factors:

1. Structure of the Health system
2. Inpatients vs outpatients
3. Assessment
4. What does a Year 3 student need to learn?
5. Discipline requirements
6. Cost and availability of preceptors

Poster

A Group Prenatal Care Experience Adds Value to LIC Students' Education in Caring for Pregnant Patients

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Background or Context

Longitudinal Integrated Clerkships (LICs) usually integrate students in prenatal care through individual care of pregnant patients with an obstetrics preceptor. Group prenatal care (GPC), an innovative model that integrates routine physical assessment with prenatal education and peer support, aligns well with the principles of patient-centeredness and learner continuity that underlie LICs and provides a unique educational experience.

Innovation or Solution

We hypothesized that participation in GPC would enhance LIC medical students' opportunities to develop pregnancy-related professional and clinical skills.

Implementation or Evaluation

We surveyed six LIC students who were invited to participate in GPC about their participation and opinions on the educational value of the experience. Students attended a median of 5.5 out of 7 possible sessions (range: 2 to 7). All students agreed that the experience was valuable to their education and reported increased confidence in their ability to educate patients about pregnancy; 83.3% and 33.3% of students reported increased confidence in their ability to educate patients about childbirth and breastfeeding, respectively. Two-thirds of students reported opportunities to practice clinical skills including fundal height measurement, fetal heart rate assessment and ultrasound use. Qualitative responses described greater personal connections with patients and opportunities for repetitive skill building in the GPC setting, compared to individual prenatal care visits.

Take home messages

Though students found the GPC experience educationally valuable, patient care responsibilities varied widely between individuals. Our findings suggest that the GPC experience should be integrated into LIC curricula with standardized student roles, and supply evidence that group patient care models provide meaningful roles and educational opportunities for medical students.

Poster

Cultural Diversity Curriculum: A Student Perspective

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Background or Context

Each Pillar II student at USD Sanford Medical School is required to participate in a cultural immersion week.

Innovation or Solution

During this week each student selects a community resource/culture site where they learn about the site as well as observe and participate in activities there. Twenty-nine sites are available and 18 of them were selected during 2015.

Implementation or Evaluation

During this immersion week students are required to journal about their experiences and what they have learned about the culture of the site. Following the immersion week students prepare a poster describing their site, its culture, and how they participated. Students must then present their poster during a student poster session to fellow students, faculty, and community members.

Take home messages

The student's observation and participation at each site is designed to help each student practice a broader understanding of human situations affected by cultural issues. This program is also designed so that students will better understand some of the resources available in the community.

Poster

Improving Patient Health Literacy in the Context of a Longitudinal Integrated Clerkship

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Background or Context

Health literacy impacts patients' interactions with healthcare professionals, access to health services, and self-care skills. Assessing health literacy helps physicians improve doctor-patient interactions, provide appropriate resources, and encourage active participation with their healthcare team. In a Longitudinal Integrated Clerkship (LIC), such as the University of Toronto's Longitudinal Integrated Clerkship (LInC), medical trainees act as patient advocates in supporting and optimizing patients' health.

Innovation or Solution

The LIC curriculum provides learners with the opportunity to follow their own roster of patients over the year. As such, LIC students can assess the literacy of their patients; recognize barriers in communication and access to care; implement strategies to improve their health literacy; and monitor the results of their interventions. LIC students that are based at one hospital site can navigate services more effectively and provide relevant resources to patients from that community. Additionally, as LIC students train in concurrent rotations of all specialties, they can draw upon the perspectives of several disciplines to develop more comprehensive approaches to addressing patients' health literacy needs.

Implementation or Evaluation

We will create and administer a questionnaire to students in the University of Toronto's LInC 2015-2016 program to discover the students' attitudes toward understanding and improving the health literacy of their patient populations.

Take home messages

Health literacy significantly impacts patients' health outcomes. The LIC program not only emphasizes the importance of health literacy to students, but also provides them opportunities to recognize health literacy gaps, implement solutions to support patients, and form their identity as patient advocates.

Poster

Enhancing the Teaching of Musculoskeletal Medicine in a Longitudinal Integrated Clerkship

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Background

Musculoskeletal (MSK) complaints are common, representing a third of primary care clinic visits. MSK exam skills are equally valuable in pediatric and adult medicine, medical and surgical specialties, inpatient, acute, and outpatient settings. Despite this, most medical school programs dedicate limited time to the teaching of MSK medicine. The Longitudinal Integrated Clerkship (LIC) model enables educators to reinforce skills across time and clinical settings.

Innovation or Solution

We designed a MSK curriculum with three aspects: Physical exam (PE) coaching sessions during which each student performs regional exams (back, shoulder, knee) on a standardized patient and is provided with direct feedback from faculty and individualized coaching around areas of deficiency; a clinical component in which each student has two MSK longitudinal preceptors, representing MSK surgical and non-surgical specialties; and a didactic curricula including case based presentations and team-based learning.

Implementation or Evaluation

Student evaluations of the didactics have been positive and students have reported improved confidence in the exam skills as a result of the PE coaching sessions. Next steps are to revise didactic sessions, implement and evaluate clinical preceptorships, and use the PE sessions as a tool to evaluate curriculum efficacy over the next academic year.

Take home messages

1. The musculoskeletal exam is an important skill for students to acquire
2. The LIC is well suited to reinforce key MSK concepts and skills over time
3. Aspects of this curriculum could be exported to improve clinical skills in MSK medicine among LIC participants at other institutions

Poster

Implementation of an Urban Longitudinal Integrated Clerkship Using a large Academic Health Sciences Centre and a Community-Academic Hospital

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Background or Context

The Peters-Boyd Academy is one of four academies of the University of Toronto undergraduate medical program. It hosts 54 of the 259 students admitted to the MD program.

Innovation or Solution

The academy launched a longitudinal integrated clerkship (LIC) in 2015-16 at two sites: Sunnybrook Health Sciences Centre and North York General Hospital; the former a large Academic Health Sciences Centre and the latter a Community-Academic hospital.

Implementation or Evaluation

Seven students were accepted into the program in 2015-16. A mini-match was used to place students at one of the two sites based on their stated preference. All seven students participated in a shared seminar series split evenly between the two sites. All other activities were developed separately.

At Sunnybrook Health Sciences Centre, implementation challenges included:

- ensuring students gained experience at a level appropriate for clinical clerks given the preponderance of subspecialty clinics
- running a concurrent block and LIC model within one site
- lack of on-site Pediatrics

At North York General Hospital, implementation challenges included:

- engaging teachers in specialties that do not typically teach in the undergraduate program (surgery, internal medicine, psychiatry)
- adapting the LIC program to the unique clinical context of our community hospital
- ensuring the values of the institution were purposefully included in the LIC curriculum (ex. patient and family-centered care, interprofessional education)

Take home messages

The Peters-Boyd Academy has successfully implemented a LIC in an urban setting using both a large Academic Health Sciences Centre and a Community-Academic hospital. Each hospital had unique challenges requiring site-specific solutions.

Poster

Choosing the Longitudinal Integrated Clerkship at the University of Toronto: Key Factors in the Decision-Making Process

Presenting Author(s)

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Background or Context

As a University of Toronto medical student participating in the 2016/2017 Longitudinal Integrated Clerkship (LInC) program, I have chosen to explore the practical side of medicine outside of the traditional rotation-based clerkship. Here, I discuss my decision-making process of entering into LInC. I also highlight specific reservations that were experienced and offer recommendations aimed at strengthening the program. My decision to partake in LInC was based on the potential for increased: career exploration, schedule flexibility, and mentorship. My main reservations involved potential resistance from staff and unsynchronized examinations.

Innovation or Solution

While it is unclear as to whether there is actual resistance from some staff or if it is primarily rooted in student discussions, it led to reservations about the program. Additional endorsement by senior staff could help mitigate this challenge. Adoption of an alternate examination schedule, with testing delayed towards the end of the program could align evaluations with the natural development of competencies of LInC students.

Implementation or Evaluation

Additional promotion by senior staff could be implemented immediately, and be included in future clerkship information sessions. Endorsement of LInC by residency program directors would also alleviate potential fears of resistance. The alternate examination schedule could be offered as an option to students, to assess preferences and outcomes.

Take home messages

The potential for increased career exploration, schedule flexibility, and mentorship made the LInC program an exciting alternative to rotation-based clerkship. Potential resistance from staff and unsynchronized examinations created some reservations, but may be mitigated through endorsement by senior staff and an alternate examination schedule.

Poster

Bringing Community into the Clerkship Student Case Presentation

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Background or Context

Formal patient case presentations are a commonly used education and assessment tool. In dispersed LICs, they can also be an important way for faculty to engage with students. We wanted to modify the format to better reflect the unique opportunity that LIC students have to see a patient's disease evolve over time and to view that patient in the wider context of a community.

Innovation or Solution

We added in new assessment objectives that fit with our longitudinal community and population health curriculum. Students were asked to select patients that they had seen at least once for follow-up after the initial encounter. They were instructed to include information in the case that helped inform how that patient might cope with the medical problem or any planned interventions (e.g. insurance status, education level, access to transportation). Students were also asked to draw from a community health assessment to develop an ideal plan for addressing the patient's problem.

Implementation or Evaluation

This was a new way of thinking about patient case presentations for many of our faculty. As a result, some continued to emphasize in their feedback to the students only those areas that they were used to assessing in the past. Adding in interprofessional co-facilitators helped enrich the discussions in the case presentation sessions.

Take home messages

Formal patient case presentations can be modified to include objectives reflective of the uniqueness of a longitudinal, integrated, community-based experience. Interprofessional co-facilitation of these sessions can be an effective tool to enrich the discussions as well as the feedback given to the students.

Poster

Advocating for the Advocacy Role: Key Student Learning from an Advocacy Project Within the University of Toronto Longitudinal Integrated Clerkship

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Background or Context

Advocacy is a CanMEDs and ACGME core competency that can be challenging to teach and evaluate. In 2014, the University of Toronto introduced a longitudinal integrated clerkship (LInC) with 29 students enrolled to date. LInC provided an opportunity for innovation in advocacy teaching.

Innovation or Solution

To address this curricular competency a formal advocacy project was designed and implemented. Students identified a patient from their longitudinal clinical experience for whom social factors were significantly impacting his/her health and prepared an advocacy plan. Projects consisted of a presentation and an abstract reflection, completed over five months that was formally evaluated and comprised 12% of the final Family Medicine clerkship mark.

Implementation or Evaluation

97 % of faculty and students found the project to be an effective learning tool for advocacy. A wide range of social determinants of health were explored in patients ranging from 18 months to 88 years old. The projects involved all CanMEDs roles, however 4 main themes emerged from the student reflections related to the core competencies of the health advocate, communicator, collaborator and professional.

Take home messages

The U of T LIC program successfully implemented a feasible advocacy project in both urban and community settings that integrated a formal longitudinal advocacy experience and evaluation of this core competency. In learning the health advocate role, the students recognized the importance of incorporating and developing skills related to other CANMED roles. Future curriculum development of advocacy training is being considered to include all third-year students in both the LIC and block clerkship.

Poster

Improving Students' Perception of Inpatient Learning Experiences: Transitioning from a 12-Month to a 6-Month LIC

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Background or Context

The Commonwealth Medical College is a new allopathic medical school that has graduated 4 classes. We are a community-based school with an LIC for 100% of our students. For 3 years, our LIC utilized 6 or 7 individual weeks of dedicated inpatient experiences to provide teaching on hospitalized and/or surgical patients. This was increased to a total of 10 weeks for our 4th class. Despite this, 50% of graduates in this class rated their “instruction in the care of hospitalized patients” as inadequate.

Innovation or Solution

We revised the curriculum for the class of 2017. Half of the M3 year now consists of a 23-week uninterrupted LIC that is primarily outpatient experience. The other half-year consists of 2-4 week inpatient “block” rotations. We hypothesized that this would improve students' perception of the quality of the inpatient learning experiences.

Implementation or Evaluation

Internal surveys were conducted. After the curriculum revision, only 20% of students rated their “instruction in the care of hospitalized patients” as inadequate. Similarly, the percentage who disagreed with the statement “I am being adequately prepared to care for acutely ill hospitalized patients” decreased from 30% to 17%. Interestingly, students' satisfaction did not always correlate with their perception that their experiences were adequate.

Take home messages

In a new medical school with a year-long LIC and brief “bursts” of inpatient care, students often perceived that they were not well-prepared to take care of hospitalized patients. This perception improved significantly when the M3 year was modified to include longer blocks of dedicated time in hospital settings.

Poster

Fostering Transformative Learning in a Longitudinal Integrated Clerkship

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Background or Context

Longitudinal integrated clerkships (LICs) encourage active engagement in patient care over time and across multiple disciplines. This engagement allows students to gain a greater understanding towards patient experiences and socio-cultural backgrounds. The experience also challenges students' own assumptions and meaning schemes in their development as healthcare providers.

Innovation or Solution

Transformative learning theory provides a framework for understanding the process of learning through critical reflection on experiences that challenge an individual's assumptions. By examining Mezirow's phases of perspective transformation, it is possible to identify elements in LIC that foster this type of learning as well as opportunities for additional integration.

Implementation or Evaluation

LIC provides opportunities to gain a greater depth of appreciation for the patient experience and sociocultural background, thus presenting disorienting dilemmas requiring critical assessment of epistemic, sociocultural, or psychic assumptions. The capability to follow patients across disciplines, and to personalize one's learning, supports the exploration of options for new roles and actions. Relationships with preceptors can foster mentorship that can guide planning of a course for action and acquisition of knowledge and skills for implementation. Critical reflection and socially constructed experience are key elements of transformative learning theory. These can be enhanced by teaching critical reflection principles, strengthening preceptor/patient feedback, and the presence of "good company" for reflective discussions.

Take home messages

Students experience transformative learning during clinical clerkship with the potential to shift personal paradigms. Mezirow's transformative learning theory is a useful lens to identify strengths and opportunities in LIC to support the development of humanistic, patient-centred physicians.

Poster

Doctor and Patient – Students' Experience and Perception in Longitudinal Integrated Clerkship

Presenting Author(s)

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Shyi-Gen Chen, MD - Chair of School of Medicine, National Defense Medical Center

Introduction

The purpose of this study was to analyse the experience and perception of medical students participating in longitudinal integrated clerkship (LIC).

Methods

In 2014, twelve M5 medical students participated in the LIC. Each of the students wrote a reflective journal each month. A total of 62 reflective journals were subsequently collected. The data were analysed using a content analysis.

Results – Four major themes were identified:

1. Examine the roles of medical students in doctor–patient interactions: students frequently described their interactions with patients. Medical students were the communication bridge between the attending physician and patients.
2. Experience the pain of sickness: Students perceived the negative effects of an illness that resulted in physical, psychological, or life sufferings on patients or their family members.
3. Learn from work: The students learned and discovered about their deficiencies when caring for patients, especially communication skills.
4. Display a patient-centered attitude: Students displayed a patient-centered attitude and provided care and support to the patients.

Discussion

In LIC, medical students' reflections primarily consisted of two dimensions: student–patient interactions and physician–patient interactions. During the process interacting with the patients, the students were empathized with the patients' sufferings from illnesses, discovered their deficiencies, and subsequently assumed the role as a communication bridge between the attending physician and patients. By interacting with preceptors, the students learned from them the methods to communicate and solve problems properly.

Conclusion

LIC students participated in patient care displayed an attitude of patient-centeredness and caring, and played their role as a bridge between the physicians and patients.

Poster

Student Perceptions of Confidence and Skill Level After Completion of Block or LIC Experiences

Presenting Author(s)

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Introduction

Literature suggests that LIC experiences provide enhanced opportunities for growth into the doctoring role (Hauer, et al. 2012). The Commonwealth Medical College (TCMC) recently changed its third year curriculum to include six months of Block Clerkships and six months of ambulatory LIC based upon student feedback. Students switch experiences at mid-year.. This new curriculum provides an opportunity to compare doctoring experiences in the block and LIC curriculum at mid-point.

Methods

Students received surveys after their first experience. The surveys had statements on a four point Likert scale ranging from strongly disagree to strongly agree. Students were asked to assess the adequacy of knowledge base and their confidence or skills related to ability to convey empathy, communication with patients and families, care for patients of diverse backgrounds, exploring and attending to the values, cultural preferences and health beliefs of diverse patients and families, clinical reasoning, and formulation of diagnostic plans.

Results

Three measures had significant differences between the Block and LIC students. LIC students provided higher ratings for communication with patients and families ($U=583.5$, $z=-2.878$, $p=.004$, $r=.3159$), care for patients of diverse backgrounds ($U=565.5$, $z=-3.115$, $p=.002$, $r=.3398$) and exploring and attending to the values, cultural preferences and health beliefs of diverse patients and families ($U=535$, $z=-3.511$, $p < .001$, $r=.3831$).

Discussion

Findings are consistent with previous research. This study adds context to the specific types of doctoring activities rated highly by LIC students.

Conclusion

Future studies should look at whether these differences hold at the completion of both experiences.

Poster

Determining Appropriate Time in Medical School Curriculum to Begin Interprofessional Education

Presenting Author(s)

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Edward Simanton, MD - Director, University of South Dakota

Janet Lindemann, MD - Dean, University of South Dakota

Introduction

Interprofessional education (IPE) has been pivotal to healthcare education since the 1988 World Health Organization report, Learning Together to Work Together for Health. This report emphasized the need for implementing IPE opportunities into all healthcare disciplines. Long-term integration of IPE led to the development of several surveys analyzing student attitude and readiness. However, few studies and surveys have been developed to determine the optimal time within the medical school curriculum to implement IPE. Our purpose is to conduct a longitudinal study to determine the appropriate time to initiate IPE and identify confounding factors.

Methods

A 27-item survey was developed. The survey included demographics, both IPE and healthcare experience, specialty preference, and knowledge of other healthcare professionals roles. It also evaluated student preparedness to teach and learn from other healthcare disciplines.

Results

134 of 237 total USD SSOM students completed the survey. The data showed 44.4% strongly agree and 48.1% agree that IPE is an important part of medical school education. Majority, 78%, of students feel IPE should start in the 1st year of medical school. First year students' ability to teach was significantly different from other years.

Discussion

The sample size was adequate, but based on one Midwestern medical university. A larger population with greater diversity would improve applicability of the study.

Conclusion

Medical students have a positive attitude toward IPE and feel it should be started in the first year of medical school. Confounding factors such as student ability to teach and learn impacts timing of IPE.

Poster

LICs on the Rise: Results of a 2015 survey of Internal Medicine Clerkship Directors from North America

Presenting Author(s)

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David Hirsh, MD - Professor of Medicine, Harvard Medical School

Introduction

Though widespread, the current number of existing and planned longitudinal integrated clerkship (LIC) programs remains unknown. Clerkship Directors (CDs) in Internal Medicine can provide detailed information on LIC programs and their opinions as institutional educational leaders can help frame current views and opinions of LICs.

Methods

In 2015, the Clerkship Directors in Internal Medicine (CDIM) survey, distributed to CDs from the United States and Canada, included a section on LICs in order to quantify the number of LICs, as well as to analyze changing perceptions surrounding LIC programs.

Results

77% of CDs responded; representing 60% of North American schools. 57% of schools responding already have or are planning an LIC in the near future. 38% (n=35) have at least one LIC, >30 year-long LICs exist, and the majority of LICs are < 5 years old. Nineteen institutions are in the midst of planning an LIC. CDs believe LIC's are being implemented for a variety of reasons, including continuity of care, patient-centeredness, interprofessional education, and workforce shortages. CDs report positive perceptions of LICs and believe they enhance the achievement of important educational goals as compared to traditional clerkships, including direct observation, proactive roles in patient care, and patient-centered behaviors.

Conclusion

LICs are increasing in number across North America, especially over the last five years. Equally important, medicine CDs perceive LIC programs as equivalent if not better modalities to facilitate the achievement of critical educational goals and outcomes relative to traditional clerkships.

Poster

Breaking Bad News: Equipping Our Future Physicians with Compassionate and Empathic Communication Skills

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Co-Author(s)

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Introduction

At the foundation of every patient-physician relationship is the ability to communicate. This skill is critical when delivering difficult news to patients. Despite the frequency of this task, the training is absent in medical education. This project fills the void that exists within medical education.

Methods

Students participated in a two-hour didactic and small group course on the SPIKES model. Pre- and post- surveys measured student knowledge as well as perceived utility of the course. A subgroup of students also completed standardized patient encounters before and after attending the course. Standardized patient encounters were graded for student skills in delivering bad news, as well as patient satisfaction. Non-parametric Wilcoxon signed rank sum test was used to analyze the pre/post data. All the analyses were carried out using SAS 9.4 (Cary, NC).

Results

Twenty participants (14 female, 6 male; Mean age 26.3 years) attended the 2-hour SPIKES course and showed increased knowledge ($p=0.05$). Nine students completed standardized patient encounters and displayed increased skills in communicating bad news ($p=0.05$). Patient satisfaction increased, however was not found to be statistically significant.

Discussion

Students showed statistically significant improvement in knowledge and skills of delivering bad news after attending the course. While patient satisfaction was not significant, there was an improvement in patient satisfaction.

Conclusion

During this course students gained valuable knowledge and practice in how to communicate difficult news. This program provides a previously missing piece from medical education and equips students with skills that will be beneficial for all realms of medicine.

Poster

Practice Locations of Longitudinal Integrated Clerkship Graduates: A Matched Cohort Study

Presenting Author(s)

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Introduction

Longitudinal Integrated Clerkships (LICs) have been introduced as an innovative model to impart medical education. In Canada the majority of LIC experiences are situated in rural communities. While many studies have demonstrated equivalence of Rural LIC graduates and traditional rotation-based clerkship graduates (RBC) in their performance in residency, as well as in national medical licensure examinations, the impact of these Rural LICs in terms of practice location of graduates remains unknown

Methods

A matched cohort was developed on the basis of student background and gender to compare practice location of Rural LIC and RBC graduates. Chi-square test was used to test for an association between type of clerkship stream and practice location.

Results

An association was found between Rural LIC graduates and rural practice location.

Discussion

Compared to large urban communities and academic centres, rural practitioners and small rural communities bear a relatively larger burden in teaching individual students. This study demonstrates the result of their efforts to increase health care access in rural communities as a whole that has not previously been reported.

Conclusion

Rural LIC programs play a significant role in introducing students to rural medicine and may be an effective tool in responding to the shortage of rural practitioners.

Poster

Exploring the Impact of Clinical Experiences on Student Empathy and Burnout

Presenting Author(s)

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Introduction

Clinical experiences are an important learning modality in medical schools. In addition to learning to apply scientific medical knowledge, it is likely that clinical experiences also impact student empathy and burnout. Within LICs, students have the opportunity to develop long-term relationships with patients and often have opportunities for greater participation in the care of patients. A study was designed and carried out to explore the impact of long-term patient relationships and increased patient care participation on empathy and burnout.

Methods

IRB permission was secured for the study. Empathy and burnout were measured using a modified version of the Jefferson scale of student empathy combined with the Maslach burnout inventory. Empathy and burnout data were then combined with student patient log information on continuity and participation. Analysis of Variance [ANOVA] was used to compare mean empathy and burnout scores by clinical experience continuity and participation categories.

Results

First and second encounters with patients were significantly correlated with increased empathy. The third to sixth visits with the same patient had no impact on empathy but were correlated with increased burnout. Empathy Increased with participation in patient encounters.

Discussion

Participation in patient care increases student empathy rather than just observing the physician/patient interaction. Physicians and students find pleasure when patients' symptoms improve.

Conclusion

Following patients with chronic conditions longitudinally may lead to burnout. This is consistent with compassion fatigue studies of residents and physicians.

Poster

A Study of Intrinsic Motivation and Self-Determination Theory in Longitudinal and Block Clerkships

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Introduction

Motivation theory shapes our understanding of students' drive for learning. While educators describe motivation as a force supporting learning, scholarly evaluations of motivation in medical school education remain nascent. Specifically, the impact of motivation has not been compared across traditional block rotations (TBR) and longitudinal integrated clerkships (LIC).

Methods

We surveyed twelve LIC and thirteen TBR students between April 2015 and May 2016 at the Cambridge Health Alliance, Cambridge, MA, using the validated General Causality Orientations Scale (GCOS) questionnaire (evaluating self-determination in personality). Students completed the GCOS at the beginning, midpoint, and end of their clerkship. Mixed and one-way ANOVAs were performed to assess changes in motivation over time.

Results

LIC students displayed decreased extrinsic motivation over time ($p < .01$). TBR students demonstrated no change. Initially, TBR and LIC students showed no difference in extrinsic motivation, but TBR students showed significantly more extrinsic motivation than the LIC students at mid-clerkship ($P < .01$) and clerkship's end ($p < .01$). Intrinsic motivation did not change over time for either group.

Discussion

Preliminary results demonstrate that LIC students displayed decreased extrinsic motivation when compared with TBR students in their third year. Lack of change in intrinsic motivation may be due to a small sample size or the fact that both groups are already highly intrinsically motivated.

Conclusion

Student motivation is an area for future research in LICs. This domain of research may provide insights into LIC and TBR processes and drive "translational" application in program design, pedagogy, and faculty development.

Poster

An Investigation of Health Theories

Presenting Author(s)

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David Sloane, MD, EdM

Instructor in Medicine, Harvard Medical School

Introduction

The work of psychologist Carol Dweck and colleagues reveals that approximately 80% of people endorse one of two outlooks called “self-theories”. Half hold an entity theory and consider human qualities such as intelligence and talent to be fixed, while the other half have an incremental theory and view these traits as dynamic and malleable. This study will apply self-theories to views of health. We will determine whether entity and incremental “health theories” exist and explore their impact on medical education in general and, in future research, to LICs in specific.

Methods

Medical students in years 1-4 (n 688) will be invited to answer an anonymous questionnaire to determine whether they endorse an entity or an incremental health theory. We will measure the frequency of each theory, correlate with self-theories of intelligence and talent, and assess relationships between health theory and year in school, grades, and socioeconomic background.

Results

Results are pending (study is presently ongoing) but will be presented in the following format:

Frequency of entity and incremental health theories among students.

Correlation between health theories and self-theories of intelligence and talent.

Correlation with demographic and other respondent data.

Discussion

We will summarize our findings briefly and hold the results against the literature produced by Dweck over the last 35 years. We will compare and contrast our findings to those of others and relate them to a theory/framework of medical education and motivational psychology. We will discuss strengths and limitations of our research.

Conclusion

We will describe implications for future research in LICs and beyond.

Poster

How do Learners Thrive in Longitudinal Integrated Clerkships?

Presenting Author(s)

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Introduction

While many aspects of longitudinal integrated clerkships (LICs) enhance student learning [1], the overwhelming, front-loaded transitional experience is a commonly reported challenge [2]. Students naturally develop strategies to overcome these challenges [2], but to our knowledge, no studies have formally examined these approaches. Therefore, we sought to investigate the self-reported strategies utilized by medical students to thrive in LICs.

Methods

A scoping review was conducted investigating published literature, grey literature, and informal questions of current LIC students on LIC learning strategies. These findings informed the development of 4 questions used as prompts for focus groups. 10 students will be recruited from previous LIC cohorts at the University of Toronto to participate in semi-structured interviews of 1 hour duration, with their responses anonymized, transcribed, and analyzed through thematic data analysis. Results from the study will be used to develop a tip sheet for future LIC students.

Results

Preliminary results indicate that LIC students find the program structure challenging but manageable. Students have reported personalized organizational strategies, such as the use of calendars, spreadsheets, and documents to thrive in a self-directed learning environment.

Discussion

Of note, students have reported an increasing inter-specialty translation and synthesis of clinical skills and knowledge as the year progressed. Medical students in LIC programs face unique challenges compared to traditional block programs and develop unique solutions to overcome them.

Conclusion

We propose that these insights are useful for implementing changes to better support learners in LIC programs, and form a body of practical knowledge for future learners.

Poster

Research Competency in the Medical Bag: A Practical Framework to Engage Medical Students in Research During a Longitudinal Clerkship Placement

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Pippa Burns, PhD - Lecturer Research and Critical Analysis, University of Wollongong

Introduction

Research competency is increasingly recognised as an important educational goal for medical graduates. Research skills are at the core of lifelong professional learning and are the keys to discovery, innovation and knowledge transfer. Among the strategies employed to teach tertiary-level students about research, opportunities for experiential learning are effective in improving research competency, raising the question: how can an authentic research experience be incorporated into a demanding and crowded curriculum?

Methods

All medical students at the university discussed in this presentation are required to complete a research project. Review over the first five years of the research activity identified key features of its success and a flexible framework adaptable to other professional courses.

Results

Interventions to facilitate student engagement included provision of templates and resources, streamlining of ethics review processes, inclusion of assessment tasks, provision of individualised academic supervision, and oversight by a team of academic staff with a multidisciplinary skill set.

Discussion

A program enabling students to experience the process of conducting meaningful research requires effective organisation and management. Interventions to support student engagement by encouraging systematic and progressive development of skills across the spectrum of research and over the time course of the activity are important. Academic staff, general practice preceptors and other clinicians involved as supervisors and collaborators, promote the engagement of students in the broader scholarship of research and discovery.

Conclusion

This paper describes a flexible program, adaptable to other professional courses of study that allows students to engage in meaningful, scholarly and authentic research.

Consortium of Longitudinal Integrated Clerkships

CLIC Conference 2016

October 16-19, 2016

Toronto, Canada



UNIVERSITY OF TORONTO
FACULTY OF MEDICINE

WORKSHOP ABSTRACTS

Workshop

Monday, October 17

9:30 – 11:00 AM

Reflective Writing in Longitudinal Integrated Clerkships: a Strategy for Promoting Professional Identity Development and Advancing Curricular Goals

Presenting Author(s)

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Lindsay Mazotti, MD - LIC faculty, UCSF

Background

Individual reflective writing and related small group discussion provide a powerful format for learners and teachers to share ideas and insights within a learning community. Fostering reflective practice supports students as they develop skills in critical thinking, professionalism, and patient-centeredness. In addition, students develop their ability to self-regulate and modulate their reaction to the intensity and stress of medical education and their future professional work.

LIC programs are well-suited for reflective writing curricula. Students develop their clinical skills and professional identity longitudinally; the reflective writing curriculum can be designed to mirror this development. LIC students have a stable peer group allowing students and faculty to build trust and increase the depth and candidness of writing and discussion. Finally, reflective writing curricula can be developed to address overarching goals of specific LIC programs.

Audience: LIC faculty and students

Structure

20 Minutes: Introduction of faculty from the University of Colorado, Denver Health LIC and the University of California San Francisco, Kaiser LIC with an overview of each institution's reflective writing curricula, goals and outcomes. Workshop faculty will describe the value of reflective writing and the unique elements of LICs which make reflective writing a particularly advantageous tool. Lastly, faculty will review pearls for writing assignment prompts, best practices for providing feedback, and strategies for effective facilitation.

10 Minutes: Workshop participants will be provided a prompt and asked to do a reflective writing of their own about how involvement in an LIC has influenced their personal practice or job satisfaction.

50 Minutes: Participants will divide into breakout groups led by workshop faculty devoting 25 minutes to each task and then switch.

1. Participants will be given examples of student writing and will use the REFLECT rubric (Brown University) and the LEAP guide (UCSF) to provide structured guidance and feedback to students about their writing.

2. Participants will brainstorm ideas for themes and prompts that support their own LIC's curricular structure and goals.

10 minutes: Workshop faculty will share excerpts from student writing that illustrate the impact of this

modality. Participants will be provided a toolbox including guides to writing prompts, providing feedback, facilitation, and a bibliography of pertinent literature about reflective writing.

Anticipated Outcomes:

1. Describe the importance of reflection in professional identity development
2. Develop a toolbox for creating a reflection curriculum tailored to the unique curricular focus of an LIC.
3. Practice skills in providing feedback and facilitating group discussions.

Workshop

Monday, October 17

9:30 – 11:00 AM

Ambulatory Precepting in LICs: Teaching Our Students and Each Other

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Sandra Whitlock, MD - Associate Program Director Asheville Campus, UNC School of Medicine Asheville

Background

Teaching in a longitudinal program provides unique opportunities for preceptors as well as students. There is abundant literature focusing on teaching in traditional programs, but little has been geared specifically towards longitudinal programs. Participants in this highly interactive session will be able to 1) describe teaching techniques that can enhance learning over the course of the longitudinal clinical year, 2) identify potential solutions to common teaching challenges encountered in LICs, and 3) develop methods to educate other faculty about these teaching strategies. This session will include a large group discussion of helpful teaching tips for LICs to create best practices for LIC-specific teaching. Topics may include effective office teaching, encouraging continuity, student ownership, as well as others. Participants will also break into small groups to address common teaching challenges encountered in LICs, as well as approaches to providing faculty development opportunities for other preceptors. Participants will address the challenging question of how to disseminate our best practices to the preceptors back home.

Intended Audience

Current teachers in LICs, Administrators interested in faculty development

Structure

Large group with break out sessions.

Anticipated Outcomes

Goals will be to provide a toolbox of techniques that can be used by current preceptors and can be brought back to respective LIC programs for dissemination.

Workshop

Monday, October 17

9:30 – 11:00 AM

Cross Country Checkup

Presenting Author(s)

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Rachel Ellaway, PhD - Professor of Medical Education in Community Health Sciences and Co-Director of the Office of Health and Medical Education Scholarship, University of Calgary

The first documented longitudinal integrated clerkship (LIC) was established in 1972. In recent years, the number of LICs has grown significantly. Nowhere has this been more evident than within the Canadian context. Since 2008, 12 of the 17 medical schools have developed and now offer an LIC. In 2 of 17 medical schools, LICs are mandatory. Medical education researchers in Canada have been both productive and creative in exploring the scholarship of teaching and learning flowing from the Canadian LIC landscape.

This workshop will compare and contrast existing LICs in Canada. The different LIC models will be described with attention to the contextual factors associated with decisions made for each model. Internationally recognized research stemming from the Canadian LICs experience will be presented to highlight critical questions related to this model of clerkship.

Workshop

Monday, October 17

3:30 – 5:00 PM

Advocating for the Advocacy Role in Undergraduate Medical Education

Presenting Author(s)

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Malika Sharma, MD FRCPC - Research Fellow, Infectious Disease/HIV Physician, University of Toronto

Social accountability is an attribute we strive to foster in our medical trainees. This can be difficult to teach and evaluate given its abstract nature and broad scope. Despite its challenges, Advocacy is a CanMEDs and ACGME core competency that medical education programs are required to teach and evaluate. It includes responding to an individual patient's health needs within and beyond the clinical environment, as well as striving for system-level change in a socially accountable manner. Medical leaders and teachers must foster an interest and participation in advocacy among trainees in order to achieve competency in the advocate role, while recognizing that many values, attitudes, beliefs and behaviours in medicine are learned via a "hidden curriculum" which must be explicitly addressed.

Longitudinal integrated clerkship training provides a unique opportunity for innovation in advocacy teaching. The patient panel can be designed to include a patient for whom the student is in a position to advocate on the basis of disadvantage relating to the determinants of community health including socioeconomic status, housing, access, gender, etc. In addition, the University of Toronto Faculty of Medicine designed and implemented a formal advocacy project consisting of presentation and reflection based on a longitudinal interaction with a patient with a formal assessment component. The development and implementation of the advocacy project will be shared with workshop participants. Through this, participants will have an opportunity in small groups to consider and develop advocacy opportunities for medical learners within their program.

By the end of the workshop participants will be able to:

- Develop a framework for thinking about competency in advocacy
- Describe the impact of clinical experiences on advocacy
- Develop a practical curriculum design to teach advocacy to medical learners
- Recognize the value of mentoring, role modeling and reflection to teach social accountability and advocacy

Workshop
Monday, October 17
3:30 – 5:00 PM

Innovation in Reflective Practice Teaching: A Hands on session with the Procomp Toolkit Flashcards

Presenting Author(s)

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Co-Author(s)

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Michael Gallea (UBC Class of 2018)

Background / Rationale

The Professional Competencies (PC) Tool Kit is an applied, skill-based approach to teaching reflective practice to medical students. The PC Tool Kit is a set of twenty-eight cards divided amongst six broad domains of professional competency. The purpose of the PC Tool Kit is to promote the development of reflective skills as an integral part of a student's clinical skills and knowledge acquisition, in a manageable 'bite sized' and habit based fashion. The Took Kit was piloted at a small ICC (LIC) site on Vancouver Island, Canada, in 2012/2013, then rolled out to the entire six University of British Columbia ICC sites in the 2013/2014 academic year. Each site has customized the delivery of the program to suit their setting while maintaining the overarching goals of the program.

This will be a very interactive session where participants will be able to gain some personal hands-on experience with the cards. We hope to continue the dialogue that was started at CLIC 2015 around these cards, and share insights from other international sites. Ample time will be made available for interaction, personal reflection and further innovation.

Participants will

- Learn about an innovative skill based method to teach reflective practice
- Use the flashcards in two mock reflective practice sessions
- Share insights they have gained with the group.
- Have an opportunity to share experience with the use of the cards at their own site.

References

Seymour, P. and Watt, M. (2015), The Professional Competencies Toolkit: teaching reflection with flash cards. *Medical Education*, 49: 518. doi: 10.1111/medu.12718

Aronson, L (2011), Twelve tips for teaching reflection at all levels of medical education. *Medical Teacher*, Vol. 33(3) Pages 200-205.

Workshop

Tuesday, October 18

9:15 – 10:45 AM

Train the Trainer: Running a Musculoskeletal Physical Exam Coaching Session for a Small Longitudinal Integrated Clerkship

Presenting Author(s)

Jennifer Stichman

Assistant Professor Internal Medicine and Rheumatology, Denver Health Medical Center and University of Colorado School of Medicine

Co-Author(s)

Jennifer Adams, MD - Associate Professor of Medicine, Director of Denver Health LIC, Denver Health Medical Center, University of Colorado School of Medicine

Background

Most medical school curricula devote limited time to teaching and practice of the musculoskeletal (MSK) exam and student skill in this area suffers. MSK exam skills are essential across specialties and clinical settings. The Longitudinal Integrated Clerkship (LIC) model enables educators to reinforce skills and knowledge across time in a variety of clinical settings.

We designed an MSK curriculum that includes physical exam (PE) coaching sessions during which each student performs regional exams of the back, shoulder, and knee on a standardized patient (SP). The student receives direct feedback from expert faculty along with individualized teaching around areas of deficiency. A checklist for each exam was developed by musculoskeletal content experts and is used by faculty to ensure a complete exam is performed and taught.

In this workshop, faculty will demonstrate and coach participants as we would students, leading to improved faculty performance and teaching of MSK exams. Each participant will take a turn as a coach with the checklist to understand some of the nuances and ambiguities that arise in the actual administration.

Intended Audience

- (1) LIC faculty who wish to improve their MSK physical exam skills and teaching of this content
- (2) LIC leaders who are interested in implementing MSK physical exam coaching sessions into a broader LIC curriculum

Structure

10 minutes: Workshop faculty will briefly describe the context and importance of teaching MSK PE skills to LIC students and will describe the coaching sessions developed at the University of Colorado

25 minutes: Workshop faculty will demonstrate a component of the MSK exam on an SP and workshop participants will utilize the checklist to assess performance as they would for a student. Faculty will lead discussion about challenges faced with completing the assessment, both in the workshop and in real-world implementation at our own institution. Participants will then break into groups of 3-4 and will take turns as student, patient, and evaluator.

10 minutes: Larger group reflection and discussion about challenges and lessons learned

35 minutes: repeat the process above using a different regional PE.

10 minutes: wrap up with discussion about opportunities to implement PE coaching curriculum in LIC programs.

Anticipated Outcomes

1. Practice and skill-building for faculty in MSK regional exams
2. Increased confidence and skill in teaching of the MSK physical exam
3. Description of and practice with implementing a unique coaching format that can be easily exportable to other LIC programs and institutions.

Workshop

Tuesday, October 18

9:15 – 10:45 AM

The LIC Book and Typology Paper Reviewed – To Stoke a Discussion of What's Next for CLIC Academic Collaborations

Presenting Author(s)

David A. Hirsh, MD, FACP

Director, Cambridge Integrated Clerkship / Associate Professor of Medicine, Harvard Medical School

Co-Author(s)

Paul Worley, Professor - Dean of the School of Medicine, , Flinders University School of Medicine

Ann Poncelet, Professor of Neurology - Director, Parnasses Integrated Student Clinical Experiences, University of California San Francisco

Background:

In 2016, the LIC Book arrives. Members of CLIC from across the globe have worked for several years to produce "The Longitudinal Integrated Clerkship: Principles, Outcomes, Practical Tools, and Future Directions." The Book is an outgrowth of a previous CLIC team product--the Alliance for Clinical Education (ACE) handbook. Over 50 authors from several countries participated to birth the LIC Book.

At nearly the same time, the first major work of the CLIC research collaborative is now "in Press" in the journal Medical Education. That paper, "A typology of longitudinal integrated clerkships" also involved a large international collaboration and over 50 authors.

CLIC is a community of discourse and progress, so this session will explore far beyond an exposé of written works. In this interactive session, we will present briefly the book and the paper, their contents and how one might use them. We will describe the story of the processes, pragmatics, peculiarities, and perils in order to stoke a conversation about future CLIC academic collaborations.

The LIC Book and the typology paper will serve as provocations for deliberation, debate, team building, and future planning. Through hearty dialogue informed by lessons learned, this session will continue our CLIC team's work of thinking together, sharing experiences, ideas, and opportunities together, and planning research together.

Intended Audience

All CLIC attendees, with attention to people interested in learning about or working on LIC research specifically or clinical education research more generally

Structure:

--Introductions and Orientation to the Session (5 minutes)

--Update and Review of LIC Book + Typology Paper (10 minutes)

--The Trigger--A Review of Lessons Learned from these International (Book and Paper) Research Collaborations (10 minutes)

--Large Group Discussion--in standard CLIC fashion to generate and challenge new ideas. (60 minutes)

--Wrap up to set up for CLIC lunchtime research sessions (5 minutes)

Anticipated Outcomes:

1. Immediate term: This session should frame the subsequent lunchtime CLIC research meetings with an eye towards "what's next" for our community's academic work.
2. Medium term: This session should increase interest in, mentoring for, and participation in research through the CLIC research collaborative.

Workshop

Wednesday, October 19

9:30 – 11:30 AM

LIC Didactics: Re-examining Our Approach with a Pedagogical Eye on the Modern Millennial Learner. Students as Hunter Gatherers or Agrarian Cultivators?

Presenting Author(s)

Joshua Bernstein, MD

Course Director, Internal Medicine, University of North Carolina Asheville Campus

Co-Author(s)

Lindsay Mazotti, MD - Assistant physician in chief, education and development /associate professor of clinical medicine at ucsf, Kaiser Permanente/Ucsf

Sarah Wood, MD, FAAP - Senior Associate Dean for Medical Education, Charles E. Schmidt College of Medicine Florida Atlantic University

Jennifer Foster, MD, MBA, FACP - Medicine Clerkship Director, Charles E. Schmidt College of Medicine Florida Atlantic University

Background

Small and large group didactic presentations have been used for generations in medical education. With increasing technology and an exponential expansion in the content students need to master, teachers have had to adapt to the changing needs of modern learners. Many programs dedicate significant time to formal group learning. What are the goals of these didactic sessions? Are they effective? Should we be “spoon-feeding” students with prioritized content? Or should our students be posing their own questions and finding their own answers? What learning strategies are best for long term retention? What can we learn from the educational and cognitive sciences to help us reduce cognitive load, interweave and space content appropriately, and introduce “desirable difficulty” for our students? After reviewing literature on current teaching pedagogy, we will brainstorm together best approaches for current learners in “didactic” sessions. We may explore concepts such as inter-program collaboration, longitudinal didactics, problem based learning, flipped classroom, student led didactics, on-line learning, as well as how to best assess and improve didactic sessions.

Intended Audience

LIC faculty and administration

Structure

Large group with small group break out discussions

Anticipated Outcomes

To create a working guideline for “best practices” for didactic sessions in LIC programs

Workshop

Wednesday, October 19

9:30 – 11:00 AM

Unconscious Bias, and Mentoring Across Differences

Presenting Author(s)

Nora Y. Osman, MD, Assistant Professor

Associate Clerkship Director, Brigham and Women's Hospital/Harvard Medical School

Co-Author(s)

David Hirsh, Associate Professor of Medicine - Director, Cambridge Integrated Clerkship, Harvard Medical School

Barbara Gottlieb, Associate Professor - Associate Professor in the Department of Social and Behavioral Sciences, Harvard Medical School

Background

We designed this workshop to improve the effectiveness and confidence of established mentors addressing issues of diversity, difference and inclusion. Much of the workshop is based on this fundamental principle – the shift from denying to taking ownership of bias, from avoiding conversation to embracing it. Although this can be challenging, we believe that thoughtful and deliberate work to improve mentoring across differences can and does lead to dramatic personal and institutional change. This results in an academic environment of diversity and inclusion where all members can thrive.

This workshop demonstrates a case-based curriculum we have implemented at our institution. Participants will explore pitfalls of unconscious bias and tested strategies to enhance mentoring relationships. The objective of this workshop is to provide mentors with the skills and tools to enhance communication and improve outcomes for mentees across the full spectrum of diversity. The ultimate goal is to create a flourishing workforce fully representative of the rich and vast diversity of our society.

After a brief introduction to the topic of mentoring, challenges we face with mentoring across differences, and core principles of unconscious bias, participants will break into small groups for facilitated discussion of a case of a mentor-protégé relationship. Participants will be provided with trigger questions to stimulate discussion. Participants will be encouraged to join tables with faculty from other institutions. The larger group will reconvene for a facilitated de-brief and wrap-up.

Intended Audience

Educators, hospital leadership, university leadership

Structure

This majority of this necessarily interactive workshop will focus on group work rather than didactics. The session begins with participants identifying their own biases, and introduces the topics of unconscious bias and mentoring (20 min). Participants then work in groups of 6-8 with a facilitator guiding them through a case with trigger questions to stimulate conversation (30 min). Large group debrief (30 min) and wrap-up (10 min) follow.

Anticipated Outcomes

Participants will be able to (1) model creating a safe environment to promote self-reflection and the capacity to disclose and discuss biases; (2) recognize and implement ways to approach cross-difference mentoring relationships; (3) develop communication skills that sensitively and effectively traverse real or perceived boundaries defined by differences in race, class, culture, gender, generation. Finally, participants will be provided with a teaching guide to run similar trainings at their home institutions. The guide will include the annotated case, sample trigger questions and an evaluation template.

Workshop

Wednesday, October 19

11:15 AM – 12:45 PM

The CLIC Think Tank Session: Problems of Scaling, LIC 2.0, and What's Next for Educational Redesign

Presenting Author(s)

David A. Hirsh, MD, FACP

Director, Cambridge Integrated Clerkship / Associate Professor of Medicine, Harvard Medical School

Co-Author(s)

Robyn Latessa, Professor, Department of Family Medicine - Director and Assistant Dean, UNC School of Medicine Asheville, University of North Carolina

Kathleen Brooks, Associate Professor Family Medicine and Community Health - Director Rural Physician Associate Program, University of Minnesota Medical School

Background

In 2006, an international meeting of clinical education leaders in Thunder Bay, Ontario helped launch of Northern Ontario School of Medicine. Following that meeting, in 2007, the first official CLIC meeting commenced in Cambridge Massachusetts. From the outset, CLIC participants sought to create a “transformative environment” for the meeting—a space of ideation and creativity, of discourse and challenge, of wrestling and risk taking. The goal was to create a CLIC as a “think tank,” and subsequently, all CLIC meetings have spaces dedicated to this ideal. CLIC participants have formed an effective forum for support and problem solving to address educational problems that vex.

This interactive workshop is devised as a think tank to wrestle with a current issue for the CLIC community—scaling LICs. After a brief background of this issue, the session leaders will create a space for vigorous deliberation, ideating, prototyping, and problem solving.

The triggers for discussion are: How and what does scaling mean? Is scaling important or necessary? How does one scale? Should we have more LICs? Bigger LICs? “Next generation” models that advance LICs (LIC2.0) or even supplant LICs? Longitudinal Integrated Residencies (LIRs)?

Intended Audience

All CLIC participants, especially educational, administrative, research, and institutional leaders, interested in LIC growth

Structure

- Introductions to the Session Method (5 minutes)
- Introduction to the Problem (10 minutes)
- Table Discussion (to generate and challenge new ideas) (40 minutes)
- Large Group Discussion (to generate and challenge new ideas) (30 minutes)
- Next steps for ongoing discourse (5 minutes)

Anticipated Outcomes

1. By the conclusion participants will be considering "what's next" for clinical medical education grounded in principle, aimed at societal needs, fit for context.
2. We will plan how best to carry this conversation forward until and at the next CLIC meeting.

Workshop

Wednesday, October 19

11:15 AM – 12:45 PM

Apply Instructional Design to Create or Revise Your Own Longitudinal Integrated Clerkship Faculty Development Program

Presenting Author(s)

Filomena Meffe, MD MSc

Associate Professor, Department of Obstetrics and Gynecology, University of Toronto

Jana Lazor, EdD

Director of Faculty Development, Undergraduate Medical Education, Department of Family and Community Medicine, University of Toronto

Lori Innes, BASc

Faculty Development Co-ordinator, Undergraduate Medical Education, University of Toronto

Karen Weyman, MD

Chief, Department of Family and Community Medicine, St. Michael's Hospital, University of Toronto

Background

A Longitudinal Integrated Clerkship (LIC) curriculum, in comparison to the traditional block clerkship, require faculty to work within different structures, to use new processes, and to acquire new knowledge and skills. Faculty Development (FD) is a critical strategy in supporting the LIC faculty members as they prepare for these new teaching roles. There is limited guidance from the literature about a systematic approach that can be used to design FD for LIC. At the University of Toronto, Faculty of Medicine, we created a new LIC FD program to support the implementation of our urban LIC using a systematic instructional design approach. The purpose this workshop is to introduce faculty developers for LIC to this approach and provide an opportunity for them to apply the model to their own settings.

Intended Audience

Faculty members and faculty developers who are interested in using a systematic approach to create a new and/or revise an FD program for LIC at their site.

Structure

The workshop will review the literature on FD for LIC programs. A 9-step instructional design process (Morrison and Kemp) will be explored as a model to guide the design and implementation of a FD program or initiative. The presenters will share their 2 year experience with LIC FD in a case study interactive discussion to illustrate how the model can be applied. Audience members will work individually and in small groups to understand their own context and begin to apply the instructional design to revise or newly create their own LIC FD program/initiative.

Anticipated Outcomes:

By the end of this workshop:

1. Describe the 9-step instructional design process as it applies to faculty development.
2. Identify key components in their own LIC curriculum and context that must be considered in creating a successful LIC FD program.
3. Apply the instructional design process within their own LIC curriculum to newly create, and/or revise an existing, LIC FD program/initiative.

Workshop

Wednesday, October 19

2:00 – 3:30 PM

Implementing a New Longitudinal Integrated Clerkship: No Harder Than Quitting Smoking

Presenting Author(s)

Mark Beard, MD, MHA

Assistant Dean of Medical Student Education, University of South Dakota, Sanford School of Medicine

Co-Author(s)

Lisa Dodson, MD - Dean of the MCW Central Wisconsin Campus, Medical College of Wisconsin

Scott Knutson, MD - Assistant Dean, University of North Dakota

Rationale

Every medical school is currently in the process of major or minor curriculum change. For many, the implementation of an LIC and the maintenance of an LIC can be a major change in the culture of any medical school. The well-known stages of change, precontemplation, contemplation, preparation, action, and maintenance, serve as a foundation for smoking cessation and other change situations (Prochaska and DiClemente). These stages also create the backdrop for curriculum change, where each stage has inherent challenges and strategies for success. Curriculum leaders from three schools represent various stages of implementation of longitudinal integrated clerkships. Participants will be able to apply this model and inherent challenges and strategies to their own institutions as they navigate the planning, implementation and maintenance of any LIC model.

Objectives: At the conclusion of this session, participants will be able to:

1. Apply the stages of change model to LIC curriculum reform.
2. Describe the LIC curriculum reform experience of three schools in the central region, including challenges and strategies from each stage within the stages of change model.
3. Identify and share challenges and strategies from their own institutions.

Methods and Session Format

- Moderator introduces topic: Mark Beard (10 mins)
- Speaker: Lisa Dodson (10 mins)
 - Precontemplation to Contemplation – Describe experience
 - Challenge and Strategy
 - Worked? Didn't work?
- Speaker: Scott Knutson (10 mins)
 - Preparation - Describe experience
 - Challenge and Strategy
 - Worked? Didn't work?
- Speaker: Mark Beard (10 mins)
 - Action to Maintenance - Describe experience
 - Challenge and Strategy
 - Worked? Didn't work?
- Small group discussion (30 mins)

In groups of 8-10, audience participants are prompted to share challenges or strategies from their own institutions. The format used between small group and large group discussion will depend on the number of participants.

- Where is our institution in the stages of change cycle
- What challenge(s) did we face? What strategies helped?
- Large group discussion (15 mins)
- Moderator does wrap-up summary (5 mins)

The cycle of change diagram will be used as a visual through the presentation

<http://www.esourceresearch.org/Default.aspx?TabId=732>



ORAL PRESENTATION ABSTRACTS

ORAL PRESENTATIONS

Oral

Monday, October 17

11:30 AM – 12:30 PM

Not So Natural Selection: Community-Engaged LIC Selection

Presenting Author(s)

Jennene Greenhill

Associate Dean Rural Health SA, Flinders University

Introduction

“The best time to plant a tree was 20 years ago. The second best time is now.”

Flinders University Parallel Rural Community Curriculum (PRCC) turns 20 in 2017. However, globally medical maldistribution coupled with disconnected health and education services presents obstacles to meeting community needs. How students be selected to navigate this divide?

Methods

The PRCC is Australian Government funded as a rural medical workforce strategy, providing longitudinal rural clinical training. The PRCC sub-quota delivers a longitudinal pathway from admission to graduation with strong community engagement. This presentation outlines this innovative community-engaged, selection process including findings of alumni-tracking study exploring the impact of the combined effect of sub-quota selection and LIC on rural medical workforce outcomes.

Results

PRCC Sub-quota selection expanded in 2015. It preferences rural students to gain entry into medicine. Community Liaison Committees select students into the MD. Recent studies demonstrate that longitudinal rural clinical school exposure can increase rural medical career uptake.

Discussion

This rural sub-quota is rigorous, socially accountable and provides: i) affirmative selection policy for rural students; ii) community empowerment iii) a rural workforce solution. Expansion of this sub-quota has increased rural community engagement, provides more active recruitment of rural and socially disadvantaged students.

Conclusion

To develop more equitable health systems we needed to reengineer selection of medical students and focus on addressing the needs of disadvantaged communities especially in rural areas.

We all have trees we want to plant, how can we create a sustainable forest of LICs for the future?
What will your LIC program be like in 2036?

ORAL

Monday, October 17

11:30 AM – 12:30 PM

Admitting Why They Want It: Student-Reported Admissions Attributes for a Longitudinal Integrated Clerkship (LIC)

Presenting Author(s)

Clare Hutchinson

Longitudinal Integrated Clerkship Site Lead, University of Toronto

Co-Author(s)

Raed Hawa, MD - LIC committee member, University of Toronto

Stacey Bernstein, MD - Clerkship director, University of Toronto

Kulamakan Kulasegaram, PhD - LIC Research Lead, University of Toronto

Mark Hanson, MD - Director of Admissions, University of Toronto

A longitudinal integrated clerkship (LIC) was launched at the University of Toronto. This LIC requires significant resources for a small fraction of the total clerkship cohort making applicant selection essential. Yet LIC admissions attributes are not documented in the literature.

Methods

Applicants were randomly selected for LIC from those applicants in good academic standing. All applicants completed a letter of intent (LOI) focusing on their rationale for choosing LIC including how the LIC aligns with their medical education and approach to learning. LOI's were not however used as an admission tool. LOI's were analyzed qualitatively to identify student-report LIC admissions attributes.

Results

Applicant pools over three years constituted 63 students with 58 selected for LIC. LOI textual analysis revealed student attribute themes regarding professional identity formation: building medical knowledge (thinking like a doctor); collaborating in a team and managing systems (acting like a doctor); and connecting with patients (feeling like a doctor).

Discussion

Qualitative analysis revealed attributes relevant to professional identity formation. Students expressed these attributes prior to LIC, suggesting anticipation that a LIC education would foster their physician development. New LIC admissions processes should focus upon applicants' expectations regarding educational experiences that promote their professional identity formation and align with LIC education.

Conclusion

Student-reported admissions attributes centering around professional identity formation were identified. Triangulation of these findings with other admissions study components, LIC graduates' exit interviews and LIC faculty preceptors' perceptions will broaden our perspectives regarding selection. Designing a LIC admissions process comprising student and faculty contributions is essential given LIC resource requirements.

Oral

Monday, October 17

11:30 AM – 12:30 PM

Searching for Health Care Change Agents: The Admissions Process for Students in the Duke Primary Care Leadership Track

Presenting Author(s)

Susan A. Rogers, MDiv

Senior Program Coordinator, Duke Primary Care Leadership Track, Duke School of Medicine

Background or Context

Applicants to Duke's Primary Care Leadership Track (PCLT) face the challenge of being accepted both to the traditional MD track and to PCLT in order to matriculate at the Duke School of Medicine. In the last Admissions cycle, Duke received over 6,000 applications. Of the 740 applicants invited to interview, 58 were "presented" to the Admissions Committee as candidates for the PCLT. From these 58 applicants, the Duke PCLT made offers of acceptance to 16, seeking an entering cohort of 8 students for the next Class. Given the necessity of this winnowing process, how does the PCLT determine which applicants are best suited for our program, a program that seeks to educate and train health care change agents for the 21st century?

Innovation or Solution

The Duke PCLT creates its own essay questions, which applicants answer in addition to the essays for the MD track. The responses to all of these questions provide key insights to the applicants' appreciation for community engagement, the virtue of humility, their sense of self, pursuit of goals and more. The PCLT is especially interested in evidence of experiences as self-starters and team players, shaping their own learning and professional activities. Additionally, the PCLT has created its own set of interview questions, which are in addition to the MD traditional interview and "Multiple Mini Interviews" (MMI).

Implementation or Evaluation

Evaluation of the PCLT admissions process is to look at our current students and graduates.

Take home messages

What have applicants done before they apply to PCLT?

What does community engagement mean to an applicant?

Oral

Monday, October 17

11:30 AM – 12:30 PM

Impact of Community Size on Primary Care Career Choice

Presenting Author(s)

Edward Simanton

Director of Evaluation and Assessment, University of South Dakota, Sanford School of Medicine

Co-Author(s)

Brooke Jensen, Student - Student, University of South Dakota, Sanford School of Medicine

Margrit Shoemaker, PhD - LIC Director, The Commonwealth Medical College

Introduction

Although primary care physicians make up an important base upon which healthcare systems are built, not enough medical students are choosing to go into primary care specialties. It is thought that medical students trained in rural settings are more likely to go into primary care. A study was designed examining student attitudes toward primary care before and after primary clinical year/LIC experiences. Data were collected from students training in a variety of community sizes at multiple institutions.

Methods

IRB permission was secured and surveys were distributed to students near the beginning and end of their primary clinical year. Changes in attitudes toward primary care were examined using Analysis of Variance [ANOVA] and Chi Square analysis.

Results

This study is ongoing with data still being collected. Initial results show a marked increase in primary care choice among students training in very rural sites (< 15,000) but no significant difference based on population in communities above 15,000. Full results will be ready at the meeting.

Discussion

It is possible that once communities reach a size where many interesting clinical cases would go directly to specialty care (limiting the scope of practice for primary care physicians) students find primary care less interesting. It may be that availability of specialty care may be a better predictor than simply population size.

Conclusion

Community size does impact primary care career choice but the effect is only found in very small communities and may be better explained by availability specialty care.

Oral

Monday, October 17

11:30 AM – 12:30 PM

Student Perceptions of Learning Affordances in Longitudinal Integrated Clerkships

Presenting Author(s)

Robyn Latessa, Professor, Department of Family Medicine
Director and Assistant Dean, NC School of Medicine Asheville

Co-Author(s)

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Anna Beth Parlier, BS - Research Assistant for the Center for Research at Mountain Area Health Education Center, University of North Carolina School of Medicine, Asheville
Shelley Galvin, Adjunct Assistant Professor - Director of Research for the Center for Research at Mountain Area Health Education Center, University of North Carolina School of Medicine, Chapel Hill
David Hirsh, Associate Professor of Medicine - Director, HMS Cambridge Integrated Clerkship / Associate Director HMS Academy, Harvard Medical School

Introduction

The authors explored affordances that contribute to successful learning in longitudinal integrated clerkships (LICs).

Methods

This multi-institutional, mixed-methods study, included surveys and semi-structured interviews of UNC and Harvard (HMS) LIC graduates who completed programs over 9 years between 2004-2013. Survey asked LIC graduates to rate components of LICs that they perceived as contributing to program effectiveness and student satisfaction. Research assistants also interviewed a subset of graduates and performed qualitative content analysis on interview data.

Results

The survey's response rate was 52.6% (20/26 or 76.9% of UNC graduates and 40/88 or 45.5% of HMS graduates). All 60 LIC graduates (100.0%) rated the LIC "highly successful" at providing positive learning experiences. The top affordances cited by 58-60 respondents (96.7%-100%) included: continuity with site, authentic roles in patient care, flexibility in schedule, continuity in relationship with preceptors, positive role-modeling, participation in patient-centered care, faculty teaching, and continuity of relationships with patients. Qualitative content analysis suggested positive affordances included: continuity and relationships with preceptors and patients, schedule flexibility ("white space"), and longitudinal relationships with place and peers.

Discussion

This study, the first to assess LICs graduates' perceptions of workplace learning affordances, comports with the literature on students' perceptions of workplace affordances in LICs and in other models and venues. LIC graduates' retrospective reports help inform our understanding of the "lived experience" of LIC students.

Conclusion

Workplace affordances can inform curriculum design. Further research is needed to investigate to what degree and by what means affordances support learning in LICs and other models of clinical education.

Oral

Monday, October 17

11:30 AM – 12:30 PM

Using Learning Analytics to Evaluate Self-Regulation of Longitudinal Integrated Clerkship Students in a Flipped Clerkship

Presenting Author(s)

Clyde Matava

Assistant Professor, University of Toronto

Co-Author(s)

Isabella Devito, Associate Professor - Program Director, University of Toronto

Introduction

This study aimed to evaluate and compare the self-regulation of longitudinal integrated clerkship to traditional students in a novel anesthesia blended clerkship/flipped classroom.

Previous research suggests that analyzing usage data stored in the log files of modern Learning Management Systems (LMSs) may allow educators the ability to develop timely, evidence-based interventions to support at risk or struggling students and also identify self regulation in students' access to online learning in a blended learning environment

Methods

We analyzed data from Blackboard LMS-supported blended anesthesia clerkship course. Data extracted included 15 LMS data tracking points that included frequency of access, number of views, duration of time, pre-post quiz scores. The focus for the data analysis was to identify significant self-regulation factors of online activities between traditional students and the longitudinal integrated cohort.

Results

Out of 15 LMS usage variables, 3 were found to be significant and unique to the CLIC group. These were Reading messages, Proximity of access to the scheduled rotation start date, and a higher number of files viewed – were more common among the CLIC students. We will be performing further analysis on the prediction of these factors for final course grade.

Discussion

Our initial results demonstrate 3 factors that are unique to the self-regulated learning of longitudinal integrated clerkship students. It remains to be seen whether these factors correlate or predict final performance or are linked to clinical performance.

Conclusion

Our final analysis will report the predictive value of these factors on final course results.

Oral

Monday, October 17

11:30 AM – 12:30 PM

From Vignettes to Measurables – How a Five Year Old LIC Program Self Assesses, Makes Changes, and Moves Forward.

Presenting Author(s)

Bruce Peyser, MD, FACP

Associate Professor of Medicine, Duke University

Co-Author(s)

Deborah Engle, EdD,MS - Director of Assessment and Evaluation, Duke University Medical Center

Background or Context

Starting with three trailblazing students in 2010, our four year primary care program encompassing a 9 month LIC with emphasis on leadership training now attracts 400 applicants yearly.

A retrospective analysis will be shared looking at a variety of metrics being used to analyze our current program. Lessons learned and feedback that has been collated will be discussed as well.

Innovation or Solution

This focus on leadership training represents an innovative approach to a perceived need for leaders in primary care in the United States.

Implementation or Evaluation

Easily quantifiable numbers will first be analyzed; the number of students enrolled, the numbers that graduate, as well as faculty volume and financial support required to carry out program requirements will all be examined. Applicant numbers as well as final match results for our fourth year students will be shared.

We also have extensive course evaluation data that is entirely self reported which will be discussed.

Comments and feedback from focus groups and course debriefs will be summarized.

Upcoming program changes and innovations will be shared as well.

Take home messages

Our program has successfully trained students interested in the field of primary care, and our students have done quite well usually matching into their first choices of residency programs. Our self reported scores indicate strong levels of student confidence, close mentoring relationships with faculty, increased comfort levels within clinical settings, and increased awareness of leadership goals and skill sets.

Even relatively new LIC programs can generate impressive results academically within a relatively short period of time.

Oral

Monday, October 17

11:30 AM – 12:30 PM

Learning Through a Multi-disease Framework

Presenting Author(s)

Kathryn M. Weston

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Co-Author(s)

John Bushnell, PhD - Professor of Medical Education, University of Wollongong

Judith (Nicky) Hudson, BMBS PhD - Conjoint Professor, University of Newcastle

Sheree Lloyd, MSc - PLacement Facilitator, University of Wollongong

David Garne, MBBS MPH(Hons) - Associate Dean: Community, Primary, Remote and Rural, University of Wollongong

Introduction

Medical schools worldwide are embracing the longitudinal-integrated-clerkship (LIC) model of medical education. The community and social setting, and doctor-patient-student relationships are factors behind the success of the LIC; however other elements may also be important. Analysis of student clinical logs over a 12-month placement may help identify additional influences underpinning the success of the LIC.

Methods

The clinical log entries of medical students on a 12-month community-based LIC were scrutinised. The complexity of presentations was investigated.

Results

Log entries revealed the high volume of patient contact, continuity-of-care and complexity of presentations managed by students. Fifteen percent of entries were repeat (same patient) presentations, and continuity-of-care occurred both in general practice and hospital settings. A typical example of complexity in presentations: 47% of patients with depression also presented with one or more of anxiety, self-harm, aggressive behaviour or addiction. Logs revealed maturation in the skills of the student in managing multi-morbid patients, the role of mentoring, sense of belonging to a team, and understanding and embracing of the students' roles and responsibility as a doctor.

Discussion

The LIC experience is characterised by continuity; students learn from a range and complexity of conditions and interactions. LICs allow students to cement their role in a healthcare team and support the development of 'generalist' clinicians capable of providing personalised continuity-of-care.

Conclusion

The LIC is a complex environment. It offers students the opportunity to learn in a multi- rather than single-disease framework of medical education.

Oral

Monday, October 17

3:30 – 4:30 PM

Teaching in a Longitudinal Integrated Clerkship: Understanding Impact on Faculty Experience and Engagement

Presenting Author(s)

Jennifer E. Adams, MD

Associate Professor, LIC Director, University of Colorado

Co-Author(s)

Sarah Cebron, MS - medical student, University of Colorado

Jennifer Gong, PhD - Associate Director of Evaluation, University of Colorado

Introduction

Medical schools report difficulty with retaining ambulatory training sites and faculty. We aimed to understand rewards and challenges of teaching medical students in an LIC compared to traditional block rotations (TBR), and what implications this has for the recruitment and retention of faculty.

Methods

Surveys were distributed to preceptors at baseline and year-end. Descriptive statistics were generated. End of year responses were matched to baseline responses using paired t-tests.

Results

28 of 40 eligible faculty completed both baseline and year-end surveys. 85.2% of faculty were satisfied with the DH-LIC and 85.7% were retained in the program. Faculty reported satisfaction from teaching, improved teaching and mentoring skills, and minimal burdens in the DH-LIC. Faculty familiarity with DH-LIC students was significantly higher than with students previously taught ($p=0.004$). Teaching techniques utilized at baseline and end of year differed; faculty reported asking questions to promote thinking, providing feedback to students, and providing students with practice in clinical reasoning significantly more frequently in the DH-LIC.

Discussion

Reasons for high satisfaction and retention include improved teaching and mentoring skills, close relationships with students, and minimal burden relative to reward. Examining preceptor perceptions after one year of teaching in the DH-LIC provided the opportunity to compare experiences of the same individuals in TBRs and the DH-LIC. Using a matched design allowed individuals to serve as their own internal controls.

Conclusion

Innovative models of education such as LICs offer a strategy to recruit and retain excellent, invested faculty in ambulatory settings.

Oral

Monday, October 17

3:30 – 4:30 PM

Faculty Comparisons of Block and Longitudinal Clerkship Models: A Mixed-Methods Analysis

Presenting Author(s)

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Co-Author(s)

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Introduction

In July of 2013, Sanford School of Medicine at the University of South Dakota moved to all LIC across all clinical campuses. Faculty who had been teaching in block clerkships received faculty development and began teaching LIC students.

Methods

In spring 2015 (end of the 2nd LIC year) faculty with experience in both blocks and LIC were surveyed about their experience in both models. Only faculty who had taught in both block clerkships and LIC were included. Surveys included campus and specialty information and 1-5 numeric ratings comparing block clerkships to the LIC on six aspects of experience. After each rating, faculty were able to provide narrative information as well. Statistical analysis included descriptive statistics, ANOVA, and Chi Square examination of differences between campuses and disciplines. Narrative data were examined thematically and conclusions drawn.

Results

Primary care faculty were quite positive regarding LIC while faculty in pediatrics, psychiatry and surgery tended to be more skeptical.

Discussion

Overall, perceived benefits to the LIC included: exposure to the breadth of a discipline over the year, increased efficiency in clinic, and an increased ability to come to know the student over the course of the year. Identified disadvantages included: difficulty getting a faculty member to commit to an entire year, perceived loss of continuity in the aforementioned disciplines, and loss of daily repetition in certain disciplines.

Conclusion

Changing from block clerkships to LIC is a long process and some faculty in some disciplines embrace the LIC more rapidly than others.

Oral

Monday, October 17

3:30 – 4:30 PM

LIC for the Aspiring Clinician Scientist: Perspectives from MD/PhD Students at the University of Toronto

Presenting Author(s)

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Stacey Bernstein, MD FRCPC - Director Clerkship Program, University Of Toronto

Background or Context

The MD/PhD Program at the University of Toronto is a highly competitive program that trains physicians to become clinician scientists. Each year, approximately 10 applicants are offered positions in the program. A 2012 survey reported that 58% of University of Toronto MD/PhD trainees believed that integration between clinical training and research needs to be improved. It was suggested that the design of such programs could be optimized through added flexibility. One way this flexibility could be achieved is through a longitudinal integrated clerkship.

Innovation or Solution

The 51 week urban longitudinal integrated clerkship (LInC) program at the University of Toronto was established in 2014 and will expand to 27 students for the 2016-2017 academic year. LInC offers successful applicants a flexible program where they rotate through different ambulatory clinics throughout the week with a minimum of 3 half days of white space that they can use for enhancing their learning experience.

Implementation or Evaluation

This year, 2 students who are in the MD/PhD program have applied and been accepted into the LInC program. We will explore the reasons they chose the LInC program and the expectations of what a LInC can offer as opposed to a block clerkship. We will discuss ways to structure the program to enhance relevance and optimize flexibility such as the use of white space for research purposes, linking students with clinical preceptors who are scientists, providing them with mentors to support their identity as scientists, and establishing a unique community of practice.

Take home messages

Flexibility of LIC offers opportunities to train clinician scientists.

Oral

Monday, October 17

3:30 – 4:30 PM

Clinical Scholarship During a Longitudinal Integrated Clerkship Community Research Project

Presenting Author(s)

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Co-Author(s)

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Introduction

Scholarship is a highly regarded academic pursuit, typically relating to university-based research. Clinical settings offer a different perspective on scholarship, and recent literature has advanced the notion of 'clinical scholarship', involving aspects such as using a scientific approach to solve clinical problems, influence beyond the clinical setting, and improving health. While students placed in community settings observe clinical practice, experience of clinical scholarship requires a higher level of engagement. This study investigates evidence for engagement in clinical scholarship as a result of undertaking community-based research.

Methods

Abstracts of 12-month community research projects undertaken by 5 cohorts of medical students (n=328) were analysed for indicators of clinical scholarship based on Grigsby and Thorndyke's framework (2011) including: interdisciplinary practice, using scientific methods to address a clinical problem, potential for improved clinical practice, and extending clinical impact beyond the practice into the lives of patients.

Results

Evidence of clinical scholarship was found in medical students' scientific research to address a range of clinical issues, improved clinical practice and development of interventions, better understanding the impact of poor health literacy, rural health issues and isolation, and dissemination of knowledge.

Discussion

Medical students undertaking community-based research during a longitudinal placement engage in clinical scholarship, including identification of ways to improve clinical practice and patient health. This is an important step in the academic development of junior doctors who are increasingly expected to be involved in clinical enquiry after graduation.

Conclusion

Undertaking medical student research during a community placement can assist in development of skills in clinical scholarship.

Oral

Monday, October 17

4:30 – 5:30 PM

Medical School to Primary Care Practice in 6 Years: A Kaiser Permanente and University of California Davis Partnership LIC

Presenting Author(s)

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Co-Author(s)

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Mark Henderson, MD - Dean of Admissions, University of California Davis

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Background or Context

While California has an ample supply of physicians, the number of primary care physicians per 100,000 population falls short federal guidelines. Kaiser Permanente is best known as a full-integrated health care organization and a large insurer, its mission extends beyond its own patients to improving the health of the communities. In 2014, with funding from an American Medical Association, the UC Davis School of Medicine and Kaiser Permanente have jointly created a new 6-year UME/GME program: Accelerated Competency Based Education in Primary Care (ACE-PC).

Innovation or Solution

ACE-PC students complete three years of tailored medical school training and a 3-year residency in family or internal medicine at either the UCD Health System or Kaiser Permanente. Students have early clinical exposure to patients beginning in their first week and have a weekly longitudinal continuity primary care clinic throughout medical school. The new longitudinal integrated clerkship (LIC) third year consists of 2-week inpatient rotations, a 6-month LIC, integrated didactics, electronic patient logs, and a single comprehensive NBME exam. The post-clerkship year includes 6 months tailored to the residency choice.

Implementation or Evaluation

We currently have two cohorts of ACE PC students (the third cohort will enter this summer). The first cohort have just entered the new LIC.

Take home messages

Longitudinal experiences can resuscitate the dwindling interest in primary care careers. Academic-community partnerships bring the best of both worlds together to address workforce shortages.

Oral

Monday, October 17

4:30 – 5:30 PM

Time is of the Essence: A Systematic Characterization of Longitudinal Clinical Programs in US Medical Schools

Presenting Author(s)

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Co-Author(s)

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Tomi Jun, MD - Intern, Stanford University

David Hirsh, Associate Professor of Medicine - Director, Harvard Academy Medical Education Fellowship / Associate Director, HMS Academy, Harvard Medical School

Introduction

Our aim was to characterize the structure and programmatic goals of longitudinal student-patient experiences in US medical schools.

Methods

We conducted a systematic keyword search of the websites of 137 LCME-accredited US medical schools to identify longitudinal clinical programs. We included programs that create medical student-patient interaction over a period of at least six months and had a stated emphasis on longitudinality. We confirmed information with program directors via email, and used an iterative, consensus-building framework to categorize programs and measure relationships among programs' structures and stated goals.

Results

We identified 98 unique longitudinal programs in 69 schools. Sixty percent (59/98 programs) lasted one year or less, and 52% (51/98) took place in the clinical years of training. Program structures included clinic attachment (50.0%), longitudinal integrated clerkship (26.5%), and the patient attachment (20.4%). Programs' goals included: exposing students to specific topics or settings (78.7%); skills development (65.2%); fostering longitudinal relationships (32.6%); and understanding the patient experience (19.1%). Program structures that associated with program goals included: exposure to specific patient demographics ($p=0.04$), understanding the patient experience ($p=0.03$), and exposure to primary care ($p=0.04$).

Discussion

Longitudinal programs, increasingly common in US medical schools, vary in structure and programmatic goals. This study connects to recent research (Worley, et al.; Ellaway, et al.) and contributes to understanding typologies of longitudinal clinical programs.

Conclusion

Our understanding of program structures and goals is nascent. Research aimed at describing the interplay of longitudinal program structures, goals, and outcomes is an area for future investigation.

Oral

Monday, October 17

4:30 – 5:30 PM

Flipping the Classroom and Switching Up the Seminar

Presenting Author(s)

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Co-Author(s)

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Background or Context

To support camaraderie, supplement learning, and strengthen clinical decision making for our students in our LIC, we have created a mandatory weekly seminar. Though initially centered around core topic review to strengthen standardized exam performance, our focus has shifted towards creation of a safe space for personal and clinical growth.

Innovation or Solution

Our first innovation involves exposing students to a variety of topics within medicine, but do this now using peer-led and case-based learning through the NEJM "Interactive medical cases" rather than utilizing didactic pedagogy. We also strengthen our students' teaching skills with coaching and instruction. Lastly, we offer our students an introduction to less traditional components of care, bringing in experts who teach about topics such as mindfulness-based stress reduction, care for LGBT populations, death and dying, and dismantling racism.

Implementation or Evaluation

In our sessions, we emphasize a variety of learning modes ranging from peer teaching to hands-on simulations, to group problem solving, and guest speaker workshops. When working with the NEJM cases, the students review an assigned case prior to the seminar effectively flipping the classroom which then allows for a collective discussion of salient features during the seminar. Students and faculty also prepare 10 minute "chalk talks" that are presented to the group. While delving into a topic strengthens learning, so does the actual teaching of the subject.

Take home messages

Review of NEJM cases through a flipped classroom model allows for a valuable interactive experience for students in a LIC and exposure to some nontraditional topics helps to expand horizons for these learners.

Oral

Monday, October 17

4:30 – 5:30 PM

A Study of Intrinsic Motivation and Self-Determination Theory in Longitudinal and Block Clerkships

Presenting Author(s)

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Introduction

Motivation theory shapes our understanding of students' drive for learning. While educators describe motivation as a force supporting learning, scholarly evaluations of motivation in medical school education remain nascent. Specifically, the impact of motivation has not been compared across traditional block rotations (TBR) and longitudinal integrated clerkships (LIC).

Methods

We surveyed twelve LIC and thirteen TBR students between April 2015 and May 2016 at the Cambridge Health Alliance, Cambridge, MA, using the validated General Causality Orientations Scale (GCOS) questionnaire (evaluating self-determination in personality). Students completed the GCOS at the beginning, midpoint, and end of their clerkship. Mixed and one-way ANOVAs were performed to assess changes in motivation over time.

Results

LIC students displayed decreased extrinsic motivation over time ($p < .01$). TBR students demonstrated no change. Initially, TBR and LIC students showed no difference in extrinsic motivation, but TBR students showed significantly more extrinsic motivation than the LIC students at mid-clerkship ($P < .01$) and clerkship's end ($p < .01$). Intrinsic motivation did not change over time for either group.

Discussion

Preliminary results demonstrate that LIC students displayed decreased extrinsic motivation when compared with TBR students in their third year. Lack of change in intrinsic motivation may be due to a small sample size or the fact that both groups are already highly intrinsically motivated.

Conclusion

Student motivation is an area for future research in LICs. This domain of research may provide insights into LIC and TBR processes and drive "translational" application in program design, pedagogy, and faculty development.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Texting While Driving: A Prospective Feasibility Study of Morning Podcasts to Improve Clinical Education Skills Among LIC Preceptors

Presenting Author(s)

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Introduction

Limited time and clinical pressures pose challenges to faculty development efforts. Technology provides an opportunity to overcome some of these barriers and improve preceptor participation. Having brief educational podcasts texted to preceptors at commute times has been introduced (CLIC 2015 PeArLS), but not widely studied. We hypothesized that texting the podcasts during morning commute hours to LIC preceptors would improve participation rates in faculty development and be a feasible and satisfactory new method for ongoing faculty development.

Methods

A series of five brief (5-7 minute) faculty development podcasts were created by LIC leaders. Pre-participation surveys were sent to all LIC preceptors at three institutions . Podcasts were then texted to preceptors every other week at times of morning commute. Upon completion of the podcast series, heard over a 10 week period, participants completed a follow up survey focusing on usefulness of the podcast and perceived change in teaching behavior.

Results

The outcomes of this study include feasibility, preceptor participation and satisfaction with podcasts, as well as perceived impact on teaching. Preliminary results of this study will be discussed.

Discussion

Texting brief podcasts during times of commute offers a unique and promising method of disseminating educational material. This study helps answer the question of whether preceptors take advantage of the podcasts, and how podcasts provide new methods for enhancing teaching skills.

Conclusion

Our podcasts aim to share best clinical teaching techniques with LIC preceptors specifically. We hope to explore how to disseminate podcasts to other LIC institutions and expand this mode of faculty development.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

How Does Your Garden Grow? Tracking the Developing Medical Student on a Longitudinal Integrated Clerkship Using Real-Time Entrustment Decisions

Presenting Author(s)

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John Andrews, MD - Associate Dean for Graduate Medical Education, University of Minnesota

Background or Context

Recent literature highlights the synergy of longitudinal integrated clerkships (LICs) and entrustable professional activities (EPAs) for developmentally progressive learning and assessment.¹

Longitudinal assessment holds promise to document a learner's progression on EPAs in LICs.²

Innovation or Solution

We used a real-time, learner-driven, on-line assessment approach based on the Core Entrustable Professional Activities for Entering Residency (CEPAER) for formative and summative assessment of medical students' professional development in our LIC as a part of the Education in Pediatrics Across the Continuum (EPAC) program.^{3,4}

Implementation or Evaluation

We provided learner and faculty development on the CEPAER framework. Subsequently, students used an online survey tool to request and receive feedback on one or more EPAs during each clinical session. The preceptor rated each EPA on an entrustment scale and provided narrative feedback specific to the EPA.^{5,6} Average time for completion was 3 minutes. Students and LIC director have real-time access to dashboards of evaluation data.

Over an 11-month period, students received frequent feedback from the LIC faculty (10-11 total, across 8 different specialties). On average, each student received 193 EPA ratings (range 150-271) spanning the 13 EPAs. Students had biweekly meetings to monitor their number of assessments and were encouraged to take ownership of gathering assessments.

Take home messages

Our experience suggests learner-driven, real-time, frequent, EPA-based assessment is feasible and applicable in a variety of LIC settings. This approach provides a rich source of data to map students' development and level of entrustment over time. This approach requires significant student ownership of their assessment and fostered awareness of their development over time.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

System 1 and System 2 Clinical Reasoning by Block and Longitudinally Integrated Clerks in a Structured Clinical Oral Internal Medicine Clerkship Examination

Presenting Author(s)

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Introduction

Both longitudinally integrated (LInC) and block (B) clinical clerks participated in summative structured clinical oral examinations (SCO) consisting of eight stations. In three stations, students interacted with examiners in case discussions which tested diagnostic or therapeutic clinical reasoning (CR). Several questions in each station could be categorized as System 1 (intuitive pattern recognition) or System 2 (analytical) tasks. A global assessment in each station assessed integration and problem solving.

Methods

Student performance (n=29 (LInC) and 88 (B)) in the CR components of the SCO and other assessment modalities during 2 separate Internal Medicine clerkship rotations will be computed and compared. Correlations (Pearson's r) between students' performance in these CR components and traditional assessment domains will be determined.

Results

Initial data from a pilot rotation of 7 LInC clerks are available. There were no statistically significant differences with their performance on the major assessment components in Internal Medicine (inpatient and ambulatory work-based assessments, written and SCO examinations) compared to block clerks. Analytic comparisons in the CR outcome measures will be available with the larger sample size.

Discussion

Little is known about differences in CR ability among clinical clerks who learn about Internal Medicine longitudinally compared to those in a block rotation. Differences in preparation, learning style, and case problem solving may lead to altered performance in a critical skill like CR.

Conclusion

Improved understanding of any difference in CR skill performance between block and longitudinal clinical clerks in a high stakes summative examination may inform future curricular design, to optimize learning in this vital area.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Longitudinal Case-Conference – A Venue to Discuss Longitudinal Patients, and Use Learner-Led Questions to Encourage Critical Thinking

Presenting Author(s)

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Background or Context

Assessing the role of longitudinal care in the evolution of critical thinking among medical students in Longitudinal Integrated Curricula (LIC) is of paramount importance. We hypothesize that the use of question-driven discussions around the care of one patient over time leads to better assessment of longitudinal critical thinking, and patient-centered care.

Innovation or Solution

We structured five, 90 minute sessions, during which each student presented a longitudinal patient. The two goals were to name 3 student-identified medical problems, and questions about the care of the patient. The structure was a case-conference format where the group asked questions and shared ideas. Two faculty facilitated these rounds, documenting evolving questions and medical problems. At follow-up rounds, students provided an update on their patient, and identified new problems or questions.

Implementation or Evaluation

Preliminary analysis indicate that students faced challenges in (1) identifying questions (2) balancing medical problems with social determinants of health. Over time, students demonstrated skills in systems-based practice, inter-disciplinary care, and physician advocacy. At year end, a focus group provided feedback, noting that this setting provided students the only opportunity to discuss complex, longitudinal patients, and learn about tools and resources for their patients.

Take home messages

Longitudinal rounds are useful in providing a venue in which a student is able to think about one patient over time, using peer discussion, and student-led questions. The evolution of questions through the year provide a thoughtful way to assess critical thinking. This venue is also a key venue to solidify competencies in systems-based learning, physician advocacy, and team-based care.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Distance Learning: Same Content, Flexible Delivery Methods

Presenting Author(s)

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Co-Author(s)

Jaime Fitch, Medical Student Education - Program Coordinator, Underserved Pathway

Sharon Dobie, Professor - Professor, University of Washington School of Medicine

Background or Context

Many medical schools have multiple teaching sites where curriculum content should be consistent. The Underserved Pathway (UP) at the University of Washington School of Medicine (UWSOM) is a longitudinal extracurricular program with the purpose of sustaining student interest in working with underserved populations. UWSOM students complete their preclinical studies at one of six sites across a five state region. Preclinical content must be consistent at all sites.

Innovation or Solution

To meet student and regional instructor needs, the UP developed a methodology to 1) deliver UP module content to all students at all sites, 2) build regional instructors' confidence to teach interactive sessions of UP module content, 3) bring students together at their regional sites to develop cohort support among students interested in careers serving the underserved, and 4) provide alternative ways to deliver content if regional instructors cannot host a session or students can't attend.

Implementation or Evaluation

The UP has developed content for learning modules to be taught in four different ways, depending on the needs and resources of each regional campus. We will discuss engaging instructors, materials needed, logistics, technology and student evaluations.

Take home messages

Flexibility has not been a hallmark of medical education. Multiple factors invite and necessitate developing curricula within a more flexible context. This presentation introduces methods that provide flexibility in delivery method while maintaining consistency in content. We also address how these materials become instructor development tools. Lastly, discussing evaluations of the different delivery models will assist participants as they consider what they might take back to their institutions.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Approaches to Learning in Longitudinal Community Clerkships and Rotation Based Clerkships

Presenting Author(s)

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Introduction

Approaches to learning are “ways in which students go about their academic tasks, thereby affecting the nature of their learning outcomes (Biggs, 1994).” These approaches are responses to learning environments, not immutable characteristics of learners themselves.

Methods

This qualitative study was conducted in a hermeneutic phenomenological frame. Students in UAlberta’s longitudinal integrated clerkship (LIC) were invited to participate in one-to-one reflective conversations with a research team member. The research question was: “What is the lived experience of LIC students in their clerkships?” This presentation focuses on an emic question, i.e. one that arose during analysis of the material, “What approaches to learning do students adopt in response to their learning environment?”

Results

LIC students who experience both LIC and rotation based clerkship (RBC) describe different approaches to learning in each model. In the LIC, their learning is with, for and about patients through increasing responsibility for patient care afforded by preceptors who position them as legitimate members of the community of practice. In the RBC, learners are often observers, learning from books and formal educational sessions, motivated more by assessment requirements of a clerkship than by their relationship with patients.

Discussion

In the LIC, student learning is intimately related to patient care. In the RBC, it is more related to programmatic expectations and requirements.

Conclusion

The LIC learning environment affords students the opportunity to deepen their learning in the service of patients and patient care in distinction to the learning to meet teacher expectations and for formal assessments that they do in the RBC.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Comparison of Clinical Diversity Seen at Rural Versus Urban Training Sites

Presenting Author(s)

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Co-Author(s)

Brooke Jensen, Student - Student, University of South Dakota, Sanford School of Medicine

Introduction

It is our theory that medical students at clinical campuses that reside in areas of smaller populations will see a greater variety of experiences during their Pillar 2 longitudinal integrated curriculum (LIC) experience. These smaller clinical campuses do not have a diverse selection of specialists compared to those of the larger campuses so that patients do not have a wide selection for what type of provider they will see. Due to this lack of selection the medical students at these sites are believed to see a greater variety of experiences compared to their peers.

Methods

A random sample of five students from each of the five clinical sites at USD School of Medicine were selected to examine the number of unique diagnoses documented from the Student Patient Experience Logs (SPELs) during the LIC. inpatient and outpatient experiences were totaled separately.

Results

Students in sites with population less than 20,000 documented a significantly wider range of experience compared with more urban sites. Students in sites with population less than 5000 documented significantly more diverse clinical experiences compared with other sites.

Discussion

Although more patient variety exists in larger communities, the experiences seen and documented by students in rural communities is more varied than experiences of urban students.

Conclusion

Students in larger training centers do not enjoy the variety of clinical experiences that exist in those communities. While the variety of clinical experiences is less in rural communities, students are able to see much more of the available pathology.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

The Deeper Community Context: Can the Medical History of a Rural LIC Community Transform a Wider Community of Practice?

Presenting Author(s)

Kathryn M. Weston

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Co-Author(s)

Louella McCarthy, PhD - Academic Leader Community Engagement, University of Wollongong

Introduction

Rural medicine is unique, challenging, and confronting; rich in personal stories of triumph and humanity. By embracing the role of the community in training the next generation of medical practitioners, and contextualising this training in the historical experiences of medicine in the community, this project aims to transform both the School's understanding of the communities with which it works, and the community's awareness of its own history.

Methods

A virtual museum is a digital entity that draws on the characteristics of a conventional museum, allowing visitors to explore rich and diverse content through computer technology. Examples of virtual museums include descriptions of community life through a collection of historic photographs, narratives and images.

Results

This paper describes a pilot project to engage a rural Australian community in the development of a rural health 'virtual museum'. The researchers describe the initiation of the project and its potential to deepen the connection between the university and the LIC placement community.

Discussion

University-community engagement can be transformative for both, through challenging expectations alongside increasing awareness of the capacities and concerns of the other. By increasing our understanding of rural medicine in Australian history the project seeks to transform our knowledge of this field and provide a deeper understanding of the importance of rural medicine for communities, practitioners, academics and the students embraced by the community as legitimate partners in provision of healthcare.

Conclusion

Academics can take a cross-disciplinary approach to engaging longitudinal integrated clerkship placement communities in a broader community of practice.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

A Longitudinal Integrated Clerkship (LIC) in an Urban Setting with Regular Clerks: Organizational Challenges and Solutions

Presenting Author(s)

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Background or Context

Longitudinal integrated clerkships (LIC) have been widely implemented internationally and are now recognized as an effective pedagogical alternative to standard clerkship rotations. Implementation thus far however, has mainly been in rural settings without the presence of regular clerks.

Innovation or Solution

Our challenge was to develop a LIC for 8 clerks within an urban setting in a large teaching hospital and family medicine teaching unit where regular clerkship rotations are ongoing.

We began our LIC at the Université de Sherbrooke in April 2016. The first 4 months were designed to be identical to the regular clerkship, with clerks completing three electives and one selective rotation. A parallel LIC track of 10 months follows. It is divided into two blocks of 20 weeks. LIC clerks are paired, so that they share a case load of patients to maximize continuity of care. LIC clerks also benefit from an academic advisor with which they meet every 4-6 weeks in addition to contacts and regular supervision by family medicine and specialty residents.

Implementation or Evaluation

To evaluate the implementation of our model, in addition to regular monitoring of clinical exposure, semi-structured interviews/focus groups will be organized with clerks as well as their academic advisors and supervisors. Three areas will be addressed: perceived quality of clinical supervision, challenges of integrating LIC clerks within each of the disciplines and any perceived advantages or other challenges compared to the traditional clerkship.

Take home messages

A LIC in an urban setting with regular clerks appears to be a challenging but promising alternative to the traditional approach.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Implementation of Longitudinal Integrated Clerkship Experiences in a Complex Multi-Site Urban Academic Setting

Presenting Author(s)

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Co-Author(s)

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Joanne Mount , - - Manager, Medical Education Office (MGH). , Toronto East General Hospital

Background or Context

The Wightman-Berris Academy provides preclerkship and clerkship for 91 of 259 University of Toronto's entrance class. The Academy consists of central anchor hospitals providing primary to quaternary care in multiple sites (UHN and SHS), a comprehensive urban community hospital (TEGH), and subspecialty hospitals. The Academy is notable for diversity of clinical sites and experiences.

Innovation or Solution

We developed two types of experiences to offer eight students for the LIC inaugural year 2015-6. One based at the community hospital (TEGH) and one based at a tertiary hospital (TWH) located in a residential community, supported by specialty pediatrics and obstetrics sites. Four placements based at a tertiary site (MSH) were added for 2016-17. Students selected base sites.

Implementation or Evaluation

Support for implementation was first sought from Family Medicine leadership. Due to familiarity with longitudinal residency programs, the LIC was enthusiastically endorsed. Individual meetings with educational leadership from other departments at various sites resulted in identifying unique strengths, challenges and opportunities to address. For tertiary hospitals, challenges included establishing longitudinal ambulatory experiences with preceptors with limited outpatient clinical time, striking the balance between ambulatory and inpatient experiences for surgical specialties, and providing a breadth of clinical experiences in subspecialized clinics. For the community site, implementation required initiating clerkship teaching in some departments for the first time and endorsement from course leadership.

Take home messages

Keys to successful implementation in a complex academic environment include early engagement of site leadership, gradual expansion, customizing approach based on unique needs, and flexible approach to programming to optimize overall student experience.

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

Clinical Learning Opportunities in an Urban Community-Based Longitudinal Integrated Clerkship

Presenting Author(s)

Sarah Mahoney, MBBS

Academic Coordinator, OCEP, Flinders University Medical School

Background or Context

The Onkaparinga Clinical Education Program (OCEP) is an urban, community-based longitudinal integrated clerkship based in the outer suburbs of Adelaide, South Australia.

Innovation or Solution

OCEP offers longitudinal clerkships based mostly with clinicians in private medical practice, including both family physicians and specialist physicians. Some public hospital placements are included to ensure students have adequate clinical exposure in the core disciplines.

Implementation or Evaluation

Assessment data show that OCEP students compare favourably with their peers in other Flinders Year 3 clerkships. To further evaluate the program, the clinical learning records from OCEP students for the first 20 weeks of 2016 will be examined and compared to the year 3 'Student Clinical Checklist' that is provided as a guide to all year 3 students. The findings will be presented.

Take home messages

Can urban community-based clerkships provide the breadth of clinical experiences needed for early clinical learning of medical students?

Oral

Tuesday, October 18

11:00 AM – 12:00 Noon

The Challenges Faced by an Urban, Community-Based Longitudinal Integrated Clerkship

Presenting Author(s)

Sarah Mahoney, MBBS

Academic Coordinator, OCEP, Flinders University Medical School

Background and Innovation

The Onkaparinga Clinical Education Program (OCEP) is an urban, community-based longitudinal integrated clerkship based in the outer suburbs of Adelaide, South Australia.

Innovation or Solution

Clinical placements are mostly with clinicians in private medical practice. Some public hospital placements are included to ensure adequate clinical exposure. OCEP was established as a year-long pilot for eight year 3 medical students in 2009, and since 2011 has offered 24 places annually.

Implementation or Evaluation

The pilot program offered a 40-week LIC based in urban general practice (family medicine). In response to the need to accommodate 24 students annually, and the availability of clinical supervisors, OCEP now offers longitudinal clerkships with general practice as the core component for 20 weeks, followed by 20 weeks of specialist placements. The program is underpinned by a year-long, integrated academic program offering continuity of peer group and clinical educator. None of OCEP's clinical service providers have the infrastructure that is typically provided to family physicians in Australian rural LICs. Family physicians, but not specialists, receive a 'practice incentive payment' from the Australian Government for teaching. The learning opportunities offered by clinicians are at prescribed times that enable them to manage teaching within their service commitments. Maintenance of placements requires continual attention to communication between the University and clinicians, and is therefore time intensive of administration support.

Take home messages

Particularly in the absence of infrastructure support, medical schools wishing to implement urban LICs in private practice must be prepared to fund meticulous administrative communication requirements to enable their program to succeed.

Oral

Wednesday, October 19

9:30 – 11:00 AM

Good Stories: Why Narrative Ethics Works in Longitudinal Integrated Clerkships

Presenting Author(s)

Katharine R. Meacham, Ph.D., M.A., Ed.M.

Course Co-Director, Ethics & Humanism; Adjunct Professor, Department of Social Medicine, UNC School of Medicine, Asheville Campus

Co-Author(s)

Ira Sloan, MD - Co-Course Director, Ethics & Humanism , UNC School of Medicine, Asheville Campus

Background or Context

As research on professional identity formation in longitudinal integrated clerkships shows, LICs help students to practice an ethic of care, which fosters the development of professional identity of the caring physician (Konkin & Suddards) . Research on best practices for teaching in LICs (Latessa et al) provides practical suggestions that have theoretical support in constructivist educational theory, which has proven effective for adult learning (Mezirow). These three research perspectives support the innovation in integrating clinical ethics into one LIC, using a narrative ethics methodology.

Innovation or Solution

This presentation will provide a rationale, a methodology, and give examples of the practice of doing narrative ethics with students in one longitudinal integrated clerkship. This method is built on constructivist educational theory (starting from the students' own experiences in clinic and in the hospital), narrative ethical theory, and the ethic of care modeled by the best preceptors in longitudinal programs.

Implementation or Evaluation

The program has developed over the last five years, with positive responses from students and colleagues. It produces a richness of student writing and reflection that demonstrates constructed ethical knowledge and professional and ethical self-awareness on the part of the student learners.

Take home messages

1. Both ethical and educational theory support innovations such as this one for LICs.
2. Narrative ethics is particularly suited for LICs, producing more nuanced ethical understandings analogous to the kind of clinical knowledge students gain in LICs.
3. Specific ways of implementing a program in narrative ethics can be translated to other LIC contexts.

Oral

Wednesday, October 19

9:30 – 11:00 AM

A Qualitative Analysis of Reflective Writing by LIC Students in an Urban Safety-Net Health Care System: Understanding Student Professional Identity Development as Providers for the Underserved

Presenting Author(s)

Jennifer Gong, PhD

Assistant Director, Evaluation Office, University of Colorado School of Medicine

Co-Author(s)

Mim Ari, MD - Faculty, Denver Health, Univ CO

Michelle Cleeves, MD - Faculty, Denver Health, Univ CO

Jennifer Adams, MD - LIC Director, Denver Health, Univ CO

Considered essential in medical education, professional identity formation requires the learner to integrate personal experiences, motivations and skills with the profession's "values, dispositions, and aspirations." Reflective writing and discussion supports learners in exploring "possible selves." The Denver Health LIC (DH-LIC) is based at an urban safety-net system with a curricular focus on underserved care. We aimed to understand how professional identity development as a caregiver for the poor and underserved is demonstrated in student reflective writing.

Methods

Students complete three reflective essays and participate in associated small group discussions. Prompts focus on poverty and access to care, boundary setting with patients, and closure of the professional relationship between students and patients. The authors reviewed two years of student essays (n=45) to identify themes related to professional identity development as caregivers for the underserved.

Results

Emerging themes include resilience/empowerment, empathetic/humanizing views of marginalized patients, patient-centeredness, advocacy, and role modeling. Students framed themes in relationship to prior experiences, system limitations and tensions, and aspirations for future practice.

Discussion

Analysis of students' reflective writing reveals elements of professional identity consonant with providing care with respect, dedication and compassion to vulnerable populations in a safety net hospital. We hypothesize that key elements of the LIC - longitudinal exposure to marginalized patients, positive role models, and an authentic and valued role in patient care - facilitates development of this professional identity.

Conclusion

Qualitative analysis of student reflective writing in an urban safety net system LIC (DH-LIC) demonstrates themes important to professional identity development as providers for vulnerable populations.

Oral

Wednesday, October 19

9:30 – 11:00 AM

Learning from Patients: A Mirror for the Self

Presenting Author(s)

Mark MacKenzie, CCFP(EM)

Program Director, UBC's Integrated Clerkship Program

Co-Author(s)

Sevinj Asgarova, PhD Candidate, MSW - Research Assistant, University of British Columbia

Joanna Bates, Professor - Scientist, Faculty of Medicine/University of British Columbia

Introduction

Continuity of patient care – or “seeing the same patients repeatedly” – is a reported strength of longitudinal integrated clerkships (LICs). In this study, we aimed to understand how students define and experience patient continuity in sites without patient panels, and to explore what and how they learned from seeing patients repeatedly.

Methods

We used qualitative methodology and interviewed 17 medical students from 5 different sites who completed an LIC between 2014-2015 at the University of British Columbia. Data were analyzed for themes about processes of patient continuity and processes of students' learning from patient continuity.

Results

Students experienced patient continuity through many different processes, both formal and informal. Patient continuity resulted in information continuity, relational continuity and management continuity. Information continuity taught students the importance of tracking, maintaining, and transmitting accurate information about patients. Relational continuity taught students to develop trust, establish professional boundaries, and overcome challenging patient situations. Management continuity taught students to reflect on and re-evaluate their clinical decisions. All three types of continuity contributed to their developing sense of who they were as a physician.

Discussion

Spurred by patient continuity, students engaged in reflection and self-appraisal, incorporating role modeling and debriefing by preceptors, and informal peer group discussion. Students understood the importance of reflection and believed that reflection on their beliefs and actions contributed to their personal transformation in becoming a physician.

Conclusion

Students experience patient continuity through different mechanisms, and learn to reflect on themselves, their actions, and their attitudes through the lens of patient continuity.

Oral

Wednesday, October 19

9:30 – 11:00 AM

Serving the Underserved in LICs: Interprofessional Experiences Caring for the Homeless

Presenting Author(s)

Joanna Drowos

Clerkship Director, Associate Department Chair, Chales E. Schmidt College of Medicine, Florida Atlantic University

Co-Author(s)

Sarah Wood, DO - Senior Associate Dean for Medical Education, Charles E. Schmidt, College of Medicine

Lacey Sorrentino, M.S. - Senior Clerkship Program Coordinator, Charles E. Schmidt College of Medicine

Background or Context

This session describes the launch of an educational pilot program which engaged medical students in the care of homeless patients as part of an interprofessional team.

Innovation or Solution

Students were invited to collaborate with an interprofessional team in developing an innovative curriculum and team approach to address the needs of the underserved and vulnerable populations in our community. Experience components included reviewing the Interprofessional TeamSTEPPS Primary Care Virtual Module, followed by visits to primary care clinics located at a homeless shelter. Students joined the interprofessional team participating in comprehensive reviews, team huddles and debriefs and providing clinical care. Successful completion of this voluntary program earned students a certificate of Advanced Interprofessional TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) Training in the Primary Care Setting for students.

Implementation or Evaluation

A total of 22 students volunteered to participate in this pilot program. Preliminary data from surveys and focus groups will be shared.

Take home messages

Discussion topics include how to best incorporate IPE and underserved experiences into LICs as optional or mandatory experiences, and how to best prepare students for success in these settings.

Oral

Wednesday, October 19

9:30 – 11:00 AM

Longitudinal Interprofessional Home Visits with Type 2 Diabetic Patients

Presenting Author(s)

Lori Hansen, MD

Dean, University of South Dakota

Co-Author(s)

Debra Farver, PharmD - Professor, South Dakota State University

Ramu Sudhagani, PhD - Dean of Health Sciences, University of South Dakota

Introduction

Longitudinally, diabetic patient care can improve through interprofessional interventions in the home setting with medical and pharmacy students.

Methods

Fourteen 3rd year medical and 4th year pharmacy students were paired to complete home visits with Type 2 diabetic patients who's A1Cs were greater than 8%. Over 9 months, six home visits per patient were completed. Students used the alphabet strategy providing diabetes education. Home visits used point-of-care testing for A1C and cholesterol along with assessing blood pressure, sensory foot exam, and physical exam. A review of medications, vaccines and appointments were completed. The results of seven patients in home visit study were compared to matched controls. Other assessment was a pre and post home visit knowledge exam and student perception surveys.

Results

BMI reduction was found statistically significant ($P=0.0261$). Reductions in A1C, LDL, triglycerides, and blood pressure were not statistically significant. Pre-home visit knowledge exam average was 71.3% while post exam average was 86.3% for pharmacy students. All medical and pharmacy students strongly agreed or agreed that activity enhanced understanding of patient care in the home, was valuable to their education, increased competency to formulate, implement and revise a patient-centered care plan, and skills were learned to apply in the future care of diabetic patients.

Discussion

Interprofessional student home visits had some positive impact on patient care. Knowledge and perceptions of home visits improved with pharmacy students.

Conclusion

Medical student knowledge increased in the intervention but not the control group. A long term study in this population is warranted to assess for other benefits.

Oral

Wednesday, October 19

9:30 – 11:00 AM

The Quarterly 1:1 Meeting Checklist – Facilitating Feedback in a Longitudinal Integrated Clerkship

Presenting Author(s)

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Samantha Fortunato, - Clerkship Coordinator, University of Toronto

Karen Weyman, MD, CCFP - Chief, Department of Family and Community Medicine, St. Michael's Hospital

Background or Context

Feedback enables learning and is valued by learners. In a traditional block clerkship with scheduled mid-rotation feedback and end-rotation evaluation, students receive formative or summative feedback every 2-4 weeks. In an urban longitudinal integrated clerkship (LIC) where the clinical experience is distributed throughout the year, it was imperative to develop a process to provide regular timely feedback as it may take months before the official mid-rotation feedback point is reached.

Innovation or Solution

The Quarterly 1:1 Meeting Checklist was developed to guide discussion when LIC students meet individually with the LIC faculty lead quarterly to review their progress. Feedback from preceptors is solicited prior to the meeting and any completed mid-rotation feedback forms reviewed.

Implementation or Evaluation

The benefits of the quarterly meeting checklist have been multifold. It establishes the expectations of the meeting, thus reminding students to complete case logs and other administrative tasks. It encourages regular contact between LIC preceptors and the LIC faculty lead, and provides a mechanism to pool formative feedback from multiple sources. It prompts students to identify their own areas of strength and areas for further development, and develop their own action plans.

Take home messages

Having a structured feedback process beyond the traditional mid-rotation feedback is needed in a longitudinal integrated clerkship. The Quarterly 1:1 Meeting Checklist facilitates regular timely feedback by providing a mechanism by which to pool formative feedback from multiple sources and encouraging students to reflect on their performance and set goals.

Oral

Wednesday, October 19

2:00 – 3:30 PM

Training in the Sandbox: Building a Pediatric Longitudinal Integrated Clerkship

Presenting Author(s)

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Co-Author(s)

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Emily Borman-Shoap, MD - Residency Program Director, University of Minnesota

Robert Englander, MD, MPH - Associate Dean for Undergraduate Medical Education, University of Minnesota

John Andrews, MD - Associate Dean for Graduate Medical Education, University of Minnesota

Background or Context

Education in Pediatrics Across the Continuum (EPAC) was conceived as a national demonstration of competency-based advancement, supported by longitudinal clinical experiences and seamless transition from undergraduate to graduate medical education in pediatrics.

Innovation or Solution

We developed the first-ever longitudinal integrated clerkship (LIC) with a pediatric focus. To build this curriculum, we engaged stakeholders across the spectrum of medical education, including medical school leadership, LIC mentors, clerkship directors, and leaders in graduate medical education. Our final model incorporated the core clerkships using, when possible, a pediatric patient population. Only OB/GYN, internal and family medicine included adult patients. In June 2015, four EPAC students at the University of Minnesota began this novel curriculum.

Implementation or Evaluation

The students had substantial patient contact with an average of 559 (501-698; SD=93.3) encounters by the ninth month of the clerkship, of which 68% (62%-72%; SD=3.1) were 18 and under. On average, 16% (11%-19%; SD=3.8) of these encounters were with a patient the student had seen before. The students had completed 82% (68%-96%; SD=12) of the school's clinical curricular requirements by the ninth month of the LIC. As early as the fourth month, they had 84% (59%-93%; SD=17) completion of the school's required diagnoses and 63% (59%-71%; SD=5.6) completion of the required procedures.

Take home messages

We demonstrated a pediatric-focused LIC was able to provide a substantive and comprehensive clinical experience to students who self-identified as future pediatricians.

Oral

Wednesday, October 19

2:00 – 3:30 PM

Combination of Anesthesia and Surgical Subspecialty Undergraduate Medical Curricula, to Provide a Comprehensive Perioperative Clinical Experience for Students in a Longitudinal Integrated Clerkship Model (LIC)

Presenting Author(s)

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Background or Context

Knowledge and skill atrophy, represent a significant challenge in LICs due to intermittent and/or brief clinical exposures in anesthesia, and certain surgical subspecialties. We sought to increase clinical exposure for career planning purposes, to create high-value integrated clinical opportunities for skill and knowledge consolidation, to facilitate longitudinal follow-up of surgical patients, and to increase overall student exposure to anesthesia and surgery preceptors, by implementing an integrated perioperative clinical experience at a large urban academic hospital.

Innovation or Solution

Students are provided with a patient-centered perioperative clinical experience. An interdisciplinary approach to preoperative, intraoperative and postoperative patient management is facilitated by anesthesia and surgery LIC preceptors.

Implementation or Evaluation

Student schedules are created with the following principles in mind:

- 1) Early exposure is clinic-based to orient the student to the specialty, and facilitate identification of patients for longitudinal follow-up
- 2) Late exposure is mixed (clinic and OR) to facilitate student attendance during identified surgical procedures and/or postoperative visits
- 3) Scheduling of anesthesia and surgery preceptors as a working pair, when a LIC student is present in the OR.
- 4) Scheduling of AM elective time after a day in anesthesia or surgery, to facilitate postoperative patient rounding

Implementation was enabled by flexible anesthesia preceptor scheduling and strong engagement by students and preceptors. This initiative was labor intensive from an administrative perspective.

Take home messages

The integration of anesthesia and surgical subspecialty clinical experiences has led to an increase of 40%, in clinical exposure of students to perioperative specialties. LIC preceptors and students, report very good to excellent satisfaction with the new combined curriculum delivery method.

Oral

Wednesday, October 19

2:00 – 3:30 PM

Ensuring and Evaluating the Delivery of Core Family Medicine and Geriatric Medicine Content in a Shortened Family Medicine LIC Experience

Presenting Author(s)

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Co-Author(s)

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Margrit Shoemaker, MD - Assistant Chair Internal Medicine, The Commonwealth Medical College

Brian Wilcox, MD - Assistant Chair OB/GYN, The Commonwealth Medical College

Background or Context

Our LIC model changed this past year from a full year outpatient experience, 46 weeks, with short inpatient bursts to a half year outpatient experience with a half year of traditional in-patient blocks. A Family Medicine (FM) in-patient block experience is not available and the outpatient LIC experience has been halved to 23 weeks yet the delivery of core FM and Geriatric Medicine (GM) content by active learning needs to be ensured. In both the old model and the new model we have utilized six-4 hour Clinical Education Days (CED) throughout the year to deliver Team Based Learning sessions on FM/GM clinical topics. In addition, students have been required to complete MedU fmCases and Portal-of-Online-Education-in-Geriatrics Web Gem modules throughout the year.

Innovation or Solution

Change for the new model for the 2016-17 academic year; (1) increased number of FM and GM modules; (2) an fmCase will be assigned with a topic which is related to that day's TBL topic. While completing the online fmCases module prior to CED, students will complete a case analysis tool (CAT). After the TBL exercise, a group debrief session will be conducted to review the CAT. The CAT takes students' ability to problem-solve to the next level and mirrors the note write up for an OSCE and the Step CS exam.

Implementation or Evaluation

The 2016-17 shelf score will be compared to previous year scores based on module changes.

Take home messages

The effect of a shortened FM LIC experience on knowledge base should be assessed.

Oral

Wednesday, October 19

2:00 – 3:30 PM

Using the Healthcare Matrix to Teach Patient Safety Throughout Longitudinal Integrated Clerkships

Presenting Author(s)

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Background or Context

Patient Safety and Quality Improvement are topics that are sometimes difficult to teach and implement in undergraduate medical education. When discussing adverse events or near misses, it can be tempting for medical students to blame healthcare providers higher up in the medical hierarchy for mistakes or miscommunication. In addition, a new study garnering media attention suggests that medical errors may be the third leading cause of death in the US.

Innovation or Solution

The Healthcare Matrix is a standardized tool that can help students analyze and link the IOM aims for patient care to ACGME competencies. At the Charles E. Schmidt College of Medicine at Florida Atlantic University, we use the Healthcare Matrix as a year-long assignment that spans the course of our LICs in order to assess whether our students can work effectively within a healthcare system to provide patients with high value care.

Implementation or Evaluation

Students must choose a case they encounter in an LIC and then critically evaluate the patient care using the Healthcare Matrix. This is accompanied by a reflective essay describing their specific suggestions for improving the quality of care. The two best entries are then chosen by faculty to be presented in a Grand Rounds style presentation. Students were very satisfied with the conference, and felt more empowered to try and improve the quality of their patients' care in the future.

Take home messages

The Healthcare Matrix can serve as a practical way to explore Patient Safety throughout longitudinal integrated clerkships.

Oral

Wednesday, October 19

2:00 – 3:30 PM

Successful Incorporation of Advanced Practice Providers in a Psychiatry and OB/Gyn LIC

Presenting Author(s)

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Sanjay Chandragiri, MD - Assistant Chair of Specialty Education- Psychiatry, The Commonwealth Medical College

Background or Context

Objectives:

1. Describe the need for increasing clinical faculty in a Psychiatry and OB/Gyn LIC
2. Discuss the addition of Advanced Practice Provider instructors (APP)
3. Describe student satisfaction and academic performance utilizing APP instructors

The Commonwealth Medical College (TCMC), a community based institution, utilizes regional campuses to implement a Longitudinal Integrated Clerkship (LIC) for all six core disciplines. Increasing class and regional campus size has led to challenges in recruiting adequate numbers of willing, skilled volunteer clinicians.

Innovation or Solution

Psychiatry and OB/Gyn have struggled to fill teaching rosters and have reached out to Advanced Practice Providers (APPs), ie PA-Cs, Nurse Practitioners, and Nurse Midwives, who work collaboratively with physicians, to complete teaching staff. These clinicians go through the same on-boarding, vetting and faculty development as do MD/DO faculty.

Implementation or Evaluation

Whereas most students rotate with an MD/DO weekly in the LIC, a subset in the two largest regions now alternate weeks between a physician and an APP in Psychiatry and OB/Gyn. Individual year-end evaluations were completed by these students for both physicians and APP instructors. APP evaluations show a high level of satisfaction with clinical teaching, and narrative comments reflect a strongly positive learning experience and clerkship satisfaction. Students in both Psychiatry and OB/Gyn alternating provider groups successfully passed Shelf exams on the first attempt with scores near or above the class average.

Take home messages

APPs are effective LIC instructors/preceptors in our context.



PeArLs ABSTRACTS

PeArLs

Monday, October 17

3:30 – 5:30 PM

Challenges of a Complete Transformation from Block Format to a Longitudinal Integrated Clerkship (LIC) Model in a Fully Established Academy of Medicine

Presenting Author(s):

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The Mississauga Academy of Medicine, the second campus of the University of Toronto Faculty of Medicine, opened in 2011, enrolling 54 students in the 4yr MD program who entered core clerkship (2013) at both the Credit Valley and Mississauga Hospitals sites (merged as Trillium Health Partners in 2011 into a comprehensive community affiliated Academic Centre). Recently recruited faculty from these two unique organizational cultures have undertaken a distinct locally enacted preceptor-based block teaching model. The development of a longitudinal integrated clerkship (LIC) is underway for 2017/18. Two strategic options are under consideration; implementing a LIC for a small cohort of students or a full transition to a LIC. Keys to success will be the support and engagement of students and faculty through the development of effective communication and change management strategies, while addressing accreditation standards, the lack of support of a vertical teaching model and alignment to hospital strategic priorities

PeArLs

Monday, October 17

3:30 – 5:30 PM

The Challenge of Creating LICs in Metropolitan Settings with Many Traditional Block Rotations

Presenting Author(s)

Kathleen Brooks

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Patricia Hobday, MD - Director EPAC, University of MN Medical School

Nacide Ercan-Fang, MD - Director VALUE, University of MN Medical School

Our medical school is one of two schools in Minnesota and matriculates 230 students per year. The school struggles to find space for students to complete core clinical clerkships in the third year of medical school. After a 45 year success in running a rural LIC for 30-40 students/year, we are implementing 3 metropolitan LICs with plans for 2 more based in systems training large numbers of block rotation students. LIC students "swim against the stream" in systems that organize student education by discipline. Systems are also educating increasing numbers of PA, NP and DO students, creating more capacity issues. Given that the introduction of LICs involves not only preceptors but interns, residents, fellows, other health professional trainees and members of interprofessional teams rotating on and off services, how do we allow these two systems to co-exist and provide strong educational experiences for all?

PeArLs

Monday, October 17

3:30 – 5:30 PM

Challenges and Opportunities in Converting all Medical Schools to Longitudinal Integrated Clerkships (LIC)

Presenting Author(s)

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LIC started in rural settings, and is now moving to urban settings including Academic Medical Centres (AMC) to replace traditional block rotation (TBR). At the Flinders Medical Centre (FMC-an AMC) site of Flinders University the medical course has had TBR since commencement 42 years ago. At Flinders University LICs have been successfully introduced in rural communities and more recently in urban communities . 88 of 160 year 3 Flinders MD students in 2016 have a longitudinal experience. After 4 Pilot LICs, in 2017 all FMC year 3 students will have a full year LIC.

Questions:

1. What are the challenges and opportunities in conversion of traditional block rotations (TBR) to LICs?
2. How can we transform all medical schools to LICs?

Pearls

Monday, October 17

3:30 – 5:30 PM

Keeping the Ball Rolling: Sharing Preceptor Development Resources across LIC Campuses

Presenting Author(s)

Sandra Whitlock, MD

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Co-Author(s)

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With the rapid growth of LICs, there is an increasing need for LIC-specific preceptor development opportunities. LIC preceptors work with students in the outpatient setting as they are simultaneously integrating learning from multiple different clinical environments and specialties. These unique features call for preceptor development resources particular to teaching in LICs, but preceptor development remains a significant challenge for many programs. At the same time, individual programs may be meeting this challenge by creating new and innovative means to reach their preceptors. The purpose of this session will be to prompt discussion and seek input about building a website and online forum to allow LIC programs to share and collaborate on preceptor development ideas. Questions for discussion include: 1) what is the best method for organizing and funding such a website and forum? and 2) What aspects of LIC-specific faculty development would be most important to include on this website?

PeArLs

Tuesday, October 18

9:15 – 10:45 AM

LICkety-Split: How Do We Get Medical Students Racing to Participate in LIC?

Presenting Author(s)

Charlie Breakey

Medical Student, Cumming School of Medicine, University of Calgary

Jessica Tamura-Wells

Medical Student, University of Calgary

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145 medical students at the Cumming School of Medicine, University of Calgary, completed an online survey designed to elucidate how students decide between longitudinal integrated clerkship (LIC) and rotation-based clerkship (RBC).

Calgary students are attracted to LIC for better hands-on experience and better relationships with their teachers, yet are drawn back towards RBC to have more certainty of location, to be closer to their support networks and recreational activities and because they believe they will see a wider range of clinical presentations.

In order to decide between LIC and RBC, students wish to have statistics on CaRMS matches, patient volumes and clinical presentations. Is it useful to provide this information about the LIC program when equivalent information is not available for RBC? Let's discuss data collection and information-sharing for LIC's, and how we might tip the balance from students just considering LIC to students actually choosing LIC.

PeArLs

Tuesday, October 18

9:15 – 10:45 AM

Assessment in Longitudinal Integrated Clerkships: Theoretical Framework and Research Approaches

Presenting Author(s)

Jill Konkin, BA(Hons), MD, MCISc, CCFP, FCFP, FRRMS

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Co-Author(s)

Ann Poncelet, MD - Professor, University of California San Francisco School of Medicine

The Consortium of Longitudinal Integrated Clerkships (CLIC) Research Consortium gathered data from over 40 medical schools with Longitudinal Integrated Clerkships (LICs) and the “LIC typology” paper is in press as a result. Although information on student assessment was collected as part of this study, the data was not adequate to explore in a rigorous and meaningful way how LICs assess students across institutions.

The purpose of this PeArLs session is to consult with interested members attending CLIC 2016 and develop a research agenda for the CLIC Research Consortium in the area of assessment of medical students in LICs. This includes identifying theoretical framework(s) and research approaches to explore student assessment in LIC programs.

PeArLs

Tuesday, October 18

9:15 – 10:15 AM

Designing Optimal Recruitment and Selection Process for Students with a Menu of LICs

Presenting Author(s)

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Co-Author(s)

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Kathleen Brooks, MD, MBA - Director, RPAP and MetroPAP, University of Minnesota Medical School

After 45 years of success with a single rural LIC and the addition of an urban cohort six years ago, this year we implemented 2 new metropolitan LICs and are developing more. Our LIC in the VA system focuses on quality improvement and patient safety. We also have a pilot LIC program in pediatrics using a competency based advancement model: students transition into our pediatric residency when they can be entrusted to care for patients with indirect supervision.

To maximize students' options amongst our LICs, we synchronize student application and selection processes across LICs, allowing students to apply to multiple programs. This synchronization has proven to be challenging because our rural LIC offers students personalized placement in rural community sites. A rural LIC offer to a student who then chooses a different LIC can create a problem if other rural LIC students prefer the vacated site to their assigned site.

PeArLs

Tuesday, October 18

11:00 AM – 12:00 Noon

You Are Not Alone: Improving Student Wellness in Longitudinal Integrated Clerkship Models of Training

Presenting Author(s)

Mark Beard, MD, MHA

Assistant Dean of Medical Student Education, University of South Dakota, Sanford School of Medicine

Co-Author(s)

Lori Hansen, MD - Campus Dean, Yankton Campus, University of South Dakota, Sanford School of Medicine

Sharleen Yuan, MS3 - Student, University of South Dakota, Sanford School of Medicine

Student wellness has become an important topic in medical education (LCME Standard 12.3). Medical training is viewed as stressful and chaotic. Study and examinations, isolation, and relationship concerns were cited by students as extremely stressful issues.

Strategies need to be implemented to reduce stress, increase mindfulness, and enhance self-care. The LIC provides opportunity for enhancing professional identity development, less burnout, and increased empathy, but a student wellness program is still essential for prevention of isolation while promoting overall well-being. Implementation, however, can prove to be difficult.

Questions to Consider:

1. How can a standard model be implemented across multiple clinical sites for student support?
2. Which components of a program have proven to be most useful within an LIC?
3. What do students feel are the essential components of a wellness program?
4. Can the LIC model serve to fulfill and create opportunities for promotion of well-being and self-preservation?

PeArLs

Tuesday, October 18

11:00 AM – 12:00 Noon

How Do You Integrate Clinical Ethics and Humanism Education into Your Clerkship?

Presenting Author(s)

Katharine R. Meacham, Ph.D., M.A., Ed.M.

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Ira Sloan, M.D. - Co-Course Director, Ethics & Humanism, UNC School of Medicine, Asheville Campus

Robyn Latessa, M.D. - Director & Assistant Dean, UNC School of Medicine, Asheville Campus

Sandra Whitlock, M.D. - Assistant Director, UNC School of Medicine, Asheville Campus

This PeArLs session is designed for sharing good stories of different models for integrating clinical ethics education and education in humanism, including medical humanities, into LICs. Research shows that not only does the pre-clinical scientific and medical knowledge need intentional interventions and practice during the clerkship, but so does the pre-clinical ethics and humanism education. While LICs are especially appropriate for using models and mentors in teaching ethics, research also shows the limitations of relying exclusively on models for teaching ethics. Come to this conversation with examples to share of what works in your setting. If you have student writing with permission to share, please bring it as well.

PeArLs

Tuesday, October 18

11:00 AM – 12:00 Noon

What They Have Said and Done, and What They Are Doing Now

Presenting Author(s)

Janine E. Wyatt

Academic Program Coordinator, University of Queensland

The University of Queensland School of Medicine implemented in 2011 longitudinal (40 weeks) and extended placements (16 weeks) into the Bachelor of Medicine and Bachelor of Surgery program.

What they have said and done

From 2011 to 2015, 41 Year 3 medical students have participated in these programs. The aim of the programs is to identify students from a rural background or students with a keen interest in rural practice and provide them with a repeated rural exposure in anticipation of them practicing rural medicine.

The question is Did these programs achieve the long-term aim of bolstering the rural medical workforce?

What they are doing now

The 2011 to 2014 cohorts have now graduated. The whereabouts of these graduates based on the Australian Standard Geographical Classification – Remoteness Areas system shows 15 (48%) are located in a major city, 11 (35%) inner regional and five (16%) in outer regional areas.

PeArLs

Wednesday, October 19

11:15 AM – 12:45 PM

Balancing Consistency and Variety in a Longitudinal Integrated Clerkship at an Academic Hospital

Presenting Author(s)

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Molly Zirkle, MD, FRCSC - Academy Director, FitzGerald Academy, St. Michael's Hospital

Background

Physicians practicing in academic hospitals are often subspecialized, raising the concern that their longitudinal integrated clerks may not be exposed to a sufficient breadth of cases. Students may be assigned to multiple preceptors but this would be at the expense of the longitudinal experience.

Innovation/Solution

Each specialty designed a program structure in consultation with individual clerkship and site directors, accounting for its unique circumstances. Solutions included assigning students to two preceptors with contrasting practices, creating a new specific education-focused clinic for undifferentiated referrals, and dedicating clinic time for a potpourri of different experiences. Feedback indicates that students and preceptors value the longitudinal relationship and that consistency is preferred over variety as long as core learning objectives are met.

Take-Home Messages

Seeking input from local stakeholders is critical to finding a balance between consistency and variety in the local setting. Students and preceptors value both consistency and the longitudinal experience.

PeArLs

Wednesday, October 19

11:15 AM – 12:45 PM

E-Orientation: A Novel Approach to Student and Faculty Orientation in an Urban LINC

Presenting Author(s)

Azadeh Moaveni, MD CCFP

Undergraduate Program Director, Department of Family and Community Medicine

University of Toronto

Jana Lazor, EdD

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Stacey Bernstein

Clerkship Director, University of Toronto

The Longitudinal Integrated Clerkship poses challenges for orientation to traditional block courses. A novel approach to Orientation of LINC students and Faculty is being piloted at the University of Toronto. The purpose was to provide students and clinical faculty a common foundational introduction to the core clerkship courses to foster a shared understanding of expectations, role and responsibilities.

Course Directors were asked to design, develop and film an e-orientation . Course outlines and existing face-to-face orientations were reviewed . A template was developed to standardize the content across disciplines. Students also provided feedback. The template has 3 sections: (a) general introduction to the clerkship curriculum (b) Course Specific Orientation (c) Common questions

The e-orientations will be accessible at any time. The impact of this intervention will be studied using a “utilization-focus evaluation” approach as they are used and implemented into the LINC program.

PeArLs

Wednesday, October 19

11:15 AM – 12:45 PM

Longitudinal Quality Improvement Projects During the Primary Clinical Year

Presenting Author(s)

Shane Schellpfeffer, EdD, MEd

Coordinator of Education & Evaluation, University of South Dakota, Sanford School of Medicine

In the spring of 2015, the University of South Dakota Sanford School of Medicine implemented a quality improvement (QI) project. These projects are integrated into the LIC portion of the primary clinical year (Pillar 2) and provide the most benefit when completed during the time students are providing clinical care to patients. The QI project is designed to give Pillar 2 students an experiential learning opportunity, as well as give our students the opportunity to engage in a QI project before entering residency.

Some questions to consider during this session:

What are other schools doing for QI in their curriculum?

How is QI integrated into the LIC?

How can QI become more interdisciplinary, including working with residents?

What is the best approach for overcoming obstacles regarding access to health partners?

How can projects best fit within the time constraints for the project (approximately 6 months)?

PeArLs

Wednesday, October 19

11:15 AM – 12:45 PM

Harnessing Technology to Power Our LICs: Scheduling, Mapping, “App”ing and Beyond

Presenting Author(s)

Sarah K. Wood, MD, FAAP

Senior Associate Dean for Medical Education, Charles E. Schmidt College of Medicine at Florida Atlantic University (FAU)

Co-Author(s)

Lacey Sorrentino, MS - Senior Clerkship Program Coordinator, Charles E. Schmidt College of Medicine at FAU

Jennifer Foster, MD, MBA, FACP - Director of Year 3 Curriculum, Charles E. Schmidt College of Medicine

The complexity and logistics of coordinating a large scale, and even small scale, LIC can be daunting. Disparate and remote sites, as well as customizing medical student schedules down to the half day, means that LIC leaders and administrators typically need to utilize technology to facilitate organization and accessible communication. At the Charles E. Schmidt College of Medicine at Florida Atlantic University we launched community based LICs three years ago for 64 students. We incorporated technology in our administrative and curricular implementation, and are always looking for ways to improve. Platforms such as “Amlon” have helped us with scheduling and pushing schedules out to students and faculty, and this year we are beginning to use iPads for the LICs. We are interested in exploring with audience the best and most innovative ways to utilize technology in administrative and educational ways in our LICs.