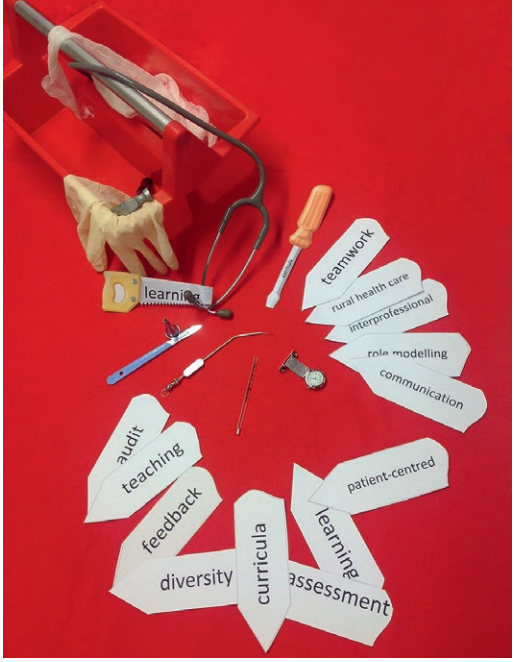
The Clinical Teacher's Toolbox



Teaching in longitudinal integrated clerkships: the seven 'C's

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Editor's note: I have been interested in the concept of longitudinal integrated clerkships (LICs) for some years. While there have been several models described and evaluated in the literature, the main commonality of LICs is continuity: continuity for students, patients, supervisors (preceptors) and community. This continuity has been shown to foster a sense of belonging and a feeling that learners have a legitimate place in the health care team. During LICs, trust builds over time and there is less disruption to learning as students are not moved from place to place every 4–8 weeks, requiring time for orientation after each move. The authors of this Toolbox have wide experience of LICs in the USA but are also familiar with LICs in other countries. They highlight the seven 'C's of learning and teaching, summarised in a handy box: continuity, connection, communication, coaching, commitment, care, and community. While this article focuses on LICs for medical students, particularly in rural areas there may be students from other health professions co-located. This gives opportunities for interprofessional learning – both formal and serendipitous. The Toolbox contains many practical ideas for optimal patient-centred LICs and acknowledges the tremendous contributions of patients and clinicians to student learning.

INTRODUCTION

Longitudinal integrated clerkships (LICs) represent a successful and rapidly growing model of clinical medical education.[1,2] By contrast with students undertaking traditional block rotations, LIC students complete their core clinical year requirements caring for a cohort of patients longitudinally, over time and across venues of care.[1,3] To enable longitudinal care, all LICs are longer than 6 months.[2]

The LIC structure creates opportunities for novel teaching strategies

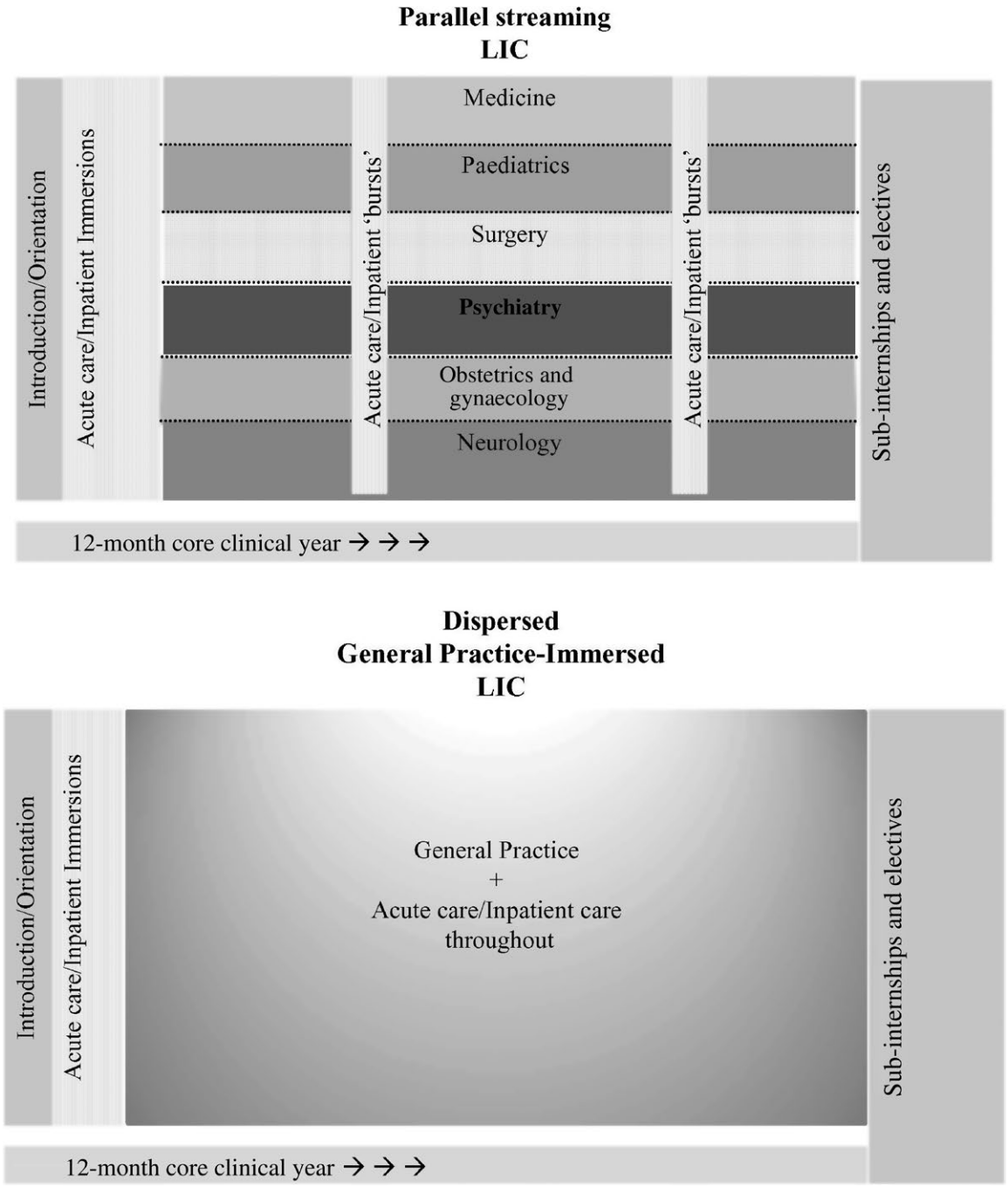

Figure 1. Structure of longitudinal integrated clerkships (LICs)

Longitudinal integrated clerkships place students with hospital-based ambulatory preceptors or community-based faculty preceptors in general and specialist practices. Students' learning arises as they care for patients in multiple disciplines simultaneously (e.g. internal medicine, surgery, neurology, psychiatry, family medicine, paediatrics, obstetrics and gynaecology) (Figure 1).[2,3]

The LIC structure creates opportunities for novel teaching strategies, as community-based generalist or specialist preceptors capitalise on longitudinal relationships and educational continuity.[3] Despite growing numbers of faculty members teaching in this model, the literature on LIC-specific teaching remains nascent.[4,5] In this review, we provide practical tools for new and experienced preceptors teaching in LICs. We call this framework the seven 'C's of LIC teaching: continuity, connection, communication, coaching, commitment, care and community (Box 1).

We recognise that these tools may overlap (e.g. coaching and commitment), and that some tools may be seen as occupying different 'levels' (and even nested, such as care arising from continuity). We also recognise that the

Box 1. The seven 'C's for preceptors teaching in longitudinal integrated clerkships (LICs)

- Continuity: support and encourage continuity
- Connection: build connections between students and patients
- Communication: create communication strategies with students and staff
- Coaching: guide and mentor, with high standards expressed
- Commitment: commit to advancing each student's role and responsibilities
- Care: model humanistic patient care
- Community: engage students in the many communities within the LIC

Box 2. Practical tips for ambulatory preceptors teaching in longitudinal integrated clerkships

- Orient students, define clear expectations and hold them accountable for following their patients
- Explain to patients the benefits of working with students who serve as their advocates
- Develop an explicit learning plan with students
- Implement organisational structures and schedules to support student–patient continuity
- Develop a facilitative appointment schedule to enhance the workflow when students are seeing patients in the office
- Allocate patients to students intentionally so that students experience a diverse array of patients and clinical syndromes
- Use bedside presentations to model patient-centred care, empathy and humanism in medicine
- Give students access to medical records so that they can participate meaningfully in the care of their patients
- Create processes to notify students when their patients access the health care system
- Increase students' autonomy and responsibilities as the year progresses
- Provide students with continuing, constructive and meaningful feedback
- Support students to engage in interprofessional work, community outreach, home visits and quality-improvement projects

most important 'C' of all may be context: therefore, we do not suggest that a clinical teacher could use all of these tools in the time-pressured context of care or during every teaching session. We do not suggest hierarchy, clear distinctions among tools or a mandate. Our aim is to afford clinical teachers a wide array of flexible options to leverage the educational force of longitudinal relationships and educational continuity.[3] We base this toolkit on a review of the literature and the experience of LIC preceptors and programme leaders, and provide practical tips for preceptors in LICs (Box 2).

CONTINUITY: SUPPORT AND ENCOURAGE CONTINUITY

Educational continuity is the guiding principle underpinning LICs.[3] The LIC structure creates continuity between students and patients, between students and clinical teachers (hereafter, preceptors), as well as continuity of curriculum, peers, community, systems and idealism.[2,3,6] LICs offer opportunities for the patient and student because learning centres around the patient's experience *over time*. Greater continuity allows students to add value through meaningful work, benefitting preceptors, students and patients alike.[7–9]

To benefit teaching and learning, preceptors can support patients' active roles in creating continuity with students

To benefit teaching and learning, preceptors can support patients' active roles in creating continuity with students. This student–patient continuity can also provide benefits for patients.[7] Preceptors can advance the opportunities for patients by explaining the benefits of working with students in the LIC. Preceptors can help patients to recognise that students can act as advocates, provide emotional support, clarify visit plans, help patients negotiate the health care system and enrich a patient's health care experience.[8,9] Patients may be encouraged to call the student if they visit the emergency department, labour suite, radiology or have other health care appointments. Some LICs provide automated computer-generated alerts notifying students with a text or page when their patients have any contact with the health care system.

Preceptors must similarly orient students, define clear expectations and hold them accountable for following their patients across a variety of inpatient and outpatient settings throughout the LIC. Preceptors may notify students of clinic patients who are admitted to the hospital or who have upcoming scheduled contact within the health care system. Preceptors can ensure that students follow and connect with patients over time by reviewing their student's documentation of continuity experiences or narrative reflections, or by engaging in

LICs offer opportunities for the patient and student, because learning centers around the patient's experience over time

student-led discussions and presentations. The preceptor and clinic staff should also create organisational structures and schedules to support student–patient continuity. The preceptor or administrative leader may designate a staff member to be the 'student scheduler' who can prioritise the scheduling of appropriate patients for students on 'student days'. The clinic may also create 'wave' scheduling, in which the preceptor and student each see separate patients simultaneously, in parallel, for the first time slot, and then the following time slot is 'blocked off' for the preceptor and student to see the student's patient together.[10] Wave scheduling may enhance the workflow and foster the student's ability to see patients independently.[10]

CONNECTION: BUILD CONNECTIONS BETWEEN STUDENTS AND PATIENTS

Students thrive through connection to their clinic, the health care team, and their patients. Preceptors can make efforts to connect students with patients who are enthusiastic to interact with students, have complex medical or social needs, would benefit from student advocacy and support, and are likely to have substantial contact with the health care system throughout the year. Examples include patients with multiple medical conditions or medical–psychosocial interplay, a woman early in pregnancy, a patient with a new cancer diagnosis, or a child or adult with chronic or recurrent disease. To make the patient–student connection, preceptors ask patients if they seek to be involved and explain the model. If the patient agrees, the preceptor explains the student's participation and boundaries. After the preceptor defines the student's role, the student reiterates the expectations and explains how he or she can serve as the patient's advocate. If the patient consents to continue as a student's longitudinal patient, the student may give the patient a 'business card' with his or her contact information. As the year progresses and whenever needed, the preceptor and the student can both ensure the patient's continuing understanding of the expectations and the limits of the student's abilities and role.

Preceptors who distribute appropriate patients to students help to maximise the students' learning and clinical experience. Medical school curricular objectives require students to care for and learn from patients with a variety of diagnoses or conditions (sometimes referred to as 'patient encounter logs'); the preceptors and students together ensure that students care for particular patients in order to meet these curricular goals. Ideally, before the students arrive to learn in the clinic, preceptors should begin to compile a list of potential students' patients. When available, preceptors can use the medical record to identify students' patients and have office staff schedule these patients into student appointment slots. During the programme, preceptors might review the office schedule in advance to support student–patient continuity and to identify patients with conditions that the student has yet to experience.

Prior to students graduating from the LIC, preceptors work with students and patients to create closure. Students and patients may each have emotional feelings about the transition, and preceptors should provide time to ensure that students and patients share their feelings. These conversations may be among the most satisfying and meaningful experiences for students and patients alike. Preceptors can provide patients with opportunities to choose to pair with a new student. Some patients may opt to have some time without a student. We find that patients seek to return after 'time off', and that the patients' time off helps to build a pool of students' patients.

COMMUNICATION: CREATE COMMUNICATION STRATEGIES WITH STUDENTS AND STAFF

Preceptors should communicate with students between clinic sessions to enhance learning opportunities. If a student's patient returns to the office for evolving symptoms, the preceptor can make efforts to inform the student. In keeping with patient expectations and consent, preceptors may share patient data with students, including laboratory values, radiology results, consultation notes and other patient-related materials. Communication and follow-up help the student to learn how clinical decisions affect the patient and the course of the illness. Strategies include giving students access to the medical records (for electronic records, this can be through secure remote access), including records of patient calls, forms and results. Preceptors should follow appropriate patient safety and privacy guidelines to determine appropriate access for students to ensure the safe and proper use of any patient data. Reviewing patient progress and paperwork throughout the week provides teachable moments, particularly when paired with questions, discussion and relevant journal articles.

Preceptors should also create effective communication strategies with staff and patients to facilitate continuity for students. Preceptors can explain the model to office staff and foster the staff and students to work as teammates. When a patient is known to be a student's patient, staff may preferentially schedule the patient on student clinic days while first prioritising the patient's wishes. Preceptors and students may inform the office

schedulers of other available times in the student's weekly schedule (so called 'white space'); this unscheduled time can be used for students to attend the patient's specialist appointments or procedures. Even as patient needs are prioritised, preceptors can suggest that patients may 'schedule their next appointment in 2 months, on a Thursday morning, when your student is here'. When patients do seek to see their student at the next visit, preceptors can have students walk patients to the front desk to help arrange the follow-up appointment. Preceptors can enhance student learning, and the office practices that support care and learning, by defining and communicating clear plans for follow-up with students, staff and patients.

COACHING: GUIDE AND MENTOR, WITH HIGH STANDARDS EXPRESSED

Given the trust and connection that develop over time, LIC preceptors are well positioned to provide constructive, meaningful feedback to students.[11] Feedback should consist of a continuing dialogue between student and preceptor, and preceptors should create dedicated time to reflect on the overall continuity experience for the student, patient and clinical staff. Substantive feedback ranks as one of the most important qualities of a good clinic experience in the ambulatory setting.[4,12] Students report that feedback in longitudinal clerkships is authentic, and can be integrated into daily practice.[13] Preceptors should strive to provide formative feedback on a regular basis, and formal, summative feedback can also be scheduled to set accountability for learning goals.

In addition to the teaching role, preceptors might strive to serve as mentors. With the longitudinal design, LIC preceptors can form meaningful relationships with their students over time. Preceptors may choose to have a pre- or post-clinic meeting with the student that includes both educational communication ('How did this clinic go?') and more generally supportive inquiry (such as 'How was your week?'). The latter may serve as a way to enhance the student–preceptor relationship and may inform more specific teaching strategies. Such mentor–mentee relationships can facilitate openness in discussing student learning goals and learning needs. Additionally, providing students with insight into the work–life balance of a physician can allow preceptors to be coaches and role models while students grapple with career decisions. Preceptors must recognise the challenge and the institutional regulations around serving as both mentors and assessors, and carefully balance these roles throughout the LIC experience.

COMMITMENT: COMMIT TO ADVANCING THE STUDENT'S ROLE

Longitudinal integrated clerkships provide the opportunity for students to have increasing autonomy and responsibility as the year progresses.[14–16] At the beginning of the clerkship, and iteratively throughout, preceptors and students develop a learning plan and outline a trajectory of growth and improvement for the year. As knowledge and confidence grow, students should be given progressively more complex tasks suitable for their developing knowledge and skills.[3,10]

Students value when preceptors afford them responsibility for their patients and set high expectations for their care of patients.[9,14] As students gradually integrate into the clinic and health care team, they may be given meaningful roles and assigned responsibilities so that they can add value to the clinic.[9,15,16,] Once preceptors have established a trusting relationship with students, and appropriate training on documentation and patient privacy is completed, students can be asked to call patients with laboratory or radiology results. Preceptors, their offices and institutions should have policies and expectations in place regarding student documentation in patient records. These policies can be designed to allow students increasing responsibility for documenting directly in the patient chart as their skills develop. With proper oversight, students may come to serve as the first point of contact for patient questions about their care. Over the course of the year, students can be expected to regularly check on their patients' progress. LIC preceptors have the advantage of time to observe and cultivate students' clinical skills, and will expect them to gain independence and earn responsibility throughout the year.[11]

CARE: MODEL HUMANISTIC PATIENT CARE

Longitudinal integrated clerkships afford students opportunities for longer, more meaningful relationships with patients, and enable them to develop a greater awareness of the patient as a person.[9] Preceptors have the opportunity to model humanism in medicine: that is, empathetic, caring relationships with patients. These connections may result in LIC students having less erosion of empathy compared with students in traditional block rotations.[16] Even basic teaching moments can demonstrate and support caring. Preceptors can use bedside presentations as a tool to effectively model patient-centred care. The literature reports that bedside teaching in the ambulatory setting improves patients' visit satisfaction, and is preferred as an educational method by students and faculty members alike.[17] Students learn from observing

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their preceptors connect with patients, and preceptors observe the development of student–patient relationships and may influence student humanistic role development over the year. Alongside the other providers and staff in the office, the preceptors can advance students' 'caring to care' through compassionate comportment, role-modelling, educational choices and feedback.[18]

COMMUNITY: ENGAGE STUDENTS IN THE COMMUNITY

With the opportunities provided for relationships to develop over time, LIC students are fortunate to connect with an array of communities, and these communities can have an important impact on the students' learning and professional growth. Students on LICs may grow close to and be influenced by their community of student peers, their clinic, their institution, the greater health care community and the local community in which they work. Preceptors should prioritise and encourage community engagement throughout the clerkship.

Within the LIC, preceptors should invite students into the team-based model of health care and to partake in interprofessional collaboration.[3] Preceptors might consider inviting students to staff lunches, practice management meetings, holiday parties and other interdisciplinary events. Students should work closely with all members of the health care team, including, but not limited to, social workers, nurse practitioners, physician assistants, pharmacists, administrative staff and billing personnel. Some examples of interprofessional learning include the following: students working with pharmacists may learn to prevent drug–drug interactions; students working with social workers may learn about the connection of health and social services, such as housing, food or legal aid, and students may also learn some of the 'business of medicine', working alongside billing and finance staff. These experiences impart practical perspectives for students and instill an appreciation for the full 'community' of providers who care for patients.

Preceptors may also encourage students to understand and engage with the communities in which their patients live. Many medical school curricula support student involvement in community outreach programmes, home visits and quality improvement projects. Longitudinal integrated clerkships, with longer time in practice settings, are well positioned to facilitate these goals. These experiences benefit students learning and practising population health, and allow them to participate as valuable members of the health care community.[9,15] Whether it is running a community 5K race, volunteering alongside faculty members or staff at a soup kitchen or leading a health fair at a local school, community outreach drives important dialogue around the interplay of community resources and health outcomes. Community engagement and social accountability connect students to the core values of the profession and to the values that brought them into medicine in the first place.[3,9]

CONCLUSIONS

The LIC students' longitudinal relationships with preceptors and patients afford rich possibilities for teaching around continuity, connection, communication, coaching, commitment, care and community. The formative power of working together, closely, and over time, enhances opportunities for students to develop increasing patient care responsibilities. Students come to add value to the practice as they develop their skills and expertise.

Given the opportunities arising through relationships and time, LIC preceptors are creating strategies to capitalise on this model of clinical education in ways that fit well into the context of their practice. We suggest that just as teaching and learning should connect with the individual learner's needs, so should teaching and learning connect to – and even serve – the particular context of clinical delivery. Recognising that teaching is a commitment, we suggest that preceptors use these tools flexibly, in learner- and context-centred ways. As an educational community, we should continue to advance resources and toolkits through innovation, collaboration and communication to create the best learning environment for patients, students and preceptors.

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Preceptors have the opportunity to model humanism in medicine: that is, empathetic, caring relationships with patients

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