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# Longitudinal Integrated Clerkships: The Good, the Bad, and the Fixable

## DISCUSSION STARTER

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### ABSTRACT

Longitudinal Integrated Clerkships (LIC) have gained popularity as an alternative to traditional block rotations in health professions education. LICs are defined by three core characteristics: students participate in the comprehensive care of patients over time, build ongoing learning relationships with these patients' clinicians, and achieve the majority of their core clinical competencies across multiple disciplines simultaneously through these experiences. This model offers continuity in patient care and long-term mentor-student relationships, enhancing student engagement and clinical competence. Research shows that LIC students often outperform peers in assessments and demonstrate a stronger professional identity. However, the approach faces challenges, including supervision gaps, inequitable learning opportunities, and student disengagement from clinical duties in favour of self-directed learning. Assessments in LIC, such as mini-Clinical Evaluation Exercises (mini-CEX) and Objective Structured Clinical Examinations (OSCE), are effective but not without limitations. Mini-CEX may lack reliability in undergraduate settings, while OSCEs can feel inauthentic due to their fragmented structure. To bridge the gap between the intended and experienced curriculum, this article suggests four improvements: strengthening curriculum mapping, fostering community and continuity in practice, advocating for "assessment for learning," and conducting regular audits to ensure quality. Implementing these changes could ensure that LIC better supports students in achieving core competencies, preparing them for successful foundation years while promoting critical reflection and lifelong learning.



## INTRODUCTION

Longitudinal Integrated Clerkships (LIC) have gained traction internationally as an alternative pedagogical model in health professions education, challenging the traditional block rotations. (1) Advocates praise their ability to foster continuity and depth in clinical learning, equipping students with the competencies required for foundation training. (2) Yet, beneath these successes lie challenges: gaps between intended and experienced curricula, supervision inadequacies, and disparities in learning opportunities. (3) This analysis scrutinises the LIC model, weighing its benefits against its flaws, and proposes reforms to improve its alignment with professional goals and student expectations.

## THE CASE FOR LICS: BUILDING CONTINUITY AND COMPETENCE

LIC models aim to integrate medical students into clinical teams for extended periods, fostering ongoing relationships with clinicians and actively involving them in comprehensive patient care. This structure promotes authentic learning experiences where students translate theoretical knowledge into clinical practice. (3) One of the standout advantages of LIC is the long-term continuity it offers in clinical relationships, which enhances student engagement and deepens their understanding of patient care. Unlike block rotations, where students have limited time to adapt, prolonged exposure to LIC enables them to develop a stronger sense of professional identity and work more closely with mentors. (4)

Studies show that LIC students often outperform their peers in assessments, (5) display improved patient-centeredness, (6) and receive more meaningful feedback from clinicians due to the depth of their engagement. (7) For instance, resident doctors on the wards are frequently involved in teaching students core skills like patient history taking, physical examination, and procedural tasks. (6) Moreover, students have reported that small-scale, frequent feedback sessions and mock Objective Structured Clinical Examinations (OSCEs) are highly beneficial in preparing for assessments. The rich, formative feedback allows students to continuously refine their clinical skills, aligning with the philosophy of work-based learning. (8)

Logistically, LICs can streamline administrative processes by providing students with consistent access to hospital systems, such as smart cards and learning spaces, through embedding students in a single community or healthcare setting for an entire year. Additionally, this model reduces the need for frequent relocations or rotations through multiple locations, potentially lowering accommodation and travel costs for students for the duration of the placement. (8)

## SHORTCOMINGS IN LICS: DISPARITIES IN EXPERIENCE AND ENGAGEMENT

Increasing concerns have been raised regarding the lack of adequate supervision from clinicians, with many students not receiving sufficient guidance and supervision to achieve competencies and complete signoffs. (9) This gap could be attributed to clinical teachers' lack of familiarity with the curriculum and students' learning needs. Secondly, full-time clinicians' supervisors may struggle to find time out of their tight schedules for educational purposes. This is similar to the literature, where students found it challenging to learn from and build relationships with senior clinicians due to working patterns and work pressures. (10)

Additional learning opportunities based on first-come, first-served basis with limited availability can lead to learning inequality. Variable opportunities for mock OSCE sign-ups between hospitals could result in some students receiving multiple practice sessions while others get none. Additionally, paid online services, such as question banks, AI-assisted learning software, and mock practices, further propagate unfairness in opportunities. (11)

Students increasingly found limited value in clerkships for their learning, with routine clinical duties like ward rounds and MDT meetings not perceived as valuable for their assessment preparation. (12) Subsequently, clinicians have observed students' disengagement from the team and decreased attendance, particularly in the weeks leading up to final assessments. Consequently, students' avoidance of clinical learning in favour of the hidden curriculum, such as practising clinical skills with friends, self-study, or studying in the library. This aligns with the literature stating that adults are voluntary learners who tend to withdraw from unengaging learning experiences. (13) This represented a gap between the planned and experienced curriculum, highlighting the hidden curriculum's secrecy and known powerful effects. (14) Senior clinicians who teach 'above student level' and have unrealistic expectations of knowledge and skills, which stems from insufficient awareness of clinical teachers of the intended curriculum, could contribute to a disconnect between the intended and experienced curriculum on clerkships. (3)

## THE ASSESSMENT DILEMMA: BALANCING VALIDITY WITH AUTHENTICITY

Assessment is crucial for evaluating learners' progress and providing feedback to enhance learning. In LIC, assessment methods are varied and aim to comprehensively measure medical competence and performance. These methods include progress tests, Single Best Answer (SBA) questions, OSCEs, and work-based assessments (WBA), such as mini-clinical

evaluation exercises (mini-CEX). The outcomes may also be assessed in national assessments such as the Prescribing Safety Assessment (PSA) and the UK Medical Licensing Assessment (MLA). Good assessment design requires a combination of approaches to ensure validity, reliability, and authenticity, aligning with the broader curriculum's learning objectives. (15) These assessments complement LIC's emphasis on integrating knowledge with clinical practice.

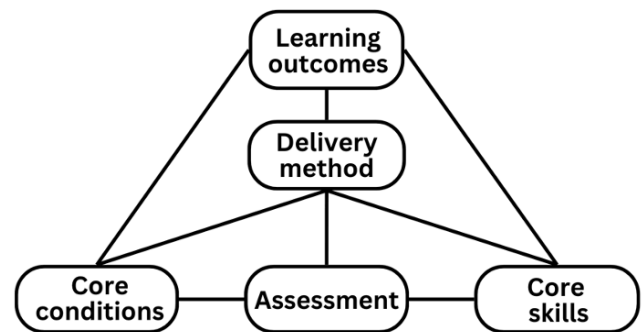
Progress tests, administered longitudinally, evaluate knowledge retention and application across the curriculum. They provide insights into students' growth over time and encourage continuous learning rather than cramming. The mini-CEX, for example, addresses the limitations of traditional CEX. Students are observed during focused interactions (e.g., history-taking or physical examination) for approximately 20 minutes. Its longitudinal design allows multiple observations across diverse scenarios, patients, and settings, enhancing generalisability and reliability. (16) However, its use in undergraduate education poses challenges. Validity requires aggregation of scores from at least 15 encounters within a placement, which may not be feasible. (17) Limited opportunities for completion can reduce its perceived value, with some students viewing it as a 'tick-box' exercise, undermining its educational impact. (18)

In an OSCE, students' performance is evaluated through standardised checklists during timed interactions in simulated clinical stations. (19) OSCE effectively assesses clinical, communication, and empathy skills, earning acceptance among stakeholders. (20) Rigorous examiner training to mitigate the hawk-dove problem, competent simulated patient selection to ensure consistency in performance, and thorough quality assurance of stations are among the measures used to ensure reliability and validity in an OSCE. (21) However, the format has limitations. It focuses on students' ability to 'show how' rather than evaluate diagnostic reasoning. (22) This can lead to students prioritising checklist completion over holistic patient care, reducing authenticity. (23) The pressured environment, fragmented tasks, and variability between circuits further detract from its effectiveness. (24) Students often describe OSCE as 'an act in the theatre,' citing stress, role-play inconsistencies, and limited time as barriers to demonstrating true competence. (25)

#### CHARTING A PATH FORWARD: FOUR RECOMMENDATIONS FOR REFORM

To address the challenges identified in the LIC model, four key suggestions are proposed: strengthening the curriculum map, fostering connectivity and continuity, advocating for 'assessment for learning,' and conducting regular audits and research. These recommendations aim to improve the alignment between intended learning outcomes and students' actual experiences.

#### STRENGTHENING THE CURRICULUM MAP



**Figure 1** shows the key areas of a curriculum map. (adapted from Harden, R.M., 2001. Curriculum mapping: A tool for transparent and authentic teaching and learning. AMEE Guide No. 21. Med Tech, 23(2), pp.125.)

A curriculum map enlightens the stakeholders about the curriculum elements (see Figure 1). The stronger the link between the elements, the greater the benefit the map holds. A well-constructed map encourages: 1. teachers to identify their role in the course; 2. students to take more responsibility in their learning; 3. staff to critically appraise the curriculum according to the planned-delivered-experience model. (26) Making clear the delivery method could enhance collaboration between educators, reduce duplication or omission, and improve implementation, evaluation, and communication of the curriculum. (27) Moreover, making the assessment task clear encourages an integrated approach to the teaching, learning, and assessment process (28) and prompts students to target their learning approach to enhance preparedness. (29)

According to the ten steps in curriculum planning, (30) communication with stakeholders is often neglected. Raising awareness about the curriculum could help ensure staff are aware of student's learning needs and tailor teaching to enable them to meet those needs. Furthermore, regularly collecting students' feedback and being sensitive to the actual 'experienced' curriculum in the clinical learning environment could help bridge the gap between the planned and delivered curriculum. (31) Future studies could consider in-depth conversations with the students and clinical staff on how learning opportunities could be made more available, with consideration of systemic organisational factors.

#### FOSTERING CONNECTIVITY AND COMMUNITIES OF PRACTICE

Connectivity greatly enhances students' proactive engagement, collaboration, and learning within LICs. (32) Clinician educators are responsible for connecting with students through regular interprofessional interactions, establishing mentor-mentee relationships, and enhancing social interactions with other



colleagues. (33) This could enhance students' agentic engagement and thus increase their participation and attendance on placements. (34) Although time commitments could pose a significant barrier, educators prioritising building mutually beneficial relationships could benefit from improving workload division and resolving tensions between educational and clinical duties, achieving 'symbiosis'. (35)

Continuity and communities of practice, like connectivity, should serve as foundational principles of LICs. (36) Sustained relationships with patients, clinical supervisors, medical schools, peer groups, and the broader care context foster effective learning environments. By contributing to patient care alongside experienced professionals within the community, students cultivate a sense of purpose, professional identity, and belonging. (37, 38) As co-providers of healthcare, students can leverage their longitudinal learning relationships with clinicians to take initiative and maximise learning opportunities. For an LIC to thrive and remain sustainable, fostering connections among all stakeholders is essential. These connections promote functional and enduring social learning systems, or communities of practice, enabling students to deeply integrate into healthcare teams. (39) Through continuity in these relationships, students can experience progressive independence, leading to improved academic performance and placement satisfaction.

A good way of building a community is by leveraging the role of clinical teaching fellows (CTFs). CTFs are highly praised for developing a long-term professional learning relationship with learners. (40) CTFs with dedicated teaching time could collate students' suggestions on needs to provide scheduled bedside and small group teaching on topics and organise workshops. This could increase students' self-advocacy and encourage students' engagement with clinical learning.

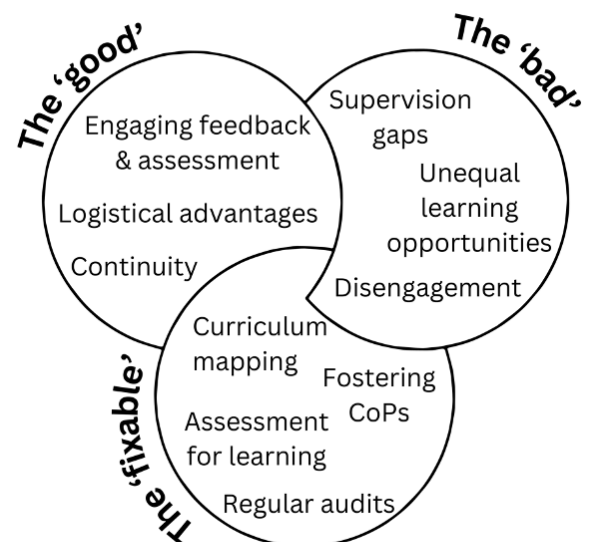
## PROMOTING ASSESSMENT FOR LEARNING

The advent of the UKMLA for high-stakes decision-making as a positivist assessment system may bring adverse driving effects of the 'assessment of learning' approach. (41) To negate that, elements of programmatic assessment should be introduced to encourage a more 'assessment for learning' approach. In the programmatic ideology, a constructivist-interpretivist approach is taken, and learner-centredness is promoted through information-rich feedback gathered from multiple data points, which should 'tell a story about the learner'. (42) An E-portfolio could be intuitively designed to act as a repository for students' clinical performance (i.e. multi-source feedback, informal verbal feedback, reflective reports on placements) and academic performance (i.e. OSCE feedback). Artificial intelligence could then be utilised to help students automatically collate the evidence, link them to outcomes, and identify gaps and

areas for improvement. (43) The aggregation of broad data from multiple sources could help ensure trustworthy decision-making regarding progression. Secondly, an academic staff member who acts as a mentor should be allocated to build an entrusted relationship with students. The role of a mentor could facilitate learning continuity, development of personalised development plans, and provision of high-quality, rich feedback for the learner, (42) consistent with the principles of programmatic assessments.

## CONDUCTING REGULAR AUDITS AND RESEARCH

Regular audits, quality improvements, and research on clerkships should be held with involvement from all stakeholders (i.e., students, clinician educators, and hospital placement providers) to gain a deeper understanding of the realities of on-site clinical education. Questions that need to be answered to improve the quality of clinical education include: 1. Are students meeting their learning needs on placements? 2. Are students actively engaging with clinical duties on placement? 3. Are senior clinicians providing satisfactory supervision of the students? In the face of high clinical workloads, a lack of protected teaching time, and limited resources, it is crucial that problems are identified early and addressed promptly to ensure close alignment between planned, delivered, and experienced curricula. (44) Evidence could then be synthesised, and evaluation reports are written to provide feedback for all stakeholders to ensure satisfactory assessments on placements.



**Figure 2** is a visual summary of the strengths ('The Good'), challenges ('The Bad'), and actionable improvements ('The Fixable') in Longitudinal Integrated Clerkships (LICs).

## CONCLUSION

The curriculum for LICs demonstrates substantial strengths in integrating students into clinical teams and fostering continuous learning relationships. However, challenges such as supervision gaps, student disengagement, curricular uncertainty, and learning inequalities must be addressed to maximise the curriculum's effectiveness. Addressing these issues requires a commitment to reform. Strengthening the curriculum map to provide clear guidance on teaching and assessment methods, fostering connectivity and continuity within communities of practice, enhancing the authenticity and alignment of assessments with real-life clinical experiences, and prioritising audits and research LICs can fulfil their promise of supporting students in achieving core competencies and thriving as competent and compassionate foundation doctors.



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