Longitudinal Integrated Clerkships: Do they provide advantages in times of disruption?

Simon Field[1], Robert Boulay[1]

**Corresponding author:** Dr Simon Field simonfield@dal.ca

**Institution:** 1. Dalhousie University, Halifax, Nova Scotia, Canada

**Categories:** Students/Trainees, Teachers/Trainers (including Faculty Development), Teaching and Learning, Curriculum Evaluation/Quality Assurance/Accreditation, Undergraduate/Graduate

Received: 18/10/2020
Published: 10/02/2021

**Abstract**

Longitudinal Integrated Clerkships (LICs) have been shown to be effective educational models for teaching clinical medicine. Our institution has utilized this as an optional model for a proportion of our clerkship class since 2013. The recent COVID-19 pandemic created significant disruption to medical education globally; we postulate that students in an LIC were better prepared for interruption of their clerkship and, more importantly, for reintegration to clinical environments.

**Keywords:** Longitudinal Clerkships; Disruption; COVID-19 Pandemic

Longitudinal integrated clerkships (LICs) are clinical training programs that occur during medical school, and have increased in popularity over the past decade (Norris et al., 2009). They differ from traditional clerkships in that they involve immersive experiences, typically in non-tertiary environments, wherein students are paired with primary preceptors and achieve their clerkship objectives by following a variety of patients through their health care experiences. In traditional clerkships, students typically rotate through various specialties for defined lengths of time and are expected to fulfill their objectives in a more specialty-focused manner. Our institution has a 7-year history of an optional LIC, which has grown to currently accommodating a total of 22 out of an overall class of 108 students for a 48-week clinical clerkship experience. Previous studies have shown the efficacy of LICs in producing well-rounded physicians who are competitive in applying for postgraduate training and commonly return to practice in similar communities to those they were trained in (Worley et al., 2008).

March of 2020 brought new challenges to teaching medical students in the form of a global pandemic caused by a coronavirus, COVID-19, which had begun its worldwide trajectory in the fall of 2019 (Zhu et al., 2020). The uncertainty of this new virus, its apparent virulence and lethality, and its apparent ease of transmission created serious concerns around student safety. This, coupled with looming international shortages of adequate personal
protective equipment (PPE), led all US and Canadian medical schools to eventually suspend clinical teaching. Dalhousie University Faculty of Medicine suspended clinical activities for all 3rd year students on March 18th, and eventually resumed clinical activities on June 8th. This 12-week hiatus led to serious discussions about the adequacy of clinical training and what the remainder of the clerkship year would look like for this cohort of students.

A few things became very clear to us as we looked at our current third year students – issues that had already been identified in other LICs (Ogur and Hirsh, 2009). Firstly, we were less concerned about shortening the clerkship cycle for students at LIC sites; they had established relationships with faculty and patients at these sites and we felt that they would be able to reintegrate more smoothly. Secondly, we knew that since the inception of our LIC students at these sites seemed able to meet their objectives via completion of mandatory clinical experiences and procedure logs earlier than their traditional clerkship peers, owing to the depth and breadth of clinical experiences to which they were exposed.

Clerks in traditional rotations had a steeper uphill climb envisaged for their return. They were going to return to shortened discipline-specific rotations, in which they would have to rapidly develop relationships with faculty and patients and try to complete their existing clinical objectives. The other major concern we had related to the clinical teaching environment to which clerks would be returning after their COVID-19 related hiatus (Miller et al., 2020). How much of their clinical experience would now be virtual, as many preceptors have completely or partially changed their practice styles? How many clinical experiences would be altered or curtailed owing to real or perceived shortages of appropriate PPE – many services had scaled back or canceled services? How would faculty who had been affected by disruptions in their practice respond to the students upon their return?

Our students have now been back to clerkship activities for over 2 months. Despite our initial concerns, their return has been surprisingly smooth and our local health authorities and clinical faculty have welcomed them back as members of the patient care team. Students seem cautiously optimistic as they look towards graduating and starting residency training, despite many changes in their training – for example, all written exams being delivered remotely; electives only being available at their home institutions; and the prospect of all postgraduate interviews being conducted virtually. Anecdotally, students in LIC sites seem to have resumed where they left off in March, reconnecting with faculty and patients that they were already familiar with, and re-establishing their clinical knowledge in familiar settings.

So, it would seem that we are out of the woods…. or are we?

Looking at the experience of health care systems in the other geographical locations, it would seem that a "second wave" or surge is all but inevitable. We remain committed to keeping students in clinical environments if and when this occurs, but we are prompted to ask some hard questions of our clinical education models: for example, do traditional block rotations offer the flexibility to allow for adequate clinical education through an interruption in regular care? How can medical education adapt flexibly to massive disruptions in the provision of care, teaching and learning? Are we ultimately doing our learners a disservice by offering them a siloed approach to clinical education - one that is focused on specialty-based training, rather than one that is patient-centred and more holistic in its approach? (Miller et al., 2020). There is no question that a discipline-specific approach is necessary in residency; have we allowed this to creep too far into our undergraduate curricula, and has this led us away from a generalist approach to training?

It would, simply put, be a shame to waste the opportunities that this current pandemic have afforded us to question our current system of medical education. COVID-19 isn't our first global health crisis, and it is unlikely to be our last. We owe it to our patients to ensure that we are training resilient and flexible physicians who will be ready to
face all their current and future challenges. Longitudinal integrated clerkships may be the correct solution to that problem.

**Take Home Messages**

- The COVID-19 Pandemic has led to major disruptions in medical education.
- Longitudinal Integrated Clerkships (LICs) seem to have a natural advantage over traditional clerkships in times of upheaval.
- Longitudinal clerkships may offer solutions to future episodes of local or global disruptions in educating medical professionals.

**Notes On Contributors**

Simon Field MD M.Ed is Assistant Dean for Clerkship and an Associate Professor in Emergency Medicine at Dalhousie University in Halifax, NS Canada.

Robert Boulay MD CCFP is Assistant Dean for Clinical Education for Dalhousie Medicine New Brunswick and a family physician in Miramichi, NB Canada.

**Acknowledgements**

None.

**Bibliography/References**

Miller, B. M., Moore, D. E., Stead, W. W. and Balser, J. R. (2010) ‘Beyond Flexner: a new model for continuous learning in the health professions’, *Acad Med*, 85(2), pp. 266–272. [https://doi.org/10.1097/acm.0b013e3181c859fb](https://doi.org/10.1097/acm.0b013e3181c859fb)

Miller, D. G., Pierson, L. and Doernberg, S. (2020) ‘The Role of Medical Students During the COVID-19 Pandemic’, *Ann Intern Med*, 173(2), pp. 145–146. [https://doi.org/10.7326/M20-1281](https://doi.org/10.7326/M20-1281)

Norris, T. E., Schaad, D. C., DeWitt, D., Ogur, B., et al. (2009) ‘Longitudinal integrated clerkships for medical students: An innovation adopted by medical schools in Australia, Canada, South Africa, and the United States’, *Acad Med*, 84, pp. 902–907. [https://doi.org/10.1097/acm.0b013e3181a85776](https://doi.org/10.1097/acm.0b013e3181a85776)

Ogur, B. and Hirsh, D. (2009) ‘Learning through longitudinal patient care - Narratives from the Harvard Medical School–Cambridge integrated clerkship’, *Acad Med*, 84, pp. 844–850. [https://doi.org/10.1097/acm.0b013e3181a85793](https://doi.org/10.1097/acm.0b013e3181a85793)

Worley, P., Martin, A., Prideaux, D., Woodman, R., et al. (2008) ‘Vocational career paths of graduate entry medical students at Flinders University: A comparison of rural, remote and tertiary tracks’, *Med J Aust*, 188, pp. 177–178. [https://doi.org/10.5694/j.1326-5377.2008.tb01567.x](https://doi.org/10.5694/j.1326-5377.2008.tb01567.x)

Zhu, N., Zhang, D., Wang, W., Li, X., et al. (2019) ‘A novel coronavirus from patients with pneumonia in China’, *N Engl J Med*, 382, pp. 727–733. [https://doi.org/DOI: 10.1056/NEJMoa2001017](https://doi.org/DOI: 10.1056/NEJMoa2001017)
Appendices

None.

Declarations

The author has declared that there are no conflicts of interest.

This has been published under Creative Commons "CC BY 4.0" (https://creativecommons.org/licenses/by-sa/4.0/)

Ethics Statement

This article does not require ethics approval as no patient or other data were utilized.

External Funding

This article has not had any External Funding

MedEdPublish: rapid, post-publication, peer-reviewed articles on healthcare professions’ education. For more information please visit www.mededpublish.org or contact mededpublish@dundee.ac.uk.