Curriculum Inventory in Context
September 2014 Volume 1, Issue 2

Commentary on Curriculum Inventory Chart on Longitudinal Integrated Clerkships in U.S. Medical Schools

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“What? Your third-year medical students don’t do any block clerkships?” This is the question asked of schools like ours that have replaced our block clerkships with longitudinal integrated clerkships. A longitudinal integrated clerkship is where students: (1) participate in the comprehensive care of patients over time; (2) develop continuous learning relationships with faculty; and (3) accomplish core clinical clerkships across multiple disciplines simultaneously\(^1\) (Norris et al., 2009).

Longitudinal integrated clerkships (LIC) as a clerkship format have been in use at medical schools for over twenty years and were originally designed to meet the needs of smaller campuses and rural settings. Medical schools in Australia, Canada and the United Kingdom were the early adopters, but as of August 2014, twelve medical schools in the United States reported having an LIC for all students for all or part of the year, and 25 schools reported having an LIC for some students for all or part of the year\(^2\).

\(^1\) Consensus LIC definition, International Consortium of Longitudinal Integrated Clerkships, Cambridge, MA, 2007. (Also see Norris et al., 2009)

\(^2\) 2013-2014 LCME Part II Annual Medical School Questionnaire (survey of 140 schools with enrolled students)
### Comparison of Clerkship Formats

<table>
<thead>
<tr>
<th>Traditional sequential blocks</th>
<th>Internal medicine</th>
<th>Surgery</th>
<th>Family Medicine</th>
<th>OB/Gyn</th>
<th>Psych/Neuro</th>
<th>Peds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blocks with longitudinal ambulatory</td>
<td>Internal medicine</td>
<td>Surgery</td>
<td>Family Medicine</td>
<td>OB/Gyn</td>
<td>Psych/Neuro</td>
<td>Peds</td>
</tr>
<tr>
<td>Longitudinal integrated</td>
<td>Internal medicine</td>
<td>Surgery</td>
<td>Family medicine</td>
<td>OB/Gyn</td>
<td>Psych/Neuro</td>
<td>Peds</td>
</tr>
</tbody>
</table>

In **traditional sequential blocks**, students complete each discipline in 4-8 weeks before proceeding to the next. Schools add **longitudinal ambulatory** elements to blocks to introduce continuity. In the **longitudinal integrated clerkship**, students learn in multiple disciplines simultaneously, maintaining longer relationships with patients and faculty.

### Sample Student Schedule

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital Rounds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AM</strong></td>
<td>Internal Medicine Clinic</td>
<td>Surgery Clinic or O.R.</td>
<td>Patient Panel and Self-Directed Learning</td>
<td>Psychiatry or Neurology Clinic</td>
<td>Patient Panel and Self-Directed Learning</td>
<td></td>
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<tr>
<td><strong>Noon Sessions</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Small Group Case</td>
<td>Small Group Case follow-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PM</strong></td>
<td>Patient Panel and Self-Directed Learning</td>
<td>Family Medicine Clinic</td>
<td>OB/Gyn Clinic or O.R.</td>
<td>Peds Clinic</td>
<td>Didactics &amp; Simulation</td>
<td></td>
</tr>
<tr>
<td><strong>Evening</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>periodic emergency room or on call responsibilities</td>
</tr>
</tbody>
</table>
Evidence for comparable or improved cognitive and clinical student performance is leading more schools to consider implementing the LIC at large as well as small campuses. Research indicates students in longitudinal integrated clerkships compared to peers in block clerkships:

- Provide more direct patient care toward the end of clerkship training (O’Brien et al., 2012)
- Maintain patient-centered attitudes to a greater extent (Hirsh et al., 2012)
- Report higher self-ratings of readiness for practice (Hirsh et al., 2012)
- Are more satisfied with teaching and feedback (Bell et al., 2008)
- Display greater retention of knowledge (Hansen & Simanton, 2008)
- Perform equally well on USMLE Step 2 CK (Tehrani, Irby, & Loeser, 2013)
- Enjoy greater relationship formation with faculty (Hauer et al., 2012)

Converting from block clerkships to longitudinal integrated clerkships involves significant curriculum design, overcoming change angst in students and faculty, and substantial faculty development. The educational outcomes suggest it may be worth making the move.

The University of South Dakota Sanford School of Medicine implemented one of the earliest longitudinal integrated clerkship programs at its Yankton campus in 1991. In 2013, the school implemented LICs on all clinical campuses.

About the Author

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The opinions expressed by the author do not necessarily reflect the opinions of the AAMC or its members.

References


Hauer, K., et al. (2012). More is better: Student describe successful and unsuccessful experiences with teachers differently in brief and longitudinal relationships. Academic Medicine, 87, 1389-96.


