Longitudinal Integrated Clerkships: Challenges of expanding to all campuses and all students

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Objectives

Following this session, participants will be better able to:

1. Identify the Longitudinal Integrated Clerkship (LIC) model,
2. Describe the evidence about advantages of the LIC as compared to block clerkships,
3. Anticipate potential challenges to implementation of a multi-campus LIC, and
4. Identify strategies to address these challenges.
Longitudinal Integrated Clerkship (LIC)

- Students participate in comprehensive care of patients over time
- develop continuous relationships with faculty
- Curriculum addresses core clinical competencies across multiple disciplines simultaneously
Clerkship Models

- Traditional Block
- Longitudinal Ambulatory Track
- Hybrid Block & LIC
- Longitudinal Integrated
## Example LIC Schedule

### Week 1

| Time          | Monday                                                                 | Tuesday                                            | Wednesday                                             | Thursday                                               | Friday                                                 | Saturday                                               | Sunday       |
|---------------|------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| 7:00-8:30     | Hospital Rounds                                                        | if surgical, medical, or pediatric patient on panel in the hospital | optional                                              |                                                        |                                                        |                                                        |             |
| 8:30-12:00    | AM Clinic                                                              | IM Clinic                                          | Surgery OR                                            | Patient Panel and Self-Directed Learning*             | Psychiatry Clinic (three per month)                    | Patient Panel and Self-Directed Learning*             |             |
| 12:00-1:30    | Noon Sessions                                                          | Small Group Case                                   | Small Group Case                                      | Small Group Case                                       |                                                        |                                                        |             |
| 1:30-5:00     | PM Clinic                                                              | Patient Panel and Self-Directed Learning*          | Family Medicine Clinic                                | OB/Gyn Clinic                                          | Patient Panel and Self-Directed Learning*             | FLIC Didactics                                         |             |
|               | Post 6:00                                                              |                                                    |                                                       |                                                       |                                                        |                                                        |             |
|               |                                                                        |                                                    |                                                       |                                                       |                                                        |                                                        |             |

*periodic call sessions TBD*

### Week 2

| Time          | Monday                                                                 | Tuesday                                            | Wednesday                                             | Thursday                                               | Friday                                                 | Saturday                                               | Sunday       |
|---------------|------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| 7:00-8:30     | Hospital Rounds                                                        | if surgical, medical, or pediatric patient on student panel in the hospital | optional                                              |                                                        |                                                        |                                                        |             |
| 8:30-12:00    | AM Clinic                                                              | IM Clinic                                          | OB/Gyn OR                                             | Patient Panel and Self-Directed Learning*             | Neurology Clinic (one per month)                      | Patient Panel and Self-Directed Learning*             |             |
| 12:00-1:30    | Noon Sessions                                                          | Small Group Case                                   | Small Group Case                                      | Small Group Case                                       |                                                        |                                                        |             |
| 1:30-5:00     | PM Clinic                                                              | Patient Panel and Self-Directed Learning*          | Family Medicine Clinic                                | Surgery Clinic                                         | Ped's Clinic (three per month)                        | FLIC Didactics                                         |             |
|               | Post 6:00                                                              |                                                    |                                                       |                                                       |                                                        |                                                        |             |

*periodic call sessions TBD*
Administration

Central administration
• LIC director (assistant dean)
• Office of medical education

Clerkship directors
  – department assistants

Distributed administration
• Campus deans (chair coordinating committees)
• Coordinating committees
• Education coordinators
Role of Coordinating Committees

Monthly review - Every student discussed every month
- Student-Patient experience/procedure logs
- Independent learning activities: online cases, H&Ps, etc.
- Feedback from attendings (3 times a year)
- Test scores (when available)
- Monthly feedback from mentor on the committee

Formative (mid-year) & summative grading
- Exact scores are calculated for each course at mid-year (formative) and end of year (summative)
Assessment:
Credits by disciplines and competencies

25 credits divided among:
• Family medicine
• Internal medicine
• Neurology
• OB/Gyn
• Pediatrics
• Psychiatry
• Surgery

23 credits divided among:
• Medical knowledge
• Patient care
• Interpersonal & communication skills
• Practice-based learning & improvement
• Professionalism
• Systems-based practice
Assessment: Grading Formula Examples

**Discipline Example:**

- **Internal medicine**
  - 50% Subject exam
  - 30% Attending eval
  - 20% H&Ps, online cases

All discipline grades use the same components and weightings.
Assessment: Grading Formula Examples

Competency Example:
Interpersonal & communication skills
- 50% attending evaluations (Communication items from all disciplines)
- 30% OSCE (communication sub-score)
- 20% small group facilitator evaluation

Grading components and weightings vary by competency.
Show me some evidence!
Medical Knowledge

• Equivalent knowledge\textsuperscript{1,2} and clinical skills on standardized testing\textsuperscript{3,4,5}

• Step 1 to Step 2 scores increase (LIC students >5 points lower Step 1, slightly higher on Step 2)\textsuperscript{6}

• OSCE – equivalent knowledge\textsuperscript{7}

Medical Knowledge

- Trend higher on USMLE Step 2 CK but not statistically significant\(^7\)
- Improved knowledge retention beyond the third year\(^8\)
- Residency directors rated RICC stronger overall performance compared to RBC\(^9\)


\(^8\)Hansen L., Simanton E. Long-term retention of information across the undergraduate medical school curriculum. SD Med 2012 Jul; 65(7): 261-263

Patient Care/Clinical Skills

- Patient continuity provides a “doctor-like role”¹⁰¹¹
- Improved patient-centered attitudes⁷¹²¹³
- More meaningful patient interactions¹⁴
- No difference in surgery skills - OSATS¹⁵

Patient Care/Clinical Skills

- LIC students better understand patient’s experience$^{16}$
- LIC students learn diagnostic reasoning faster$^{17}$
- LIC students describe their role as caregiver; BC students as team player and performer$^{18}$

Practiced-based Learning and Improvement

- Facilitates professional identity formation²⁹¹⁰
- LIC students spent significantly more time performing direct patient care activities alone at the end of the year¹⁴

Communication

• Positive patient evaluations\(^{20,21}\)

• Better developed clinical communication skills\(^{3,16,22}\)

• OSCE – Improved data gathering\(^{7}\)


Professionalism

• Increased student satisfaction and perceived value of feedback\(^7\)

• Less burnout and improved empathy \(^{23,24}\)


\(^{24}\)Hansen L, Simanton E. Program Evaluation and the Hidden Curriculum, USD; Poster Presentation, 2011
Professionalism

• Scholarly activity – Graduates of the LIC attained awards and published papers at the same rate as peers and were more likely to engage in health advocacy work\textsuperscript{12}
• LIC students gain confidence to influence their own learning and modify circumstances to meet learning needs\textsuperscript{25}
• Improved recognition and respect for health professional roles\textsuperscript{26} and interprofessional teams\textsuperscript{27}

\textsuperscript{25} Hauer, et al. More is better: Students describe successful and unsuccessful experiences with teachers differently in brief and longitudinal relationships. Acad Med 2012; 87:1389-1396
\textsuperscript{26} Zink T., et al. Learning professionalism during the third year of medical school in a 9-month-clinical rotation in rural Minnesota. Med Teach 2009; 31: 1001-6
Systems-Based Practice

• Workforce – LIC grads more likely to enter primary care residency and rural practice²⁸,²⁹,³⁰,³¹

• LIC students make career specialty decision earlier³²

³⁰Zink T., et al. Efforts to graduate more primary care physicians who will practice in rural areas: examining outcomes from the university of Minnesota-Duluth and the rural physician associate program. Acad Med 2010; Apr 85(4);599-604.
³²Lindemann J., Hansen L., Simanton E. When do students make their career specialty decision and does clerkship format matter?, CGEA poster presentation, 2014.
Systems-Based Practice

• LIC students of value to health care team, understand the patient experience, contribute to care and facilitate transition\textsuperscript{33,34}

• Progressively increasing patient responsibility\textsuperscript{7,33,35}

• Improve the perceived quality of patient care\textsuperscript{33}

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Political Implications

Challenge

– Departments may sense a loss of control over “their” curriculum

Strategies

1. Seek department input
2. Without compromising outcomes, allow flexibility
3. Find key champions
4. Acknowledge loss

Structural Implications

Challenge

– Logistical complexity

Strategies

1. Faculty and staff development
2. Get department chairs working with you; others will follow
3. Consistently address concerns and incorporate new ideas (Best practices LIC)
4. Model after successful programs
Human Resource Implications

Challenge

- Concern about job security and new roles

Strategies

1. Meet regularly with all players, (from admin assistants to department chairs)
2. Reassure as appropriate
3. Retrain
Symbolic Implications

Challenge
- “This is not how I trained.”

Strategies
1. Review changes in med ed and research behind it
2. Emphasize continuity of patient relationships, faculty relationships, curriculum
3. Focus on the future while acknowledging the past
Summary

1. Longitudinal Integrated Clerkships emphasize continuity of patients, faculty, curriculum.
2. Evidence demonstrates comparability and advantages of LIC as compared to blocks.
3. Anticipate challenges to implementation that are more about change angst than pedagogical theory.