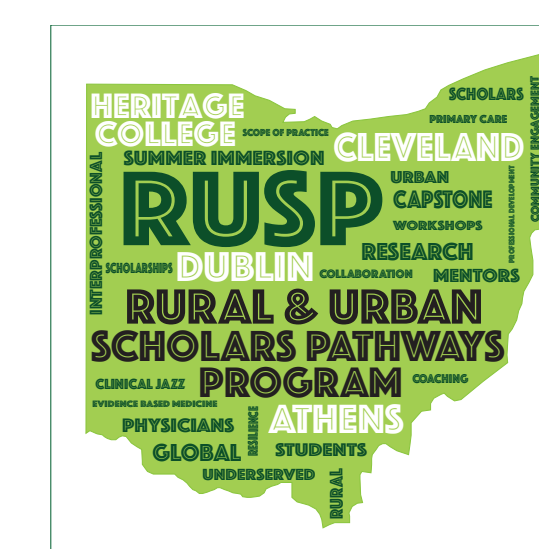


# Continuity in Primary Care: A Mini Longitudinal Integrated Clerkship Elective

Jacob Taber OMS IV, Monēt McCalla OMS II, Scott Anzalone MD, Sharon Casapulla EdD, MPH, Ohio University  
Office of Rural and Underserved Programs at Heritage College of Osteopathic Medicine



## Introduction

Longitudinal Integrated Clerkships (LIC) are a new approach to medical education that assist medical students in creating their careers and have been gaining traction around the country. <sup>(2)</sup>

Fundamental qualities of the LIC include having long term relationships with patients and a medical preceptor, participation in comprehensive patient care over time, and frequently being in primary care and/or rural environments. <sup>(1)</sup>

The long-term practice continuity has been shown to help medical students be recognized as a legitimate member of the clinical team and facilitate them becoming more “active learners”. <sup>(3)</sup> It also has been shown to increase medical student satisfaction as well as interest in primary care practice <sup>(3)</sup>.

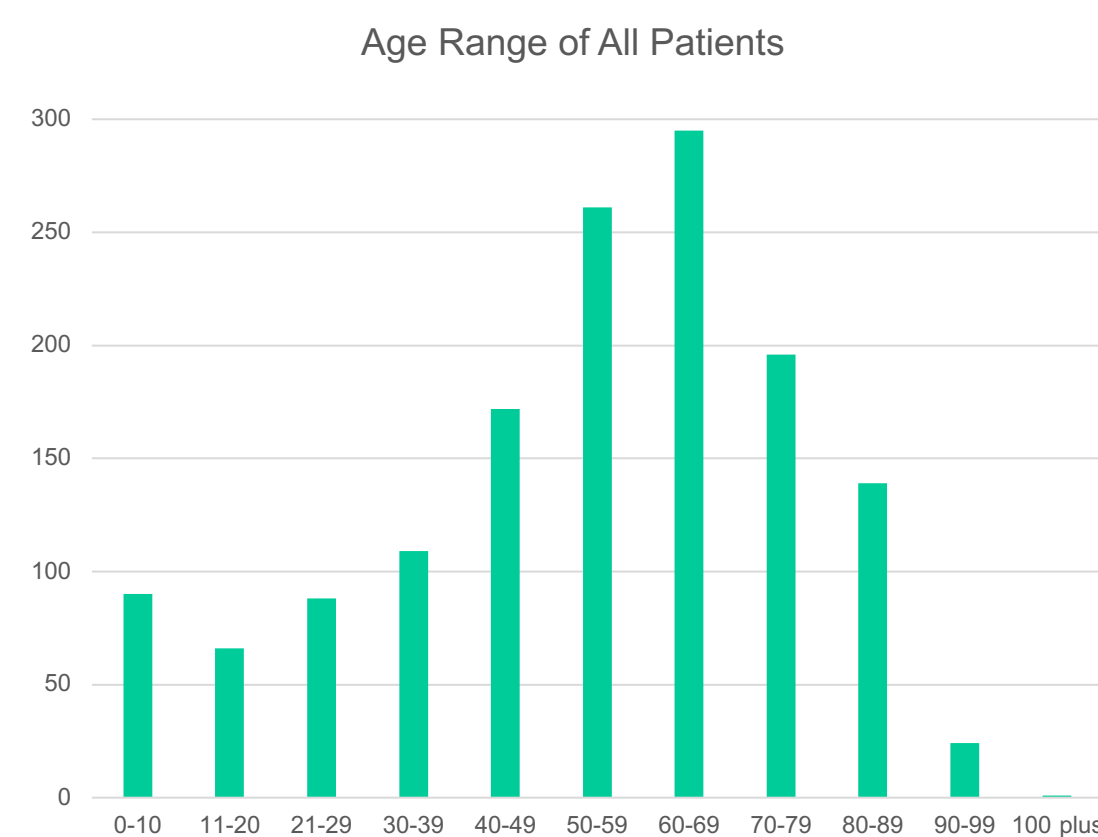
The established model of medical education with structured “block” clerkships has weakness such as requiring students to expend efforts acclimating to the culture of each new clerkship which can interfere in efforts to learn, and limits exposure to the care of long-term treatment of chronic diseases.<sup>(3)</sup>

The Continuity in Primary Care elective at OU- HCOM is a mini-LIC that seeks to combine block clerkships and the longitudinal clerkship in order to take advantage of both forms of learning- intense immersion in a single subject as well as long term practice continuity. We analyzed data from the students in the mini-LIC at OU-HCOM to explore breadth and depth of the student experience.

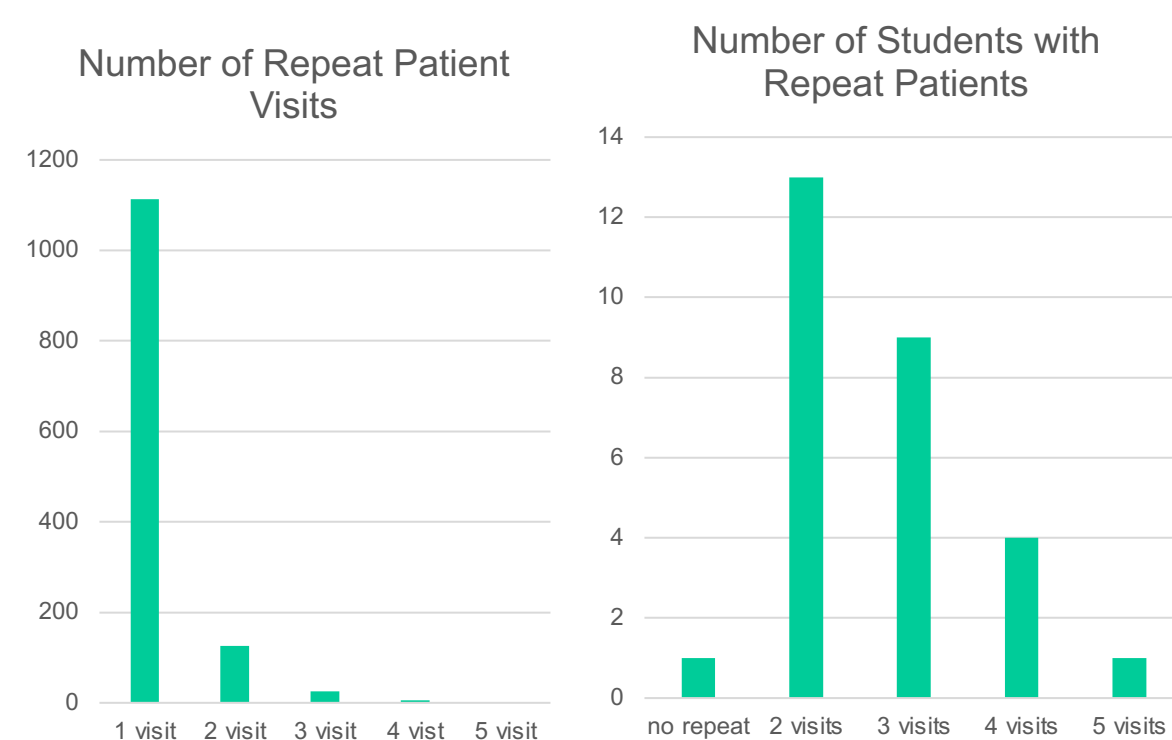
## Description of Mini-LIC at HCOM

- 13 third-year medical students completed their required four-week family medicine rotation as their first third-year clinical rotation.
- The medical students then worked with the same primary care office either one half day every week or one whole day every 2 weeks, for the rest of their third year of medical school.
- The students developed a continuity practice of 20-75 patients, representing all age groups and a wide scope of pathologies, whom they were asked to follow over an 8-month period with preceptor supervision.
- The students also:
  - performed an office improvement project
  - performed a community outreach project
  - documented all procedural tasks learned in the clinic.
- The Office of Rural and Underserved Programs at the Heritage College of Osteopathic Medicine coordinates the program.

## Results



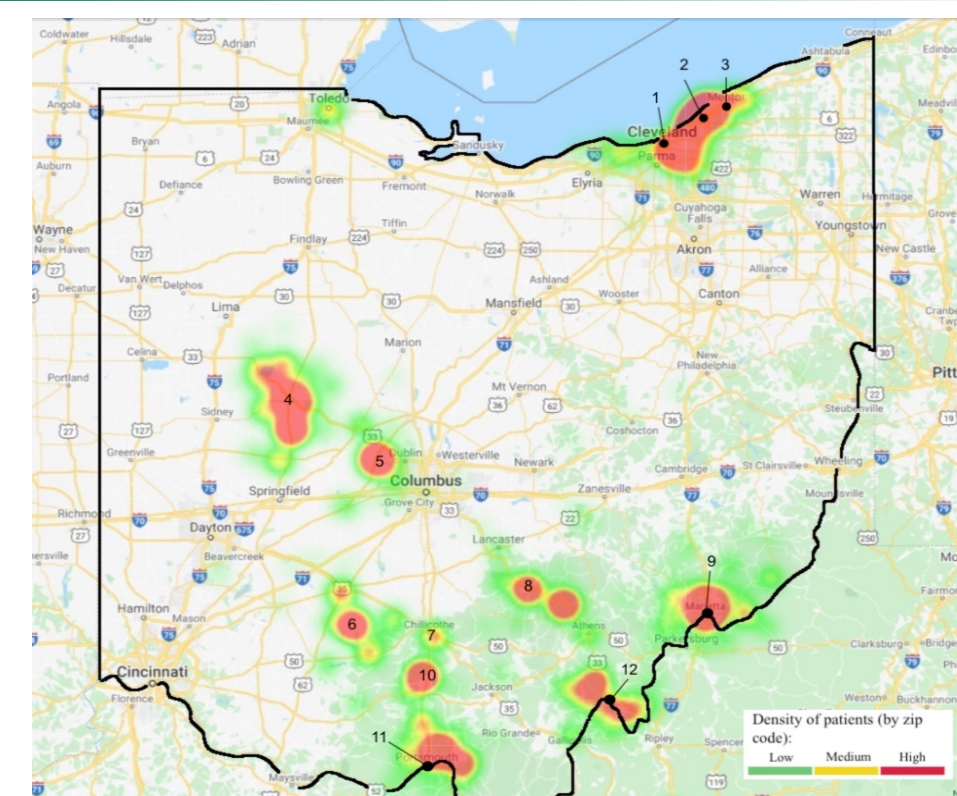
**Figure 1.** Distribution of the 1,441-patients within the LIC by age group.



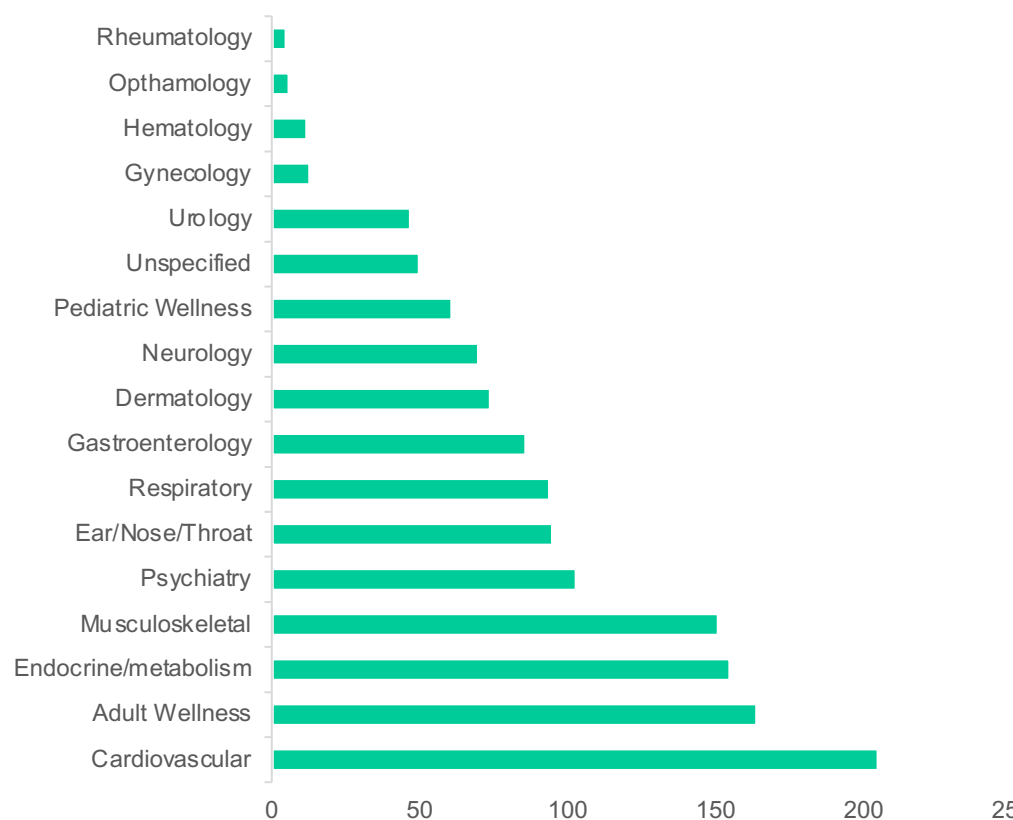
**Figure 3.** The degree of continuity with patients within the LIC. The left graph how frequently students saw each patient. The right graph shows how many of the 13 students had repeat patients and the number of students who saw the same patient twice, three times, four times, and five times.

Data was collected from the 13 medical students and organized in an Excel document. Students were asked to assign a number to each patient to keep track of patient data and return visits. For each patient, students collected age, gender, zip code, date of visit, medical diagnosis, and relative ICD codes. The LIC students had a total of 1441 patients visits, 45% of patients were male and 53% were female.

The age group with the most visits was patients aged 60-69 (Figure 1). Based on the patients’ provided zip codes, the urban areas of Cleveland had the highest patient population density, followed by scattered rural areas of western and southeastern Ohio (Figure 2). Most patients only presented to the clinic once; however, over 150 patients returned for a second visit (Figure 3). Patients were grouped by diagnosis into general categories (Figure 4). These categories were based on the primary patient diagnosis. Note for Figures 1,2, and 3 the data is for total patients seen and may include repeat patients.



**Figure 2.** Density of patients by zip code in each clerkship site. The sites are in the following Ohio cities: 1. Cleveland, 2. Willowick, 3. Mentor, 4. Bellefontaine, 5. Plain City, 6. Greenfield, 7. Chillicothe, 8. Logan, 9. Marietta, 10. Waverly, 11. Portsmouth, 12. Pomeroy



**Figure 4.** Categories of primary diagnoses seen by LIC students and number of patients with each diagnosis.

## Discussion

One of the primary goals of this elective is for students to experience continuity of care by developing their own patient panel. Our results show the majority of students saw patients more than once and some saw the same patients 3, 4, or 5 times over the academic year (Figure 3).

Another goal of this elective is for students to see a variety of health conditions in a wide range of patients. Our results indicate students did see a range of patients, primarily those age 50 and older (Figure 1). Also, students saw patients with a range of health conditions. Each student saw patients from at least 10 of the diagnosis categories. The most frequently seen diagnoses were cardiovascular disease, adult well visits, and endocrine/metabolism (Figure 4). Furthermore, students worked in rural and urban practices across Ohio and saw patients from a wide geographic distribution (Figure 2).

Future research could investigate diversity within patient populations and relative health concerns per zip code. In addition to providing a meaningful learning experience for students, the LIC’s can identify primary care needs in rural area and underserved areas.



Jacob Taber OMS-IV listens to a patient’s lungs in the hospital

## References

- <sup>(1)</sup>Beattie, J., Binder, M., Ramsbottom, V., & Fuller, L. (2019). The role of vertically integrated learning in a rural longitudinal integrated clerkship. *BMC Medical Education*, 19(1). doi:10.1186/s12909-019-1767-8
- <sup>(2)</sup>Brown, M. E., Whybrow, P., Kirwan, G., & Finn, G. M. (2020). Professional identity formation within Longitudinal Integrated Clerkships: A scoping review protocol. *Systematic Reviews*, 9(1). doi:10.1186/s13643-020-01422-6
- <sup>(3)</sup>Hauer, K. E., Hirsh, D., Ma, I., Hansen, L., Ogur, B., Poncelet, A. N., . . . O’Brien, B. C. (2012). The role of role: Learning in longitudinal integrated and traditional block clerkships. *Medical Education*, 46(7), 698-710. doi:10.1111/j.1365-2923.2012.04285.