

Securing the Basics: Longitudinal Tracking and Accounting for Trainees in a Multi-Affiliate Site Graduate Medical Education Program

Mark Harbott¹, MD, MHA

Adrian Correa, MHA

Caroline Hubbard, MBA

Kendra Crowder, MBA

Nital P. Appelbaum, PhD

Setting and Problem

Graduate medical education (GME) largely depends on Medicare funding to sustain its educational mission to train the next generation of physicians. Unfortunately, federal policy for such funding is volatile and often at risk for budget cuts.¹ GME leaders must constantly defend the value of their programs to affiliate hospitals that receive GME dollars. Overall, they need support and direction on how to secure their programs from external threats. One approach includes having better databases and systems in place to easily query and highlight the value and impact of GME programs.²

Baylor College of Medicine (BCM) has 116 Accreditation Council for Graduate Medical Education (ACGME) and 75 non-ACGME residency and fellowship programs with approximately 1600 trainees. Trainees rotate with 46 affiliate training sites across Texas, with affiliate hospitals supporting a large percentage of trainee stipends/benefits. There is substantial complexity in trainee rotation scheduling. Residents might have reportable effort at more than one hospital in one month, and the effort might be billed to the affiliate only, or the affiliate might share the cost with an alternate source (eg, grants). Often, existing financial reports are not designed to account for the complexities in trainee stipend monitoring. Overall, there is the potential for both over- and underbilling with affiliate sites. There is a critical need for a single reporting system that longitudinally tracks location, time, and billing source for trainees across hospital sites.

A costly problem in our system was receiving urgent requests from affiliate hospitals to either pay back or rectify accounting, time, or location of our trainees. Our GME leadership would spend more than 50 hours backtracking through our systems,

applications, and databases to address a single affiliate hospital inquiry.

Intervention

To address the issue, the designated institutional official collaborated with BCM finance, operations, and data analytics teams.

Our institution's financial software provides trainee data in separate tables, which makes comprehensive analysis or audit difficult. The process of manipulating data takes days and is prone to errors. Through interdisciplinary collaboration, we were able to take 40 000 lines of data and completely overhaul the way that data can be queried and analyzed. After approximately 8 months, 40 hours, and integration into our already existing Microsoft PowerBi reporting software, 5 members of our team were able to solve a systems issue. The new PowerBi software seamlessly and efficiently extracts and pulls data from multiple data sources, allowing us to proactively identify errors at the beginning of the academic year. In addition, we can efficiently analyze problems brought to us by the affiliate hospitals at any point during the fiscal year.

Outcomes to Date

Two large-scale audits are currently in process with the new system. The first part of the audit checks the accuracy of rotation funding sources. We found over 200 potential billing errors in 40 000 lines of data. Most of these would have been missed previously, resulting in potential losses of up to \$1 million for the college.

The second part of the audit examines the appropriate use of approved full-time equivalent (FTE) per program at each affiliate. While programs are instructed not to go over their assigned FTE, many do, resulting in financial risk. Recently, a hospital contacted leadership about departments potentially overbilling in fiscal year 2023. Prior investigation into this issue would

have taken approximately 50 hours. We were able to identify the issues within a few hours using the new reporting system. The hospital initially claimed we owed over \$300,000, but with the new report, we identified the errors and reduced the amount to \$30,000, a 90% reduction.

Other GME offices can model our approach to simplify complex financial billing in GME and limit financial threats.

References

1. He K, Whang E, Kristo G. Graduate medical education funding mechanisms, challenges, and solutions: a narrative review. *Am J Surg*. 2021;221(1):65-71. doi:10.1016/j.amjsurg.2020.06.007
2. Wynn B. Opening the “black box” of GME costs and benefits: a conceptual model and a call for systematic

studies. *J Grad Med Educ*. 2015;7(1):125-127. doi:10.4300/JGME-D-14-00751.1



Mark Harbott, MD, MHA, is Designated Institutional Official and Senior Associate Dean of Graduate Medical Education, Office of Graduate Medical Education, and Associate Professor, Department of Anesthesiology, Baylor College of Medicine, Houston, Texas, USA; **Adrian Correa, MHA**, is Senior Manager of Data Analytics, Baylor College of Medicine, Houston, Texas, USA; **Caroline Hubbard, MBA**, is Senior Manager of Graduate Medical Education, Baylor College of Medicine, Houston, Texas, USA; **Kendra Crowder, MBA**, is Senior Finance Associate, Office of Graduate Medical Education, Baylor College of Medicine, Houston, Texas, USA; and **Nital P. Appelbaum, PhD**, is Associate Professor, Department of Education, Innovation and Technology, and Assistant Dean, Office of Medical Education Research and Scholarship, Baylor College of Medicine, Houston, Texas, USA.

Corresponding author: Mark Harbott, MD, MHA, Baylor College of Medicine, Houston, Texas, USA, mharbott@bcm.edu, X @HarbottMark