

Measuring the Impact of Graduate Medical Education: A Call for Coordination and Collaboration on Data

Month 202X

In the United States, graduate medical education (GME), also referred to as medical residency, is a critical phase in the development of competent, well-prepared physicians. GME covers the period of training after graduation from medical school and before entry into autonomous clinical practice, during which medical residents “learn to provide optimal patient care under the supervision of faculty members.”¹ In the course of their training, residents provide much of the free or low-cost care that many at-risk or underserved patient populations rely upon.² Thus, GME is also a central component of health care access and quality and most of the funding for GME programs comes from the federal government.

However, longitudinal data concerning the inputs, as well as short- and long-term outputs, of the GME system are not widely available.^{3,4} Limited access to data impairs the ability of GME stakeholders, including federal policymakers, to fully assess the GME system. For example, data could help inform GME improvements by allowing researchers to follow trends in physician career paths and practice choices, determine rates of failure involving those who withdraw or are dismissed from residency programs, assess the distribution of the physician workforce, and evaluate the performance of specific GME training approaches and sponsoring institutions and their impact on care outcomes. Better access to and use of data could help in determining how well GME prepares the physician workforce and meets the public health needs of the American people.

Summary

Graduate medical education (GME) represents a critical phase in physician training, and medical residents provide access to free or low-cost care for many at-risk or underserved populations. However, data on GME are difficult to obtain, which hinders the ability of program managers and policymakers to evaluate how physician training can be enhanced.

COGME recommends:

- Convening a stakeholder meeting to improve coordination and collaboration among entities that collect GME data.
- Investing in longitudinal physician workforce pathways and practice patterns research.

In its 2017 report, the Council on Graduate Medical Education (COGME) identified national concerns about the state of GME and its return on investment to taxpayers. The issues raised included a widening gap between physician training and the evolving nature of clinical practice, a lack of physician workforce diversity, and shortcomings in addressing the needs of underrepresented minoritized populations as well as rural and other underserved communities.² Moreover, there are persistent questions of quality and efficiency related to the duration and cost of GME.³ The stresses that the COVID-19 pandemic placed on physicians and the health care workforce as a whole exacerbated all of these challenges, and will continue to impact the post-pandemic recovery.

This issue brief from COGME highlights the urgent need for concrete, coordinated action to better measure the medical student, resident, and physician workforce composition over time,

consistent with the 2018 National Academies of Science, Engineering, and Medicine (NASEM) report on GME Outcomes and Metrics.⁴ Developing methods to improve the standardization, validation, and interoperability of already existing data sets would provide a strong basis for collective understanding of the gap between training and practice, and enable the development of shared outcome metrics of success to be defined for all GME stakeholders. Identifying appropriate measures would deepen our understanding of the GME system and serve as a means of assessing investments in innovations aimed at improving its efficiency, quality, and affordability. Improved data access would also inform efforts to increase recruitment into medical careers from population groups that are underrepresented in medicine (UIM) and that are more likely to serve the needs of rural and other underserved communities.

Existing Data

Many professional organizations, including the American Medical Association, the Association of American Medical Colleges, and the Accreditation Council for Graduate Medical Education (ACGME), as well as federal agencies such as the Health Resources and Services Administration (HRSA), Centers for Medicare and Medicaid Services (CMS), and Veterans Administration (VA), already collect a wide range of data on GME for their own purposes. Thus, much of the information necessary to analyze the inputs, outputs, and impact of GME already exists in some form. For the most part, though, these data remain unavailable for general access and use.

The figure below illustrates some of the complexities of gathering data on medical education and practice across the educational and career continuum of a physician, including the different points at which data collection and analysis could be used to improve assessment of GME.

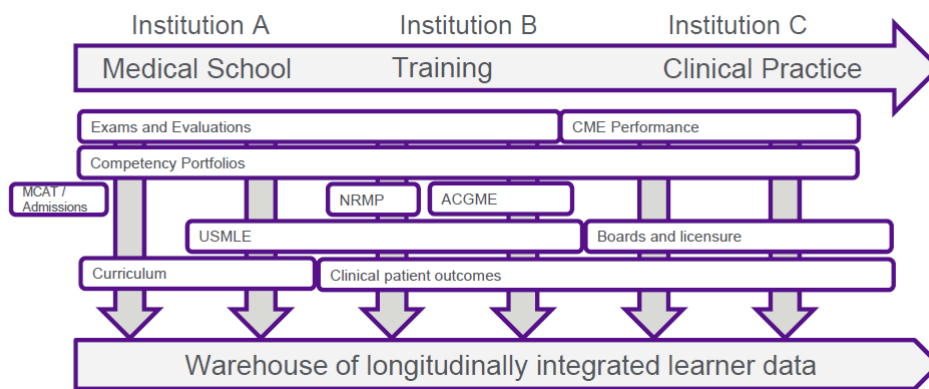


Figure 1: The Medical Education Data Continuum

NOTE: ACGME = Accreditation Council for Graduate Medical Education; CME = continuing medical education; MCAT = Medical College Admission Test; NRMP = National Resident Matching Program; USMLE = U.S. Medical Licensing Examination. [SOURCE: NASEM, 2018⁴; Triola MM, Pusic MV. The Education Data Warehouse: A Transformative Tool for Health Education Research. *Journal of Graduate Medical Education*. 2012; 4(1):113-115.]

Improving Data Sharing

While there is a wealth of raw data on GME, the data collection lacks standardized methods and definitions, and the data are siloed and unsystematized, housed in the various databases of the different organizations. For example, ACGME, which accredits all GME programs in the United States, collects a wide range of demographic and career path data on residents, fellows, and faculty physicians. Meanwhile, HRSA separately collects data from its grantee institutions, much of it available through the HRSA Data Warehouse website (data.HRSA.gov), which

provides information and analytic tools to the public about HRSA’s physician and other health workforce programs. Combining or coordinating these activities would provide a more comprehensive data set that would enable responsible parties, such as health workforce researchers and policy organizations, to explore basic questions about the GME system and its relationship to physician workforce composition, distribution, and competency.

However, the lack of coordination, standardization, and sharing of data continues across institutions and agencies involved in providing medical education and accreditation, clinical care, health workforce policy and planning, and federal GME funding oversight. As a result, well-intentioned stakeholders in medical education and health care delivery lack the full set of information they need to assess the current state of the medical training pathways and the physician workforce, and the guidance they need to design strategies aimed at developing and improving shared metrics of accountability and success.

COGME is aware of past efforts to bring stakeholders together over common data and metrics. Creating a centralized GME data repository would be a very complex endeavor. It would involve not just building an interoperable system, but also making it valuable and sustainable through broad buy-in, ongoing maintenance and support, consistent data entry and updates, broad accessibility, responsible use, and reliable funding. Still, much of the preliminary work has been addressed, with the overview provided by the 2018 NASEM report⁴, along with the recommendations from the 2017 COGME report². Thus, COGME believes the time is ripe for a renewed push to bring GME stakeholders together to create a robust and publicly accessible repository for GME data.

COGME Recommendations

Solving our complex American healthcare system and workforce challenges will require an unprecedented, and perhaps at times uncomfortable, level of coordination across professional, accrediting, and government agencies. COGME believes that the first step in being able to understand and address the challenges facing GME is to assess the data currently available, but now siloed and unsystematized among several different institutions. Collaboration is needed to ensure consistent definitions and collection methods, as well as appropriate attention to privacy rights and the avoidance of unintended and unanticipated consequences in data usage. This work is in line with a directive from the 2018 NASEM report on the need for “convening all of the organizations with relevant data to talk about the rules of engagement for a data repository in a neutral setting.”⁴

COGME is responsible for providing “an ongoing assessment of physician workforce trends, training issues and financing policies, and [recommendations on] appropriate federal and private sector efforts on these issues.”⁵ Under this charge, COGME recommends that Congress authorize and fund the Department of Health and Human Services to:

Recommendation 1: Build on the 2018 NASEM report on GME Outcomes and Metrics to convene an inclusive group of GME stakeholders to develop a set of standardized core outcome metrics and guidelines for governing, systematizing, and sharing data relevant to GME across institutions and governmental agencies. Invitees should include federal GME funding agencies (CMS, VA, and HRSA), ACGME, the Association of American Medical Colleges, the American Osteopathic Association, the American Medical Association, the American Board of Medical Specialties, and intentionally selected leadership representation of osteopathic and allopathic medical schools, as well as

traditional academic medical center and Teaching Health Center accredited sponsoring institutions.

Recommendation 2: Invest in longitudinal research on physician workforce pathways, distribution, and career patterns to assess the impact of federally funded GME programs in meeting the health care needs of the country.

Conclusion

Efforts to standardize, validate, and share the data necessary to inform and drive change in GME will require close collaboration across professional, accrediting, and government agencies. To enable effective dialogue and mutually reinforcing action strategies among stakeholders, prioritized core outcome metrics should be:

- defined through consensus of stakeholders,
- publicly visible, and
- easily accessible, digestible, and meaningful.

As envisioned by COGME, collaborative efforts on GME data collection and analysis can deliver more effective, data-informed policies and programs that will result in enhanced satisfaction of patients and the physician workforce, while also working to decrease health disparities and improve public health.

About COGME

The Council on Graduate Medical Education (COGME) provides an ongoing assessment of physician workforce trends, training issues and financing policies, and recommends appropriate federal and private sector efforts on these issues.

COGME advises and makes recommendations to the Secretary of the U.S. Department of Health and Human Services (HHS) and to both the Senate Committee on Health, Education, Labor and Pensions and the House of Representatives Committee on Energy and Commerce.

References:

- ¹ Accreditation Council for Graduate Medical Education. (2023). The program director guide to the common program requirements (residency), version 3.0, revised March 2023. Available at <https://www.acgme.org/globalassets/pdfs/program-director-guide---residency.pdf>
- ² Council on Graduate Medical Education. (2017). 23rd Report: Towards the development of a national strategic plan for graduate medical education. Available at <https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/graduate-medical-edu/reports/april-2017.pdf>
- ³ Institute of Medicine. (2014). Graduate medical education that meets the nation's health needs. Washington, DC: The National Academies Press. Available at: <https://nap.nationalacademies.org/catalog/18754/graduate-medical-education-that-meets-the-nations-health-needs>
- ⁴ National Academies of Sciences, Engineering, and Medicine. (2018). Graduate medical education outcomes and metrics: proceedings of a workshop. Washington, DC: The National Academies Press. Available at <https://nap.nationalacademies.org/catalog/25003/graduate-medical-education-outcomes-and-metrics-proceedings-of-a-workshop>
- ⁵ Council on Graduate Medical Education. (2021). Available at <https://www.hrsa.gov/advisory-committees/graduate-medical-edu>