GUIDANCE IN USE OF
ACGME Milestone Data in
Undergraduate Medical Education

Prepared by the
American Association of Colleges of Osteopathic Medicine’s National Academy of Osteopathic Medical Educators Milestone Project Taskforce

Pamela M. Basehore, MPH, EdD, Assistant Dean for Assessment, Associate Professor of Geriatrics and Gerontology, Rowan University School of Osteopathic Medicine; Machelle Linsenmeyer, EdD, Associate Dean for Assessment and Educational Development, West Virginia School of Osteopathic Medicine; Mark Speicher, PhD, MHA, Senior Vice President for Medical Education and Research, American Association of Colleges of Osteopathic Medicine; Leslie Wimsatt, PhD, Associate Dean for Academic Assessment, Quality and Development, Des Moines University College of Osteopathic Medicine; Natasha Bray, DO, Associate Dean for Academic Affairs and Accreditation, Oklahoma State University Center for Health Sciences

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Guidance in Use of ACGME Milestone Data in Undergraduate Medical Education

**Purpose:** This guiding document provides information regarding the Accreditation Council for Graduate Medical Education (ACGME) Milestones Outcome Reporting Project and its use in undergraduate medical education (UME).

**Background / Context**

While milestones implementation is currently associated with graduate medical education (GME), milestones have become an emergent topic in UME. Facilitating the transition to residency amid ongoing COVID-19 challenges and national board examination changes has led to growing interest in using individual medical student readiness for residency measures to assess key developmental outcomes.

During the 2019-20 academic year, the American Association of Colleges of Osteopathic Medicine (AACOM) identified resident readiness as a key strategic goal. AACOM groups and affiliated medical schools began participating in projects to support the capture of resident readiness during the first year of GME, including the ACGME Milestones Outcome reporting project, the Entrustable Professional Activities (EPAs) for Entering Residency project, and the Association of American Medical Colleges Resident Readiness Program Directors Survey project. Taken together, these projects can provide useful information to support medical school planning and decision making.

**ACGME Milestones Outcome Reporting Project**

ACGME has initiated a project to distribute aggregate GME milestone data to osteopathic schools through a password protected portal. The portal was opened in December 2020. The first round of reports covered 5- and 10-year summary statistics for entering medical school graduates (e.g., completion, attrition, specialty and sub-specialty selections, geography, etc.), de-identified Year 1 milestone evaluations by specialty and final specialty selections. Descriptive statistics were reported through frequency distributions and box plots. Comparatives allow programs to review their graduates’ data in relation to national data trends and variation in performance metrics by program specialty.

**How Can the Milestones in GME Data Inform Changes in UME?**

To better understand how the milestones data can inform changes in UME, it becomes important to better understand the role of milestones in GME. Milestones are discrete and significant developmental points in a training continuum or program of learning. Within a medical education context, this refers to the developmental performance levels expected of learners in each core competency domain with regard to individually demonstrated knowledge, skills and behaviors.

Milestones development at the GME level began as an outgrowth of the movement toward competency-based education, beginning with the ACGME Outcome Project formally launched in 2001. The specific history of the evolution of milestones over time can be found in Table 1. (1,2)

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>The six Core Competencies endorsed by ACGME and American Board of Medical Specialties (ABMS)</td>
</tr>
<tr>
<td>2001</td>
<td>The Outcome Project formally launched</td>
</tr>
<tr>
<td>2009</td>
<td>ACGME approves structure of NAS, including inclusion of the Milestones</td>
</tr>
<tr>
<td>2013</td>
<td>First seven specialties implement NAS, including Milestones reporting</td>
</tr>
<tr>
<td>2014</td>
<td>Remaining accredited specialties and subspecialties implement NAS, including Milestones reporting</td>
</tr>
<tr>
<td>2015</td>
<td>All specialties and subspecialties begin to report Milestones data</td>
</tr>
<tr>
<td>2018</td>
<td>Work begins on Milestones revisions, called Milestones 2.0</td>
</tr>
</tbody>
</table>
The intent of GME milestones was to provide a specialty-specific framework across programs to document individual-level competency attainment prior to resident program completion. Milestones describe the learning trajectory within a sub-competency that takes a resident or fellow from a novice in the specialty or subspecialty to a proficient resident or fellow or resident/fellow expert (see ACGME example, Table 2 below). Milestones are different from many other assessments in that there is an opportunity for the learner to demonstrate aspirational attainment levels. Milestones are intended for longer-term and broader assessment of knowledge, skills or abilities and for use in tandem with other regular assessments of curricular outcomes and competency-based task performance.

Table 2. General Description of Milestone Levels Related to Stage of Education

<table>
<thead>
<tr>
<th>Competency: Subcompetency</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice Resident/Fellow</td>
<td>Advanced Beginner Resident/Fellow</td>
<td>Competent Resident/Fellow</td>
<td>Proficient Resident/Fellow</td>
<td>Resident/Fellow Expert</td>
<td></td>
</tr>
<tr>
<td>Brand new to the specialty</td>
<td>Performs some tasks with limited autonomy</td>
<td>Performs common tasks with autonomy</td>
<td>Target for graduation (not a requirement)</td>
<td>Exceeds their peers</td>
<td></td>
</tr>
</tbody>
</table>

2 ACGME - Edgar et al., 2020; p.9.

Use of ACGME Reports

Milestones Aggregate Report: This report provides aggregate box plots of year-end milestone performance for graduates of your school following completion of their first year of residency training. Milestone performance is specialty-specific and should be evaluated in that context. You may refer to specialty milestones on the ACGME website (https://www.acgme.org/What-We-Do/Accreditation/Milestones/Milestones-by-Specialty). The annual Milestone National Report can also be used to provide national comparison data and help the school identify aggregate patterns within a specialty, while also identifying potential outliers of performance. These comparisons can be used as a high-level review of the school’s assessment system.

Summary Statistics for Entering Medical School Graduates (5-year and 10-year look back): This report summarizes completion rates of graduates who entered into an ACGME-accredited residency program five and 10 years earlier and compares the school’s performance to all other colleges of osteopathic medicine (COMs) (see national rates). The report tracks graduates from the time of initial entrance into residency training, including preliminary and transitional programs, to the residency program they ultimately complete. Residents are grouped in one of four categories: 1)
completed successfully, 2) completed preliminary training and transitional year, 3) still active or 4) attrition. Over the report period, residents will shift among the categories as they progress in their training. For example, a resident who completes a transitional program and then moves on to an advanced position but is still in training will be categorized as “Completed Preliminary Training” for the initial bar chart and as “Still Active” in the ultimately completed chart. However, a resident who withdraws from a program and then re-enters another and completes the program will be included under attrition (withdraw) from the initial program and then as completed successfully in the ultimately completed bar chart.

**Professionalism Report:** The aggregate professionalism report summarizes the percentage of graduates who are at or below Level 1 (novice or below) compared to national data. If you have more Level 1 graduates than the national norm, there may be room for improvement in the professionalism curricula/standards in UME. These numbers might also be useful in comparison to the number of students dismissed from a program.

**Frequently Asked Questions**

As schools of osteopathic medicine and COMs have begun to use these reports, several important questions have surfaced.

What if your school did not receive access to the portal in December 2020?

The ACGME sent a link and login information to deans or other appropriate representatives of each osteopathic medical school on December 2, 2020. The email sender would have been medschoolportal@acgme.org. If you did not receive an email or cannot locate it now, you can email medschoolportal@acgme.org to request assistance in getting access to the portal.

Is anything required upon login to get access to all reports?

Yes. Once logged in to the portal, the dean (or appropriate representative) will need to electronically “sign” the Access Agreement by selecting the appropriate checkbox and saving the selection. Once the ACGME Access Agreement is “signed,” the full Medical School Portal and a User’s Guide will show on the homepage. From the homepage, the user will be able to navigate to their institution's reports.

More information can be found within the User’s Guide (attached to this guiding document).

Can additional institutional administrators or staff be granted access to the portal?

Currently, only one user can be granted access per institution. This is to ensure that a single person is held accountable for the data and how it is used.

How are students added to the dataset? Is it based on when the program becomes fully accredited by ACGME or are pre-accreditation numbers included (e.g., when they apply for ACGME accreditation)?

At the moment, all residents, preliminary and categorical, are included in the dataset. In the future, ACGME will be looking at separating out these positions.

Is there a code book or list of definitions for the categories reported within the document (especially, withdrew from program or transferred to another program)?

The resident status is reported based on information provided by the program.

Withdrawn from program represents any resident who decides to leave the program. Dismissed represents a resident who is let go from the program. Transferred to another program represents a resident who transferred to another program or specialty.
A resident unsuccessfully completing the program represents those residents who have completed all required training but have unsuccessfully demonstrated their competence to practice independently.

How should the scale be interpreted? Are the 9-point scales converted to 5-point for reporting? If so, why are they converted?

The ACGME User’s Guide (attached to this guiding document) can provide some guidance for interpreting the scales. Additionally, users should understand that the individual milestone data (de-identified) is reported on a 9-point scale, yet the boxplots are in a 5-point scale format. Therefore, it is clear that ACGME is taking the 9-point scale and converting it back to a 5-point scale (essentially, the same scale—just using midpoint numbers like 1, 1.5, 2, 2.5, etc., instead of whole numbers like 1-9. Users must also consider, as mentioned above, that the 0 can mean two different things (e.g., “not yet assessed” or “not achieving Level 1”).

How is “has not been assessed” handled in the reporting? Is it lumped in with other numbers? Is it not reported at all?

The 0 in the scale can mean “has not been assessed” or “has not reached Level 1.” The interpretation is specialty specific. Please see the individual milestone by specialty guides for more information (https://www.acgme.org/What-We-Do/Accreditation/Milestones/Milestones-by-Specialty).

Are the comparisons to other osteopathic schools only? If so, will a report/comparison to all ACGME residencies be available soon?

Yes. Current comparisons are to other osteopathic medical schools only. In the future (Fall or Winter 2021), ACGME hopes to provide additional comparisons to the broader medical school community (e.g., all allopathic medical schools).

When will we get individual assessments for our school’s residents?

Phase II (Fall or Winter 2021) of the ACGME Milestones for UME project will include individualized reports.

Who do I contact if I need help or have issues related to the portal or the data?

If an institution runs into issues with the portal or the data, the ACGME Helpdesk at medschoolportal@acgme.org is a good place to start. It is monitored regularly and routes questions to the individual best able to respond to each issue.

References
