

Diversity, Equity, and Inclusion Milestones: Creation of a Tool to Evaluate Graduate Medical Education Programs

Paul A. Ravenna¹, MD
Santina Wheat, MD, MPH
Fadya El Rayess, MD, MPH
Leon McCrea II, MD, MPH
A. Ildiko Martonffy, MD

Cara Marshall, MD
Suki Tepperberg, MD, MPH
Rachel S.C. Friedman, MD, MHS
Wendy B. Barr, MD, MPH, MSCE

ABSTRACT

Background As the Accreditation Council for Graduate Medical Education (ACGME) began to ask programs to report their efforts surrounding diversity, equity, and inclusion (DEI), program directors felt ill prepared to evaluate their programs and measure change.

Objective To develop a tool that would allow graduate medical education (GME) programs to evaluate the current state of DEI within their residencies, identify areas of need, and track progress; to evaluate feasibility of using this assessment method within family medicine training programs; and to analyze and report pilot data from implementation of these milestones within family medicine residency programs.

Methods The Association of Family Medicine Residency Directors (AFMRD) Diversity and Health Equity (DHE) Task Force developed a tool for program DEI evaluation modeled after the ACGME Milestones. These milestones focus on DEI assessment in 5 key domains: Institution, Curriculum, Evaluation, Resident Personnel, and Faculty Personnel. After finalizing a draft, a pilot implementation of the milestones was conducted by a convenience sample of 10 AFMRD DHE Task Force members for their own programs.

Results Scores varied widely across surveyed programs for all milestones. Highest average scores were seen for the Curriculum milestone (2.65) and the lowest for the Faculty Personnel milestone (2.0). Milestone assessments were completed within 10 to 40 minutes using various methods.

Conclusions The AFMRD DEI Milestones were developed for program assessment, goal setting, and tracking of progress related to DEI within residency programs. The pilot implementation showed these milestones were easily used by family medicine faculty members in diverse settings.

Introduction

In 2020, the Accreditation Council for Graduate Medical Education (ACGME) released Common Program Requirements for residency programs to address diversity, equity, and inclusion (DEI) without providing specific benchmarks.¹ Available DEI templates for organizations²⁻⁶ neither meet the needs of graduate medical education (GME), especially in terms of strategies to reduce bias in learner assessment,⁷⁻¹¹ resident recruitment,^{12,13} and faculty promotion,¹⁴⁻¹⁶ nor provide a framework to measure progress. In March 2019, the Association of Family Medicine Residency Directors (AFMRD) polled its membership and found that 50% of 220 respondents

answered “no” or “unsure” to the statement, “I feel confident implementing the common program requirement change pertaining to diversity.”¹⁷

The AFMRD Board created the Diversity and Health Equity (DHE) Task Force in 2019 to advance antiracism, diversity, and inclusion in family medicine residency training. This task force identified milestones¹⁸⁻²⁰ as a familiar tool all programs use to assess residents’ progress toward academic and professional competencies and to set goals for growth. The task force sought to create a similar guide for programs—not individuals—to evaluate and track progress toward longitudinal DEI goals across multiple domains essential to residency training to assist in (1) accurate evaluation of the current state of DEI within the program, (2) identification of needs, and (3) progressive goal setting for programs at different stages of this work. In this article, we describe the

DOI: <http://dx.doi.org/10.4300/JGME-D-21-00723.1>

Editor’s Note: The online version of this article contains the Diversity, Equity, and Inclusion Competency Milestones.

Diversity, Equity, and Inclusion Competency Milestones

Developed by the Association of Family Medicine Residency Directors' Diversity and Health Equity Task Force
February 2021



Resident Evaluation Process				
Level 1	Level 2	Level 3	Level 4	Level 5
Residents are evaluated by faculty members from multiple specialties in multiple settings	Resident evaluations are based on individual performance and not based on comparisons to other residents	The unique learner needs of each resident are identified and addressed	Leadership Development tool used in conjunction with mentor meetings for residents	Specific faculty and/or university members are involved to address deficiencies in the performance of residents related to equity
Evaluation processes are transparent and equal for all residents	Evaluations provide specific examples of observed competencies and why feedback given	Individualized learning plans are developed when areas of need are identified	All evaluators participate in bias training annually	Evaluations annually assessed for themes of bias related to gender/race/ability
Demographic information is not included in evaluation forms or materials	Residents are encouraged to provide feedback on the program's evaluation processes	Evaluations assess residents' ability to address SDOH factors for patients	Evaluations assess residents' ability to assess SDOH factors within the community	Cultural humility is a component of assessments for residents and faculty
Evaluations assess residents' ability to provide care that acknowledges bias	Evaluations assess residents' ability to assess SDOH factors for patients	Regular review of milestones to assess for bias in scoring	Learning plans are developed to ensure absence of bias	Evaluations assess residents' ability to advocate for health equity within their communities on a local and/or national scale
☐	☐	☐	☐	☐
Comments:				
Not Yet Completed Level 1 ☐				

FIGURE
Diversity, Equity, and Inclusion Competency Milestones

creation of this DEI tool, results from a pilot implementation in family medicine residency programs, and validity evidence²¹ to support its use.

Methods

The AFMRD DHE Task Force is composed of nationally representative family medicine program leaders with experience in health equity and DEI chosen after a competitive selection process. As widely accepted standardized tools do not exist for DEI evaluation in GME training, the task force reviewed available tools from the medical field^{2,3} and business world⁴⁻⁶ designed to enhance DEI and discussed opportunities for their use along with barriers limiting implementation. These discussions highlighted the utility of milestones, a tool familiar to program faculty.

DEI milestone development followed a blueprint similar to that used by the ACGME for residency milestones.¹⁸ Initial meetings focused on identification of key DEI domains for GME programs. Understanding the range of factors impacting DEI

within GME, the task force ultimately focused on the people in the program, the content being taught, and the system in which programs are working. The task force devised 5 domains foundational for DEI in residency programs: (1) Institution, (2) Curriculum, (3) Evaluation, (4) Resident Personnel, and (5) Faculty Personnel. Smaller workgroups within the committee drafted content for each domain, adapting the ACGME template¹⁸⁻²⁰ for progression across each level to focus on program evaluation rather than resident assessment. Level 1 reflects programs early in their DEI work in a specific domain, while Level 5 reflects local/national leaders that could be used as exemplars. Progression for the resident and faculty personnel milestones begins with changes in recruitment (Level 1) and progresses to changes in program leadership (Level 5) to reflect steps needed to build sustained positive change. Content was developed based on examples from exemplary programs within family medicine and the collective experience and expertise of task force members. Nationally recognized senior family medicine faculty with DEI and

TABLE
Diversity, Equity, and Inclusion (DEI) Milestone Self-Assessments for Sample Residency Programs

Program	1	2	3	4	5	6	7	8	9	10	Average
No. of Residents	48	40	24	24	18	24	48	36	18	19	29.9
Setting	FQHC Urban Rural Suburban	FQHC Urban	FQHC Urban	Urban	Urban	Suburban	FQHC Urban	Urban	Rural Suburban	Urban	
Region	Midwest	Northeast	Midwest	Southeast	Midwest	Midwest	Northeast	Northeast	West	Northeast	
Time to completion	10 min	40 min	20 min	20 min	10–40 min	20 min	10–15 min	10–30 min	20 min	10 min	20 min
Self-assessment group	Faculty	CCC	PEC	Faculty, residents	Faculty	Faculty meeting	Faculty, residents	Faculty	Faculty, residents	Faculty, residents	
DEI Milestone Self-Assessment Scores											
Institution	3–4	2	1.5–3.5	1.0–1.5	1–2	3	2.5	3	2	2.5	2.3
Curriculum	1–2	2.5–3	3.5–4	3–3.5	1–2	3	2.5	3	2.5–3	2.5	2.65
Evaluation	0	3	2.5–3	4	3	3	2	3	3	2.5	2.62
Resident personnel	3	1.5	4	3–3.5	1–2	2	1.5	3	2	2.5	2.4
Faculty personnel	1	1	2	<1.0	1–2	1	1	2	1	2	2.0

Abbreviations: FQHC, Federally Qualified Community Health Center; CCC, Clinical Competency Committee; PEC, Program Evaluation Committee.

medical education expertise also reviewed early drafts.

After finalizing a working draft, the task force presented the milestones to more than 400 family medicine residency leaders at the American Academy of Family Physicians (AAFP) virtual Residency Leadership Summit in March 2021. A 2-week open commentary period for all AFMRD members followed this presentation. This peer feedback was incorporated into the piloted version of the DEI milestones (FIGURE and see online supplementary data).

A pilot implementation of the DEI milestones was conducted from April to May 2021. The pilot cohort—a convenience sample of the residency programs of the AFMRD DHE Task Force members—consisted of 10 family medicine programs from across the country in urban, suburban, and rural areas working in academic and community settings. Strict guidelines for milestone completion were not given; instead, the committee desired programs to complete the milestones through different platforms allowing for input on tool utilization. The task force determined this strategy, as within GME programs Clinical Competency Committees utilize different methods to assess an individual resident's milestones. Pilot programs completed a form, similar to the TABLE, providing demographic information, completion time, persons completing evaluation, and milestone scores. An additional box was provided for comments on clarity, ease of use, and impact of the milestone tool in helping set DEI-focused goals for their program.

As this pilot focused on instrument development rather than human subjects research, it qualified for Institutional Review Board exemption.

Results

Ten program directors and their faculty completed the milestones, with 3 programs choosing to include residents in the process (TABLE). Program Evaluation Committee, Clinical Competency Committee, or program faculty meetings were settings for milestone completion. Average time spent completing milestones was 20 minutes. Scores varied widely across surveyed programs for all milestones, with the highest average scores being for the Curriculum milestones (2.65) and lowest for the Faculty Personnel milestones (2.0). A range of milestone scores (0–4) was seen within and across programs. Some programs struggled with scoring, choosing a range instead of a number for a milestone, noting that they satisfied one component of various levels but failed to satisfy all components of any one level. Five of 10 programs provided

comments, which included that the tool provided a benchmark assessment, did not take a significant amount of time, and was easy to incorporate into meetings.

Discussion

This pilot study of the newly developed DEI milestones for programs demonstrated that the tool is easy to use, takes an average of 20 minutes to score, and can be completed by various preexisting committees. Despite having interested core faculty, pilot programs were still at the beginning phases of their DEI work and had much room for improvement. DEI milestone development sought content validity²¹ by using nationally recognized content experts in family medicine and medical education. However, since we were unable to find any comparable tools, we could not correlate responses with a previously developed tool.

The familiarity of using milestones for assessment may ease use by program directors, providing a unified way to assess the overall state of DEI in GME. Subsequent studies with more family medicine and other GME programs are needed to further evaluate milestones' utility in promoting meaningful change toward advancing DEI in physician training. National milestone data would be immensely valuable in understanding the state of DEI across GME, developing best practices, and facilitating collaboration across programs and specialties. This data can be used when advocating for the support necessary to advance DEI within health care systems.

This study is not without limitations. Response process validity was limited since programs were not given uniform instructions for how to complete the milestone tool and each of the pilot programs had a task force member with intimate knowledge of the tool and motivation to use it. The convenience sample used for the pilot was also not necessarily representative of all programs in family medicine. Finally, assessment and evaluation are occasionally used interchangeably in the DEI milestone tool itself, which may have caused confusion.

Conclusions

The AFMRD DEI milestones were implemented in less than 1 hour in the pilot study and generated initial validity evidence for baseline assessment across 5 key domains.

References

1. Accreditation Council for Graduate Medical Education. Common Program Requirements (Residency). Accessed June 21, 2021. <https://www.acgme.org/globalassets/PFAssets/ProgramRequirements/CPRResidency2021.pdf>
2. American Public Health Association. Oyetunde O, Boulin A, Holt J. Equity Diversity Inclusion Action Toolkit for Organizations. Accessed June 21, 2021. https://www.apha.org/-/media/files/pdf/affiliates/equity_toolkit.ashx
3. American Academy of Family Physicians. Starfield II Health Equity Summit. Primary Care's Role in Achieving Health Equity: A Guidebook to the Health Equity Curricular Toolkit. Accessed June 21, 2021. https://www.aafp.org/dam/AAFP/documents/patient_care/everyone_project/health-equity-toolkit/hops19-health-equity-guidebook.pdf
4. Housing Development Consortium Organization. Joe M, Waddy R. Racial Equity Toolkit: Applying a Racial Equity Lens to Your Organization. Accessed June 21, 2021. <https://www.housingconsortium.org/wp-content/uploads/2016/11/Racial-Equity-Toolkit-Downloadable.pdf>
5. Racial Equity Tools. Organizational Assessment Tools and Resources. Accessed June 21, 2021. <https://www.racialequitytools.org/resources/plan/informing-the-plan/organizational-assessment-tools-and-resources>
6. Crossroads Ministry. Jackson B, Hardiman R. Continuum on Becoming an Anti-Racist Multicultural Organization. Accessed February 1, 2022. https://philanos.org/resources/Documents/Conference%202020/Pre-Read%20PDFs/Continuum_AntiRacist.pdf
7. Low D, Pollack SW, Liao ZC, et al. Racial/ethnic disparities in clinical grading in medical school. *Teach Learn Med.* 2019;31(5):487–496. doi:10.1080/10401334.2019.1597724
8. Boatright D, Ross D, O'Connor P, Moore E, Nunez-Smith M. Racial disparities in medical student membership in the Alpha Omega Alpha Honor Society. *JAMA Intern Med.* 2017;177(5):659–665. doi:10.1001/jamainternmed.2016.9623
9. Rojek AE, Khanna R, Yim JW, et al. Differences in narrative language in evaluations of medical students by gender and under-represented minority status. *J Gen Intern Med.* 2019;34(5):684–691. doi:10.1007/s11606-019-04889-9
10. Zhang N, Blissett S, Anderson D, O'Sullivan P, Qasim A. Race and gender bias in internal medicine program director letters of recommendation. *J Grad Med Educ.* 2021;13(3):335–344. doi:10.4300/JGME-D-20-00929.1
11. Osseo-Asare A, Balasuriya L, Huot SJ, et al. Minority resident physicians' views on the role of race/ethnicity in their training experiences in the workplace. *JAMA Netw Open.* 2018;1(5):e182723. doi:10.1001/jamaneetworkopen.2018.2723
12. Agawu A, Fahl C, Alexis D, et al. The influence of gender and underrepresented minority status on

- medical student ranking of residency programs. *J Natl Med Assoc.* 2019;111(6):665–673. doi:10.1016/j.jnma.2019.002
13. Wusu MH, Tepperberg S, Weinberg JM, Saper RB. Matching our mission: a strategic plan to create a diverse family medicine residency. *Fam Med.* 2019;51(1):31–36. doi:10.22454/FamMed.2019.955445
 14. Nunez-Smith M, Ciarleglio M, Sandoval-Schaefer T, et al. Institutional variation in the promotion of racial/ethnic minority faculty at US medical schools. *AM J Pub Health.* 2012;102(5):852–858. doi:10.2105/AJPH.2011.300552
 15. Society of General Internal Medicine. Hasnain M, Goss E, Yepes-Rios M, et al. Ten Tips for Dismantling Racism: A Roadmap for Ensuring Diversity, Equity, and Inclusion Across the Academic Continuum. Accessed June 21, 2021. <https://connect.sgm.org/sgimforum/viewdocument/ten-tips-for-dismantling-racism-a>
 16. American Surgical Association. Ensuring Equity, Diversity, and Inclusion in Academic Surgery. Accessed October 20, 2021. <https://americansurgical.org/files/2018/Equity.pdf>
 17. Association of Family Medicine Residency Directors. 2020 Annual Quick Hitter Survey. Accessed June 21, 2021. <https://www.afmrd.org/>
 18. Accreditation Council for Graduate Medical Education. Edgar L, McLean S, Hogan SO, Hamstra S, Holmboe ES. The Milestones Guidebook. Accessed June 21, 2021. <https://www.acgme.org/Portals/0/MilestonesGuidebook.pdf>
 19. Andolsek KM, Jones MD Jr, Ibrahim H, Edgar L. Introduction to the Milestones 2.0: assessment, implementation, and clinical competency committees supplement. *J Grad Med Educ.* 2021;13(suppl 2):1–4. doi:10.4300/JGME-D-21-00298.1
 20. Manious AG, Fang B, Peterson L. Competency assessment in family medicine residency: observations, knowledge-based examinations, and advancement. *J Grad Med Educ.* 2017;9(6):730–734. doi:10.4300/JGME-D-17-00212.1
 21. Sullivan GM. A primer on the validity of assessment instruments. *J Grad Med Educ.* 2011;3(2):119–120. doi:10.4300/JGME-D-11-00075.1



Paul A. Ravenna, MD, is Assistant Professor, Department of Family and Community Medicine, Northwestern Feinberg School of Medicine, and Associate Program Director, Northwestern McGaw Family Medicine Residency Program at Lake Forest; **Santina Wheat, MD, MPH**, is Associate Professor, Department of Family and Community Medicine, Northwestern Feinberg School of Medicine, and Program Director, McGaw Northwestern Family Medicine Program at Humboldt Park; **Fadya El Rayess, MD, MPH**, is Associate Professor, Department of Family Medicine, Alpert Medical School of Brown University, and Program Director, Brown Family Medicine Residency; **Leon McCrea II, MD, MPH**, is Senior Associate Dean, Office of Diversity, Equity, and Inclusion, Associate Professor, Department of Family, Community, and Preventive Medicine, Drexel University College of Medicine, and Program Director, Tower Health/Drexel University College of Medicine Family Medicine Residency; **A. Ildiko Martonffy, MD**, is Associate Professor, Department of Family Medicine and Community Health, University of Wisconsin, and Program Director, University of Wisconsin-Madison Family Medicine Residency; **Cara Marshall, MD**, is Assistant Professor, Departments of Family Medicine and Community Health, University of Massachusetts, and Associate Program Director, Lawrence Family Medicine Residency; **Suki Tepperberg, MD, MPH**, is Assistant Professor, Department of Family Medicine, Boston University School of Medicine, and Associate Program Director, Boston University Family Medicine Residency; **Rachel S.C. Friedman, MD, MHS**, is Associate Program Director, Kaiser Permanente Santa Rosa Family Medicine Residency; and **Wendy B. Barr, MD, MPH, MSCE**, is Associate Professor, Department of Family Medicine, and Program Director, Lawrence Family Medicine Residency.

Funding: The authors report no external funding source for this study.

Conflict of interest: The authors declare they have no competing interests.

The rubric in this article was presented at the virtual AAFP Residency Leadership Summit, March 4–6, 2021.

The authors would like to acknowledge the entire AFMRD Diversity and Health Equity Task Force who collaborated on the creation of the Diversity, Equity, and Inclusion Milestones.

Corresponding author: Paul A. Ravenna, MD, Northwestern Feinberg School of Medicine, pravenna@nm.org

Received July 16, 2021; revisions received November 2, 2021, and February 3, 2022; accepted February 3, 2022.