Trends in MedEdPORTAL Faculty Development Resources for Clinician Educators

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ABSTRACT

Background Faculty development (FD) is essential for acquiring skills needed to excel as a clinician educator (CE). The availability of FD resources through MedEdPORTAL, a comprehensive, peer-reviewed, free, online source, is currently unknown.

Objective This study reviews MedEdPORTAL to identify trends in FD publications to highlight current gaps and areas of scholarship potential for educators.

Methods A comprehensive search on MedEdPORTAL using the terms "faculty" or "development" from January 2005 through December 2022 was performed. Inclusion criteria were curricula for CEs across all medical specialties in the United States. Publications where the primary learners were nonphysicians were excluded. Key factors reviewed included FD domains, medical specialty, and target audience.

Results Of 2133 initial articles, 275 met inclusion criteria. FD-specific publications ranged from a low of 5 in 2008 to a high of 42 in 2014. The teaching and learning domain was the most represented (38.2%, 105 of 275), while scholarly activity (12.4%, 34 of 275) was the least represented. Most (67.3%, 185 of 275) publications were not specifically targeted to one specialty, with pediatrics (17.1%, 47 of 275) and internal medicine (10.5%, 29 of 275) having the most resources. Graduate medical education (GME) residency educators formed the largest specified target audience (28.4%, 78 of 275) with GME fellowship educators least represented (8.4%, 23 of 275).

Conclusions This review highlights data about domain distribution, specialties, and target audience with most resources focused on pediatrics and internal medicine. Most represented domains are teaching and learning, and assessment, evaluation, and feedback, while the fewest FD resources are available for scholarly activity.

Introduction

The role of the clinician educator (CE) has expanded over the last decade. The traditional skill set was focused on teaching,[1] with most faculty development (FD) programming focused on enhancing these skills.[2,3] CEs now have a need to develop other core competencies such as curricular development, assessment, and more.[4] FD plays a vital role in acquiring these necessary skills. Although the last decade has seen a rise in FD programs for CEs,[5,6] gaps remain in understanding what competencies are represented in educational resources.

MedEdPORTAL, a MEDLINE-indexed, free, peer-reviewed, open access journal supported by the Association of American Medical Colleges since 2005, addresses the need for accessible, high-quality curricula. With an acceptance rate of 26%,[7] it offers ready-to-use, standardized educational resources including FD for CEs. The platform was designed to address the issue of "reinventing the wheel" for medical educators. For academic leaders balancing multiple responsibilities, access to well-developed and peer-reviewed FD resources is essential. However, the extent to which MedEdPORTAL addresses the current broad spectrum of FD domains for CEs is currently unknown. Identifying existing gaps could help encourage potential authors to develop and submit curricula, helping to ensure educators continue to benefit from the MedEdPORTAL resources.

Our objectives were to identify the trends in FD domain publications in MedEdPORTAL and highlight current gaps where further resources are needed.

Methods

Four FD experts (A.A., K.F., C.N., A.D.), based on their experience as institutional leads in FD, and their service to the Alliance for Academic Internal Medicine (AAIM) Faculty Development Initiative (FDI) Task Force, led this review. Planning meetings were held to develop search criteria, finalize a review rubric, establish a shared mental model of project goals, and train reviewers.

A search of MedEdPORTAL using the terms "faculty" or "development" published from January

DOI: http://dx.doi.org/10.4300/JGME-D-24-00954.1

Editor's Note: The online version of this article contains further data from the study.

2005 through December 2022 yielded 2133 articles. Searches using "professional development" and "identity formation" did not identify any additional publications. All 4 authors collaboratively reviewed 10 articles to create a shared mental model for inclusion. Inclusion criteria were defined as publications conducted in the United States with a primary target audience of CEs across all medical specialties. Exclusion criteria included publications where the primary learner audience was trainees or faculty in dental, nursing, pharmacy, podiatry, and other nonphysician fields.

Authors A.D. and A.A. reviewed FD publications from 2005 to 2014, while K.F. and C.N. reviewed those from 2015 to 2022. Articles identified from the original search were entered into Microsoft Excel. Inclusion decisions were made independently with differences reconciled collaboratively between the pairs of authors. Included abstracts were then reviewed with a rubric assessing FD domains, medical specialty, and target learner audience (undergraduate medical educators, graduate medical educators for residents and fellows, and faculty educators; online supplementary data FIGURE 1). The rubric domains were based on the AAIM FDI Task Force's comprehensive framework, which groups FD topics under 6 domains (TABLE).[8] It did not assess publication or curriculum quality. Full

TABLE
Domains of Faculty Development Resources

Teaching and Learning	Evaluation, Assessment, and Feedback	Personal and Professional Development
▪ Theories of learning and motivation ▪ Clinical teaching ○ Teaching on rounds/bedside teaching ○ Precepting in ambulatory setting ○ Small group facilitation (other venues) ○ Large group didactic teaching ○ Teaching reasoning and decision-making ○ Procedural teaching ○ Medical knowledge ▪ Simulation-based teaching ▪ Teaching a struggling learner ▪ Counseling for each transition ▪ Teaching in a virtual setting ▪ Interactive methods of teaching ○ Team-based learning ○ Flipped classroom ○ Problem-based learning ○ Case-based learning	▪ Assessment methods ○ Direct observation ○ Other ▪ Validity and reliability of assessment tools ▪ Feedback ○ Verbal ○ Written ○ Formative and summative ▪ Competence assessment based on assessments (standard setting) ▪ Milestones/EPAs ▪ Evaluation of learners for implicit bias ▪ Standardization of assessment tools—What does it look like? How do you teach your faculty? How would you create one? ▪ Clinical Competency Committees ▪ Remediation of struggling learner ▪ Letter of recommendation/SLOE	▪ Well-being ○ Financial ○ Work-life balance ▪ Career advancement ▪ Mentoring, advising, and coaching ○ Selecting a mentor ▪ Implicit bias and diversity ▪ Equity and advocacy ▪ Digital media in professional life ▪ Financial component (personal) ▪ Counseling for each transition ▪ SMART goals ▪ Maintenance of certification ▪ Collaboration/networking ▪ Documentation/coding/billing ▪ CV ▪ Organization, prioritization skills, time management ▪ Interviewing skills
Instructional Design and Curriculum Development	**Scholarly Activity**	**Leadership, Administration, and Organizational Development**
▪ Course goals and objectives ▪ Curricular approaches ○ Small/large group lectures and other modalities ○ Curricular design—how to develop and implement effective curriculum ▪ Blueprinting ▪ Needs assessments ▪ Curriculum evaluation ▪ Simulation ○ Case-based ○ Procedural ○ Communication (breaking bad news, etc) ○ Slide deck creation ○ Audience interaction/engagement ○ Creating simulations	▪ Types of scholarship and various methods of dissemination ▪ Research methodology ○ Quantitative ○ Qualitative ▪ Writing (manuscript, grant, narrative) ▪ Designing workshops ▪ Abstract preparation and presentation skills ▪ QIPS ▪ IRB/CITI program ▪ Literature review ▪ Local/regional/national committee membership	▪ Leadership models ▪ Organizational structures and culture (including diversity, equity, and inclusion) ▪ Creative and strategic management ▪ Conflict resolution ▪ Recruitment ▪ Financial management of an organization ▪ Committee membership ▪ Role modeling ▪ Negotiations ▪ Formation into an academic leader

Abbreviations: EPA, enstrustable professional activity; SLOE, Standardized Letter of Evaluation; SMART, specific, measurable, achievable, relevant, and time-bound; CV, curriculum vitae; QIPS, quality improvement and patient safety; IRB, institutional review board; CITI, Collaborative Institutional Training Initiative.

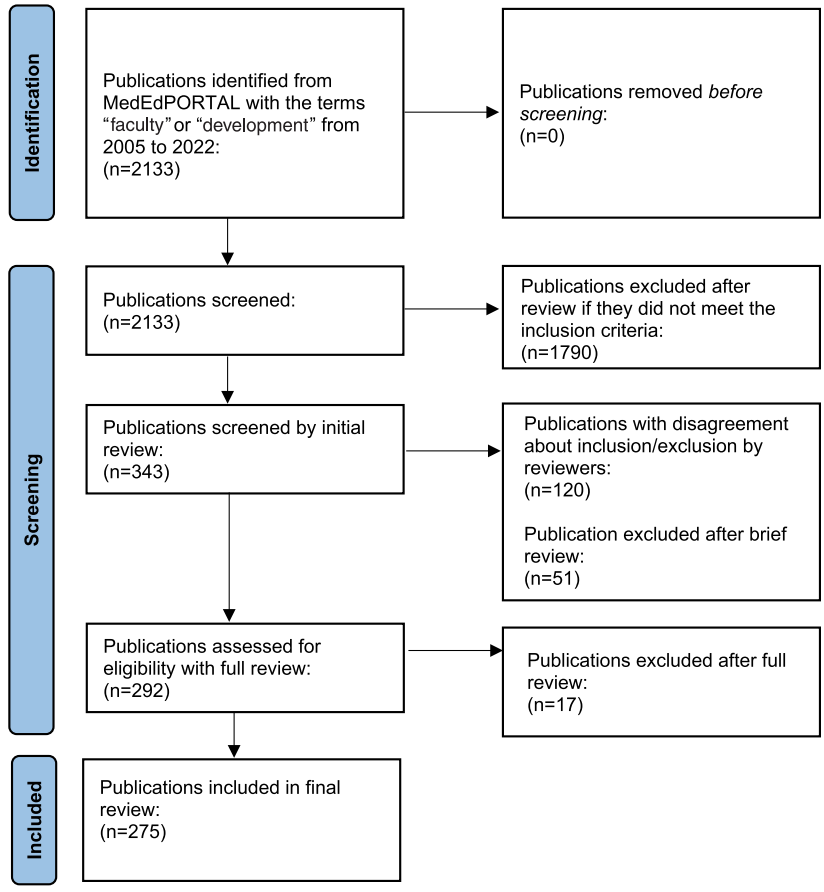

FIGURE
Article Selection Process

article text review was used if discrepancies existed. A post hoc interrater reliability of 92% was calculated using the rate of agreement about article inclusion or exclusion. Rubric submissions underwent descriptive analysis.

This study was considered to have exempt status by the Charleston Area Medical Center Institutional Review Board for the protection of human subjects.

Results

A broad search of MedEdPORTAL for articles addressing CE professional development, or FD, from January 2005 to December 2022 returned 2133 articles. Our article selection process is described in the FIGURE. A total of 275 articles met the final criteria for inclusion. The domain of teaching and learning was the most represented (38.2% of publications, 105 of 275). Other domains addressed were evaluation, assessment, and feedback (28.7%, 79 of 275); personal and professional development (24.4%, 67 of 275); leadership, administration, and organizational development (18.2%, 50 of 275); instructional design and curriculum development (16.7%, 46 of 275); and scholarly activity (12.4%, 34 of 275; online supplementary data FIGURE 2). The trend of FD-specific publications varied over the years (online supplementary data FIGURE 3). Most publications incorporated multiple educational domains with the most common overlap being teaching and learning with evaluation, assessment, and feedback. Pediatrics and internal medicine (IM) were the most represented specialty-specific publications. Most (67.3%, 185 of 275) of the publications were not targeted to one specialty and could be used by any specialty without modifications to the material. There was a wide variety in the end target audiences with overlap in some publications: 43.6% (120 of 275) with no specific audience, 28.4% (78 of 275) GME residency educators, 25.1% (69 of 275) undergraduate medical educators, 18.5% (51 of 275) faculty, and 8.4% (23 of 275) GME fellows.

Discussion

Our review of MedEdPORTAL publications revealed a growing yet uneven body of FD resources across the 6 domains over the past 17 years with the lowest

number of publications in scholarly activity and highest in teaching and learning.

The highest number of published FD resources was in 2013 and 2014. The Accreditation Council for Graduate Medical Education (ACGME) formalized the required use of Milestones for trainee assessment in 2013,[9] which may have contributed to an increase in FD publications, specifically in the evaluation, assessment, and feedback domain. It is unknown if MedEdPORTAL made any changes in advertising or policy that may have contributed.

Most resources focused on the teaching and learning domain (38.2%, 105 of 275), aligning with existing literature. A systematic review of FD resources in family medicine (FM) showed that 65% (30 of 46) of the publications focused on teaching skills.[10] A review for FD published in 2020 also showed that most of the articles focused on teaching improvement.[2] Our study highlights a notable gap in scholarly activity, with only 12.4% (34 of 275) of resources addressing this domain despite its importance in academic promotion.[11] A recent review of FD programs for author development revealed only 20 publications that described formal instruction on scholarly writing.[12] Furthermore, the domain of leadership, administration, and organizational development also remains underrepresented despite the emphasis from new ACGME CE Milestones.[13]

Most of the FD resources identified were concentrated in pediatrics (17.1%, 47 of 275) and IM (10.5%, 29 of 275), followed by emergency medicine and FM. One hundred eighty-five of 275 (67.3%) of the resources had unspecified specialty. This data aligns with prior data from 2016 showing IM, FM, and pediatrics as leading contributors to FD literature.[3] Underrepresentation from other specialties may result from publications directed to specialty-specific journals. The impact of cross-specialty versus specialty-specific FD resources is unknown and warrants further investigation. Fellowship faculty were the least represented target audience (8.4%, 23 of 275), while 43.6% (120 of 275) articles had an unspecified target audience.

While this review of MedEdPORTAL was extensive, there are several limitations. With the focus on MedEdPORTAL only, it did not assess resources published elsewhere. Future studies reviewing PubMed and academic society driven FD resources using domain-based framework would offer more insight. This review did not assess the quality or impact of curricula. Finally, we did not calculate interrater reliability during the study, although several iterations of review were conducted to solidify a shared mental model, and a post hoc interrater reliability was calculated.

Our study highlights critical gaps in FD resources, particularly in scholarly activity, leadership, administration, and organizational development, and instructional design and curriculum development, requiring targeted curriculum development by leaders in GME. Further studies of MedEdPORTAL to analyze topics within each domain and measure publication quality will provide additional insights.

Conclusions

Our review of MedEdPORTAL found the FD domains of scholarly activity, and leadership, administration, and organizational development to be least represented. It also highlighted gaps in resources for specialties outside of IM and pediatrics, and for fellowship educators.

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

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

This data was presented as a poster at the Association of Program Directors in Internal Medicine meeting, September 12-14, 2024, Minneapolis, Minnesota, USA.

The authors would like to thank Grace Huang, MD, for her support for this project.

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Received April 10, 2025; revisions received June 23, 2025, and July 30, 2025; accepted August 1, 2025.