Strategies for Increasing Occupational & Environmental Medicine (OEM) Participation

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Disclaimer

• The opinions expressed by the presenters and in the following slides are solely those of the presenters.
Objectives

• Analyze the trend of OEM physician training programs in the United States

• Discuss strategies and resources for building OEM community

• Consider benefits of mentorship in OEM residency training

• Discuss the role of preceptors in occupational medicine training
Outline

• Trends in OEM Training
  • Sajjad A. Savul, MD, MS, FACOEM
• Mentorship
  • Michael Pratt, MD, MPH, FACOEM
• Precepting
  • Aisha Rivera Margarin, MD, MS
• Building OEM Community
  • John Meyer, MD, MPH, FACOEM
• Discussion
Trends in OEM Training

Sajjad A Savul, MD, MS, FACOEM


• 1997: Consensus statement by the American Medical Association (AMA) and the Association of American Medical Colleges (AAMC) declared the same- Surplus!

• Early 2000’s: Awareness that prior projections of physician surplus were inaccurate

• 2005: AAMC acknowledged physician “shortage”, calling for a substantial expansion in medical school enrollment by 10-30%

*Graduate Medical Education National Advisory Committee
U.S. Population and MD School Matriculants, Indexed to 1980

Index (100 = 1980)

Year


Sources: Census Bureau, AAMC

Image source: www.NiskanenCenter.com
OEM Physician Shortages

• In 1972, The National Institute for Occupational Safety and Health (NIOSH) identified a shortage of 3,000 physicians in occupational medicine

• A 1989 estimate commissioned by the Institute of Medicine (IOM) assessed OEM physician shortage staying up towards 3500 specialists
  • Limitations in availability of OEM training programs was considered one of the main reasons for this continued deficit.

• In 1991, NASEM* Report Indicated an additional need for up to 5,500 physicians with special competence in OEM

* National Academies of Sciences, Engineering and Medicine
The Institute of Medicine (IOM) committee offered six specific measures to alleviate the shortage of physicians in OEM:

1. Increase OEM interest among students and trainees
2. Establish a cohort of centers of excellence to train future teachers, researchers, and leaders
3. Integrate environmental medicine with occupational medicine training and research programs
4. Increase funding for faculty development
5. Support residency and fellowship training; and
6. Explore, refine, and adopt new pathways to certification and accreditation in OEM
Specialty Certificates as Proportion of All Specialty Certificates

- PHGPM, 42%
- OEM, 47%
- AM, 11%

<table>
<thead>
<tr>
<th>Specialty</th>
<th># Certificates</th>
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<tr>
<td>AM</td>
<td>733</td>
</tr>
<tr>
<td>OEM</td>
<td>3,103</td>
</tr>
<tr>
<td>PHGPM</td>
<td>2,741</td>
</tr>
<tr>
<td>All Specialties</td>
<td>6,577</td>
</tr>
</tbody>
</table>

*Includes TL & NTL Certificates active as of January 2023

Graph courtesy of ABPM presentation to Program Directors- April 2023
ABPM-OEM Certified Physicians (Initial)

• Board Certification Started: 1955
• Last 30 years:
  • Highest number certified (1997): 229
  • Lowest number certified (2010): 60

ACGME Approved OEM Residencies

- 1970’s: 40 Programs (highest)
- 1990: 29 Programs
- 2023: 23 Programs
  - 21 University based/ affiliated
  - 2 Military based

Number of OEM Programs in the US
US Residency Positions

Why OEM Program Numbers are Declining?

• Lack of adequate funding for training programs
• Lack of OEM curriculum in medical school education
• No formal mentorship in medical school or medical conferences on the specialty of OEM
  • Over the course of medical school, most medical students change their preferred residency specialty. A quarter (25.7%) of 2018 respondents to the Graduation Questionnaire indicated the same specialty preference as they had indicated on the Matriculation Student Questionnaire*
  • NASEM Report 1991: Medical schools specifically teaching OEM as part of the required curriculum had a mean teaching time of just 4 hours in 4 years.

*Source: AAMC. 2018 GQ as of Sept. 13, 2018, and matching MSQ data from various survey years.
and Image source: https://www.aamc.org/news-insights/gme
Mentorship in Residency

Michael Pratt, MD, MPH, FACOEM
mentor

n. A trusted and experienced individual who counsels a less experienced person in their academic and/or career development.
mentee

n. An individual counseled by a mentor
Career growth and development

Primary focus of mentoring

1. Coaching, facilitating advancement and positive visibility, protecting, and challenging
2. Nurturing trust and relationship bonds that promote mentee “growth, identity, self-worth, and self-efficacy”

Mentoring functions

Counselors
Friends
Role-models

Offering “acceptance and confirmation”

Mentoring behaviors

Formal—assigned
Informal—naturally occurring

Types of mentoring

Informal—naturally occurring may be more beneficial because of social bonds

Types of mentoring

2023 Scoping Review in Journal of Graduate Medical Education

- 55 studies met inclusion criteria
- Most programs assigned a staff physician mentor to a resident mentee with meetings every 3 to 6 months
- 50-80+% of residencies have a formal mentorship program
- Over 40% match mentors to mentees on the basis of interest, career, and gender identity

2023 Scoping Review in Journal of Graduate Medical Education

- Positive impact on academics, career development, and productivity
- More likely to pass boards
- More likely to be hired in their specialty
- Underrepresented in medicine may derive special benefit

2023 Scoping Review in Journal of Graduate Medical Education

- Mentors
  - Staff physicians (81%)
  - Resident peers (7%)
  - Peer and staff physicians (3%)

• Mentor attributes
  • Barrier—accessibility/availability issues
  • Facilitation
   • Accessible
   • Approachable
   • Honest
   • Nonjudgmental
   • Caring
   • Good listener

2023 Scoping Review in Journal of Graduate Medical Education

• Mentee attributes
  • Barriers
    • Lacks career certainty
    • Too overwhelmed to participate
    • Lack of self-motivation
    • Time constraints biggest barrier
  • Facilitation
    • Motivated
    • Receptive

History of Rutgers OEM Program Mentorship
2014 Residency Handbook

Mentorship
• All residents will be offered the opportunity to participate in the mentorship program with one OEM faculty member. Mentoring can be a powerful professional development tool that focuses on various residency- and career-related topics. Mentors will monitor resident academic and personal growth and will also make themselves available for informal dialogue.
• Mentoring provides a great platform for residents and faculty discuss any topic that can have a positive impact. Mentoring may be based on shared specialty interests or even professional and personal aspirations.
• Mentees should take the initiative to identify faculty mentors whom they respect and with whom they would want to establish a mentor-mentee relationship. Alternatively, a mentor may be assigned to a resident.
• Mentees may opt to change mentors at the beginning of their second year of training.
Current Rutgers OEM Program
Mentorship

**Formal**

*Individual*
Currently, we have no formally assigned internal faculty members
We would facilitate a resident request

**Group**
Successful and experienced OEM mentors volunteer their time at EOHSI
Current Rutgers OEM Program Mentorship

Informal

Individual
We try to match residents with a successful and experienced mentor based on career interest or resident request

Group
Some mentors have facilitated group meetings on a specific career topic outside of the Rutgers setting
In the Rutgers OEM program, special emphasis is placed on informal, external mentors, matched to the career interests of our trainees.

- Well-received by residents
- Internal mentors
  - Historically not as well-leveraged by residents
Experienced OEM Specialists—Consider Reaching out to Your Nearest OEM Residency Program

Mentoring trainees in OEM is a service to our specialty that many find rewarding and an opportunity to “give back”
Precepting in Occupational and Environmental Medicine Training

Aisha Rivera Margarin, MD, MS
Precepting in Occupational and Environmental Medicine

• Discuss the role of preceptors in occupational medicine training

• Highlight the important skills preceptors should possess
  • Technical skills vs. soft skills
  • Familiarity with OEM competency and milestone documents
  • Effective communication, expectations, and feedback
  • Resources
What is a preceptor?

**preceptor** (pri-šēpˈtər, prē-sēpˈtər)

*n.*

1. A teacher; an instructor.
2. An expert or specialist, such as a physician, who gives practical experience and training to a student, especially of medicine or nursing.
3. The head of a preceptory.
Have YOU ever thought about precepting?

to be a preceptor!
What skills should a preceptor have?

Technical

- Diagnosis of occupational diseases
- Exposure assessment
- Risk communication
- Knowledge of how OEM competencies, milestones align with your rotation site
- Rotation dependent

Soft

- Effective communication
- Applicable to all rotations
ACGME Milestones and ACOEM Competencies

• ACGME Milestones
  • A tool to assess learning that focuses on individual learner and highlights pathway to expertise
  • Each medical specialty developed its own set of “Milestones” to guide the learning and assessment of its learners through core competencies
    • Patient Care and Procedural Skills
    • Medical Knowledge
    • Practice-based Learning and Improvement
    • Interpersonal and Communication Skills
    • Professionalism
    • Systems-based Practice

• ACOEM Competencies
  • Guidance statement prepared by OEM specialists which outlines the knowledge, skills, abilities OEM physicians need
  • 10 core competencies ranging from clinical OEM to OEM related management

• As a preceptor you should know which milestones best align with the learning opportunities at your rotation site.

### Patient Care 1: History and Physical Examination

<table>
<thead>
<tr>
<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>Obtains an accurate history</td>
<td>Obtains and reports an accurate and organized history, including occupational and environmental history</td>
<td>Consistently obtains and reports a comprehensive and accurate history, including occupational and environmental factors, and seeks appropriate data from secondary sources</td>
<td>Consistently obtains and concisely reports a focused history, including occupational and environmental factors, with pertinent details</td>
<td>Consistently serves as a role model and educator in obtaining and presenting a focused history, including occupational and environmental factors, with pertinent details</td>
</tr>
<tr>
<td>Performs a basic physical exam accurately</td>
<td>Performs an accurate and organized physical exam, and identifies appropriate physical findings for the chief complaint</td>
<td>Consistently performs an accurate and thorough physical examination, and reports relevant findings in support of likely clinical diagnosis</td>
<td>Consistently identifies subtle physical findings; is proficient with advanced maneuvers</td>
<td>Consistently serves as a role model and educator in the performance of an advanced physical exam</td>
</tr>
</tbody>
</table>

**Comments:**

Not Yet Completed Level 1
Not Yet Assessable
Effective Communication

"process of exchanging ideas, thoughts, opinions, knowledge, and data so that the message is received and understood with clarity and purpose."

**Transactional Model of Communication**

Image source: https://open.lib.umn.edu/businesscommunication/chapter/1-2-what-is-communication/
Tips for Preceptors on Effective Communication

• Set, Manage, and Revise Expectations
  • Ask yourself
    • How much time do you have for the resident?
    • Are you familiar with OEM competencies and milestones?
    • Do you know what the residents can learn at your rotation site that aligns with the OEM competencies?

• Communicate expectations
  • Welcome
  • Logistics/time/location/attire
  • Objectives/goals
  • Reading assignments
  • Schedule checkpoints and discuss best ways to communicate with you
  • **Consider putting all of the above items into a document and/or having a pre-rotation meeting to communicate mutual goals and expectations**

• Give feedback
  • Constructive/Corrective AND/OR Reinforcing/Encouraging
    • Goal: improve performance
What can you give feedback on?

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**General Skills**

- **Patient care skills:** history and physical exam, oral presentation, written notes, procedures, follow up on patients
- **Medical knowledge base, clinical reasoning**
- **Practice-based learning:** use of technology and evidence-based medicine, responds well to feedback (ability for self-reflection and improvement)
- **Interpersonal and communication skills:** interactions with team, patients and families
- **Professionalism:** set boundaries, demonstrate accountability and dependability, act ethically
- **Systems-based practice:** can navigate healthcare system
- **Inter-professional collaboration:** with nurses, tech, social work, PT

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**Specialty Specific Skills**

- **Professionalism:** show up, be engaged, be curious, be interested, tell the truth, be kind to others
- **Self-directed:** learning/taking ownership
- **Ability to set goals:** articulate those goals and make progress towards achieving them
- **Critical thinking skills:** being able to generate prioritized dx/dx, think in "if, then..." kind of way
- **Critical thinking skills:** demonstrating a foundational knowledge
- **Knowing what you don’t know**
- **Organizational skills:** can keep information straight

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**Do’s**

1. Focus on competencies and skill
2. Provide specific information about student’s clinical skills (history taking, physical exam, oral presentation, clinical reasoning, etc.).
3. Comment on student’s level of initiative, enthusiasm, and ability to self-start.
4. Assess the student’s ability to work with patients, peers, residents and faculty, and other members of the healthcare team.
5. Be thoughtful with your use of superlatives and descriptors so as to avoid hyperbole

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**Don’ts**

- Use “coded” adjectives (e.g. outstanding, excellent) without any behavioral examples
- Use vague generalities without examples.
- Reward students for coming in early or staying late by using it as an example of positive behavior when it may violate the student work hours policy.
- Reference grades for core clerkship students (e.g., She would receive Honors if this were an option)
- Allow bias to influence your comments*
- Fill the space with a lot of ‘cheerleading’ comments that do not describe performance (i.e. avoid reliance on “we predict he has a bright future” or “she is sure to have a continued upward trajectory and make a fine house officer.”)

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*The asterisk indicates a potential bias in the feedback.

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Source: Duke Family Medicine
When giving feedback stay on “TASC-E”

• Timely
  • Increases likelihood feedback will be used for improvement

• Actionable
  • Based on shared model of competencies and expectations

• Specific
  • Based on direct observations and encounters
    • Example: You gave your patient adequate time after communicating the bad news.” vs. “You did a good job communicating the bad news.”
    • “I saw patient grimace and pull away during the exam and you continued the exam.”

• Clear
  • Need the learner to understand your feedback, so they can incorporate it and improve performance

• Environment
  • Be mindful of where you give the feedback (e.g., one on one vs. in a group)
Consider different feedback techniques

- Direct observation
  - OSCE, etc.
- Real time feedback
  - Online survey, minute feedback system, etc.
- Self-assessment
  - Johari window, etc.
- Evaluative models
  - ACGME milestones, etc.
- Specialized feedback techniques
  - Feedback sandwich, etc.

Image source: https://www.mindtools.com/au7v71d/the-johari-window
Challenges

• Time
• Space
• Poor communication
• Personal factors
  • Personality mismatches
  • Perceived skills of preceptor by trainee
  • Limited growth mindset
  • Blind spots in self-awareness
• Difficult conversations
  • Performance not meeting expectations
Best Practice Recommendations

1. Feedback should be clear, specific, timely, and actionable. (Level 1a, Grade B)
2. Feedback should be based on observed behaviors. (Level 3b, Grade B)
3. Both corrective and reinforcing feedback should be provided to learners, although not necessarily at the same time. (Level 4, Grade C)
4. Feedback tools are recommended to increase learner satisfaction and volume of feedback; however, the use of tools must be combined with faculty development and a culture of feedback to improve the quality of feedback. (Level 3b, Grade C)
5. Feedback should incorporate learner self-assessment. (Level 3b, Grade C)

1. Encourage learners to take an active role in the feedback process.  
   (Level 2b, Grade B)
2. Take the work environment into account when creating appropriate feedback systems that are contextually appropriate as a way to improve learner perception of feedback. (Level 2a, Grade B)
3. Provide opportunities for learners to build longitudinal trusting relationships in order to promote a strong educational alliance and a growth mindset and to facilitate feedback reception. (Level 4, Grade C)
4. Address the tension between assessment and feedback as fear of consequences can predispose a learner to have a fixed mindset, thus limiting learner growth. (Level 4, Grade C)
5. Develop and maintain standardized, structured, multisource, and longitudinal feedback processes. (Level 3a, Grade B)
Consider the scenarios and your role

• Overly confident resident ➔ GUIDE to CONSIDER OTHER POINTS of VIEW
• High performing resident ➔ COACH
• Distressed resident ➔ IDENTIFY and RESPOND to NEED FOR SUPPORT
• Resident with insight gaps ➔ HELP IDENTIFY GAPS

Resources


• Society of Teachers of Family Medicine, [https://www.teachingphysician.org/topic-index/](https://www.teachingphysician.org/topic-index/)

• Society to Improve Diagnosis in Medicine, [https://www.improvediagnosis.org/art/](https://www.improvediagnosis.org/art/)
How can you collaborate with your local residency program and contribute to the next generation of OEM physicians?
Building OEM Community

John Meyer, MD, MPH, FACOEM
Discussion and Q & A