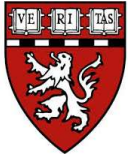


# Training fellows to be educators

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## Disclosures

- Board of Directors, Alliance for Academic Internal Medicine

## Objectives

- Identify clinical teaching as an important competency for subspecialty fellows
- Discuss approaches to integrating medical education skill development into allergy/immunology fellowship programs

## Should teaching be a core competency of fellowship training?

- ACGME requirements
- Fellow interests and career paths
- Fellow teaching skills



# ACGME Milestones

Interpersonal and Communication Skills 2: Interprofessional and Team Communication				
Level 1	Level 2	Level 3	Level 4	Level 5
Uses language that is respectful and values all members of the health care team	Communicates basic information effectively with all health care team members	Communicates highly complex information effectively with all health care team members	Optimizes flexible communication strategies using input from all team members to build consensus and resolve conflicts, as needed	Demonstrates leadership in promoting open and safe communication within and between teams
Accepts feedback from team members	Solicits feedback on performance as a member of the health care team	Provides feedback to peers and other learners on the team	Communicates detailed and effective feedback to any member of the health care team	Educates others in providing effective feedback
Systems-Based Practice 3: Physician Role in Health Care Systems				
Level 1	Level 2	Level 3	Level 4	Level 5
	Demonstrates use of information technology (e.g., electronic health record) needed for clinical practice	Demonstrates knowledge of current evaluation and management billing practices	Independently completes proper documentation and coding for a patient encounter	Educates others on proper documentation, billing, and coding practices

# ACGME Milestones

Medical Knowledge 3: Scholarly Activity				
Level 1	Level 2	Level 3	Level 4	Level 5
Identifies areas worthy of scholarly investigation, with supervision	Designs a scholarly activity with a mentor(s)	Engages in scholarly work, incorporates feedback, and participates in critical appraisal and analysis of project data	Produces scholarly work suitable for dissemination as an abstract or presentation	Dissemination of independent scholarly work that has generated new medical knowledge, educational programs, or process improvement

# ACGME Milestones

Systems-Based Practice 1: Patient Safety and Quality Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates knowledge of common patient safety events	Identifies system factors that lead to patient safety events	Participates in analysis of patient safety events (simulated or actual)	Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)	Actively engages teams and processes to modify systems to prevent patient safety events
Demonstrates knowledge of how to report patient safety events	Reports patient safety events through institutional reporting systems (actual or simulated)	Participates in disclosure of patient safety events to patients and families (simulated or actual)	Discloses patient safety events to patients and families (simulated or actual)	Role models or mentors others in the disclosure of patient safety events
Demonstrates knowledge of basic quality improvement methodologies and metrics	Describes quality improvement initiatives relevant to rheumatology practice	Participates in quality improvement initiatives relevant to rheumatology practice	Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project	Creates, implements, and assesses quality improvement initiatives at the institutional or community level

## Anticipated career activities – rheumatology fellows

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Academic center	35%
Basic science research	4%
Clinical research	7%
Clinician educator in AMC	20%
Teaching	59%
Community practice	64%

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N = 150 (71% response rate)

Reid et al. Clinical Rheum 2020

## Anticipated career activities – Harvard-affiliated hospitals

Academic center	86%
Basic science research	35%
Clinical research	69%
Teaching	79%
Educational scholarship	22%
Administration	25%

N = 183 (49% response rate)

Miloslavsky et al. BMC Medical Education 2019

## Fellows' attitudes towards teaching

	Agree or strongly agree	
	HMS fellows (N=183)	Rheumatology fellows (N=150)
I enjoy teaching residents and medical students	94%	94%
If I had more time I would do more teaching	95%	88%
My teaching skills can be improved	93%	96%
I want to receive more feedback about my teaching	74%	78%
I am interested in receiving training to improve my teaching skills	75%	82%

Miloslavsky et al. BMC Medical Education 2019  
Reid et al. Clinical Rheum 2020

## Fellow teacher training experience

	HMS fellows (N=183)	Rheumatology fellows (N=150)
Training in education during residency?	67%	55%
Training in education during fellowship?	33%	36%
Observed teaching experiences during fellowship?	29%	n/a

Miloslavsky et al. BMC Medical Education 2019  
Reid et al. Clinical Rheum 2020

## Fellow confidence in their teaching skills

**Table 5** – Fellow perceptions of their teaching skills

Skill	Definitely cannot	Probably cannot	Neutral	Probably can	Definitely can
<i>Teaching on the consult service</i>					
Can you figure out how much the intern already knows about the disease?	0%	13 (7%)	44 (25%)	102 (58%)	18 (10%)
Can you identify the major teaching points for this case?	1 (1%)	1 (1%)	7 (4%)	100 (56%)	68 (38%)
Can you teach effectively within the time constraints of a busy service?	1 (1%)	26 (15%)	47 (27%)	73 (41%)	30 (17%)
Can you give feedback to the intern about his/her approach to the patient thus far?	2 (1%)	17 (10%)	29 (16%)	99 (56%)	30 (17%)
<i>Giving a lecture to medical students</i>					
None of the students are planning to enter your sub-specialty field. Can you convey the importance of your topic to the students' clinical training?	0%	0%	9 (5%)	108 (61%)	60 (34%)
This is the second block rotation for the 3rd year students. Can you accommodate the students' differing clinical experiences?	0%	3 (2%)	35 (20%)	106 (60%)	33 (19%)
Can you address the different learning styles of your students? (e.g. quiet learner, dominant learner, etc...)	0%	21 (12%)	64 (36%)	69 (39%)	22 (13%)
<i>Teaching in resident case conference</i>					
The disease presented is very rare. Can you take the disease-specific elements and generalize them to broader principles?	0%	5 (3%)	24 (14%)	111 (63%)	35 (20%)
Some of the residents never speak up at conferences. Can you encourage participation from the quieter members?	1 (1%)	30 (17%)	53 (30%)	73 (42%)	18 (10%)
A resident asks you a question that is unrelated to your dedicated topic. Can you keep the discussion focused on your key teaching points?	0%	4 (2%)	42 (24%)	104 (59%)	25 (14%)
The audience includes all PGY levels. Can you address the different levels of the residents?	0%	6 (3%)	43 (25%)	101 (58%)	24 (14%)
You want to avoid asking questions that only test the recall of facts. Can you devise questions that evaluate your learners' ability to apply their knowledge to a clinical situation?	0%	8 (5%)	47 (27%)	92 (53%)	28 (16%)

Miloslavsky et al. BMC  
Medical Education 2019

## Fellow teaching skills



## Fellow teaching skills

Item	Self-assessment mean	OSTE mean	correlation coefficient
Creating a positive learning environment	4.22	3.72	(0.06)
Learner assessment	3.39	3.06	(0.10)
Presenting material	3.57	4.14	0.04
Giving feedback	3.22	3.76	0.31
Overall	3.39	3.68	0.13

N = 25

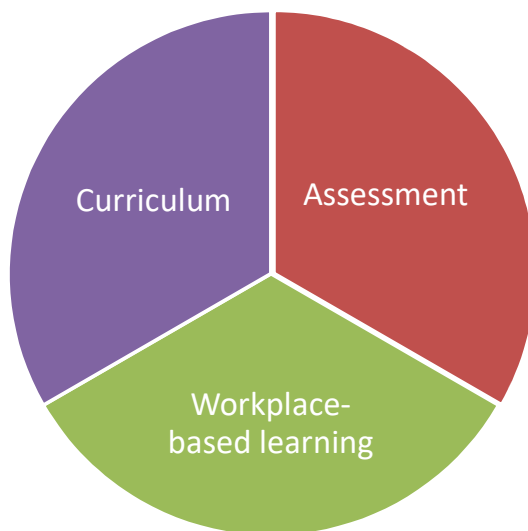
Unpublished data

Education | Opinion

## Op-ed: Good teachers are made, not born

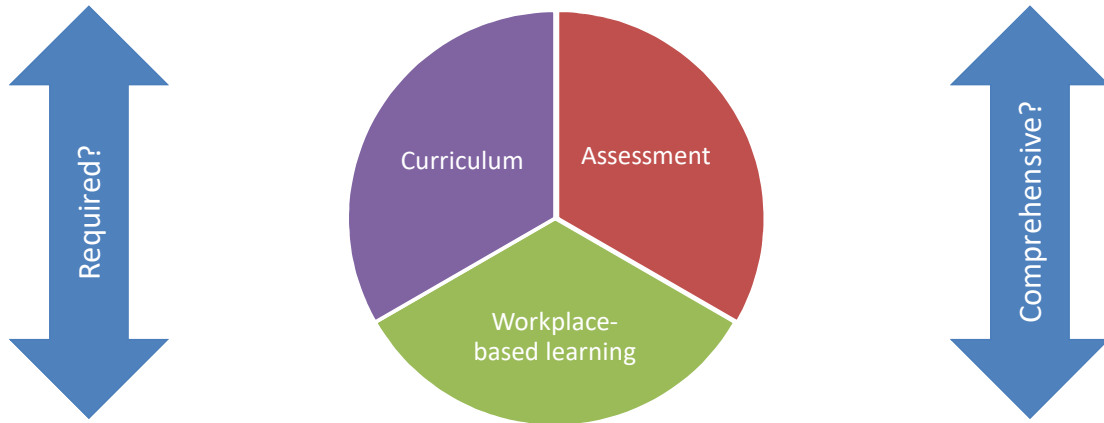


## Where to incorporate med ed skills?

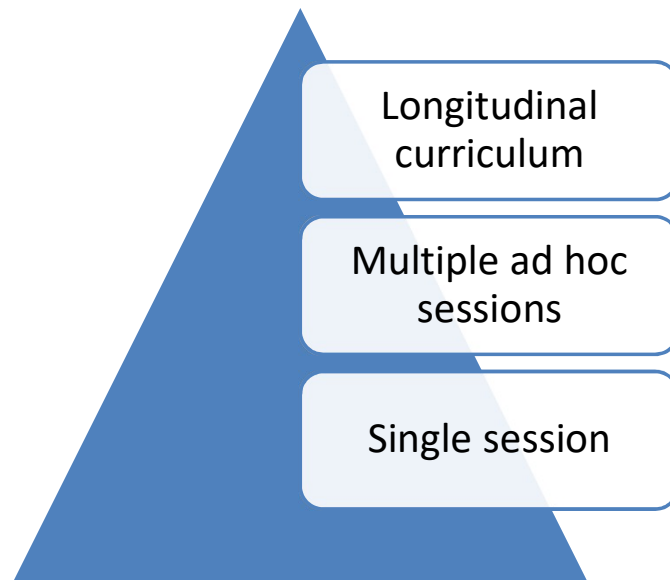




## Local medical education programs



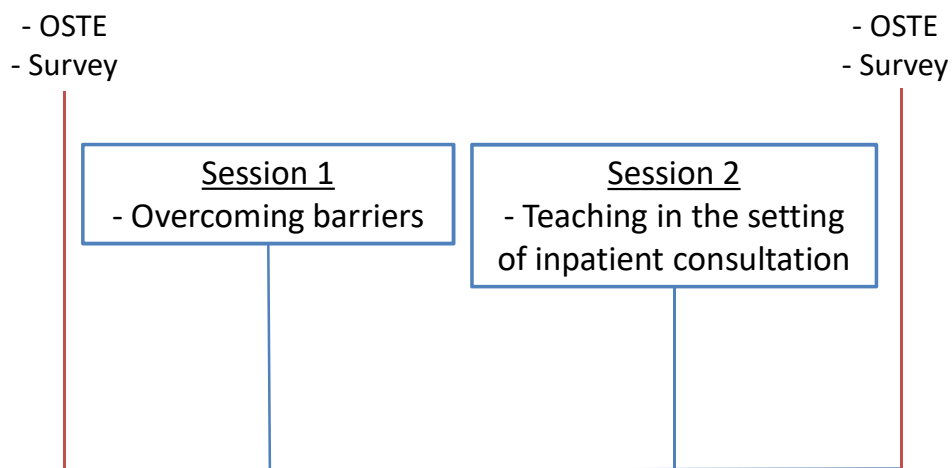
## Curriculum



# Curriculum

- Department of Medicine
  - Resident as Teacher course
  - Faculty development sessions
  - Grand rounds
- Fellowship curriculum
  - Single session
  - Longitudinal curriculum
- Division grand rounds or teaching retreat
- Outside resources
  - Harvard Macy
  - Medical education masters

## Fellow as Teacher Curriculum (FACT)



Miloslavsky et al, Arthritis Care Res 2016  
Miloslavsky et al, J Grad Med Educ. 2017

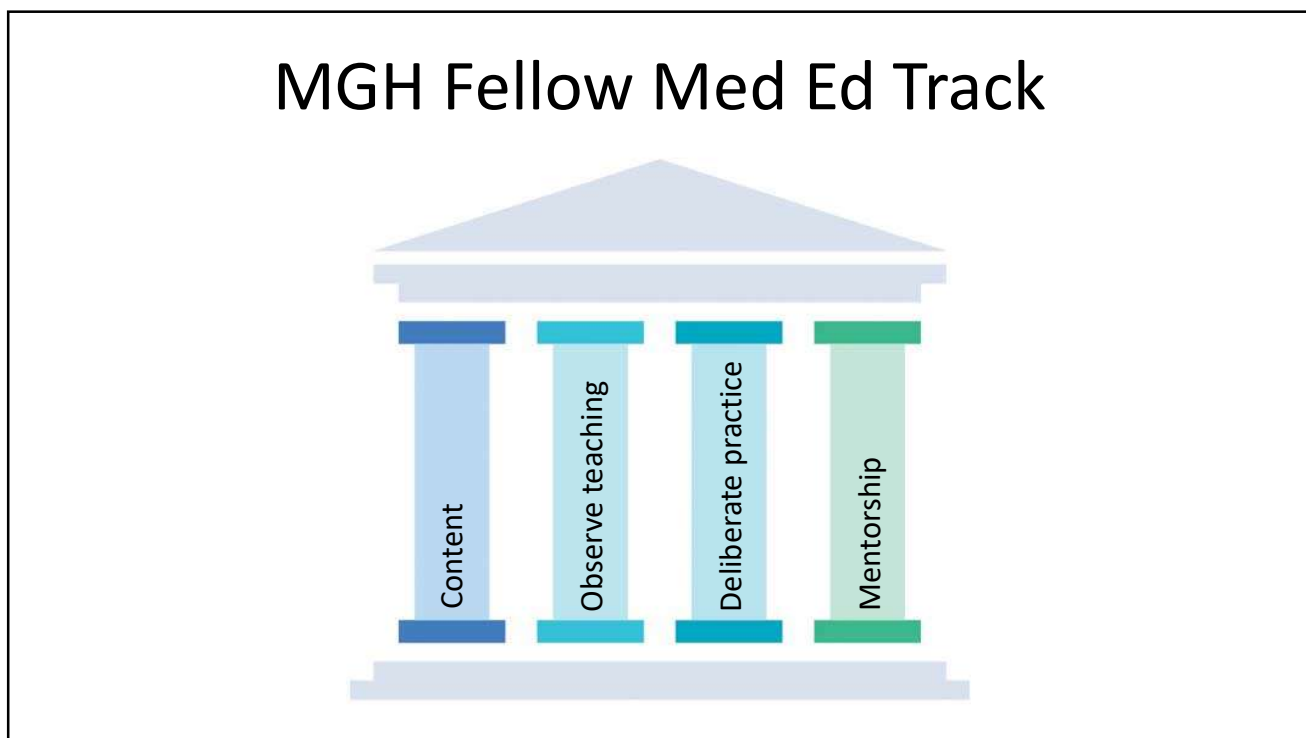
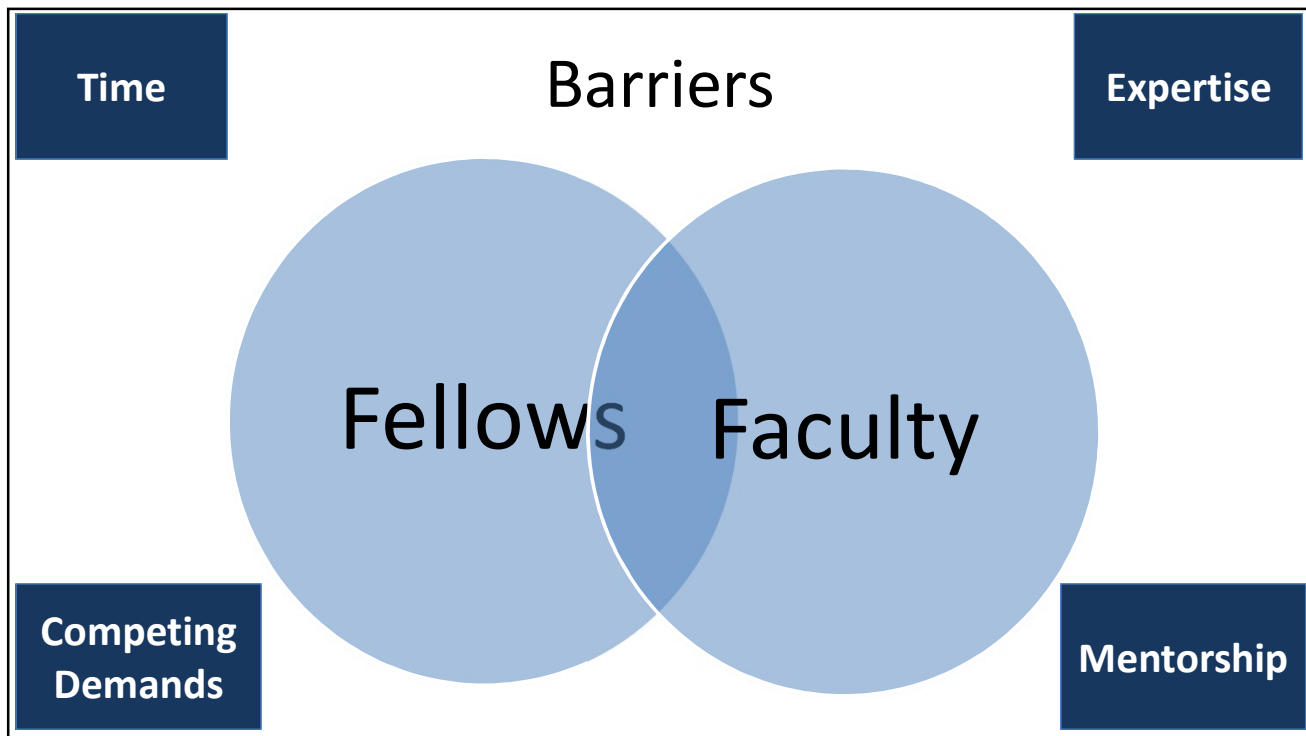
## FACT - results

<u>Item</u>	<u>Pre</u>	<u>Post</u>	<u>End</u>	<u>P-value (pre-post)</u>
Oriented learner	3.01	3.76	3.90	<0.01
Evaluated learner's knowledge	3.35	4.10	4.46	<0.01
Evaluated learner's ability to analyze	3.31	4.05	4.27	<0.01
Determined effective objectives	3.79	4.29	4.84	<0.01
Presented well organized material	3.94	4.66	4.77	<0.01
Effectively managed time during session	3.90	4.53	4.48	<0.01
Provided positive feedback	3.97	4.72	4.88	<0.01
Provided corrective feedback	3.64	4.68	4.50	<0.01
Relayed recs and closed the loop	3.88	4.52	4.67	<0.01
Overall teaching effectiveness	3.45	4.33	4.29	<0.01

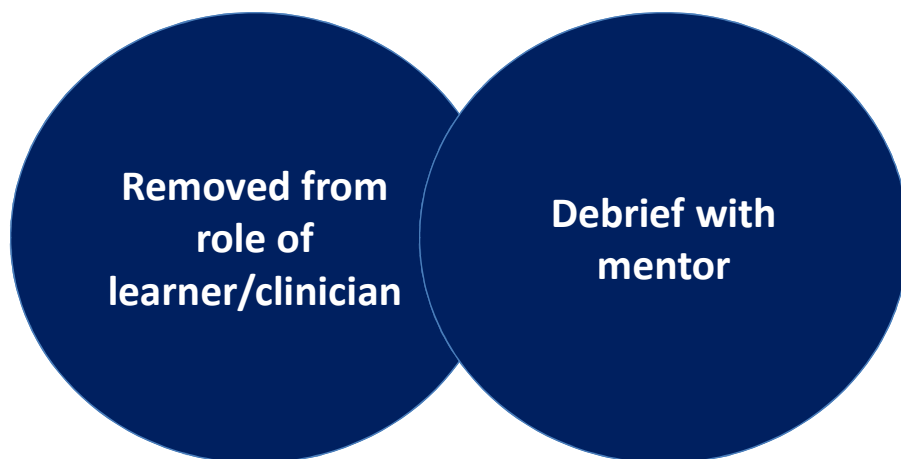
N = 12

Miloslavsky et al, J Grad Med Educ. 2017

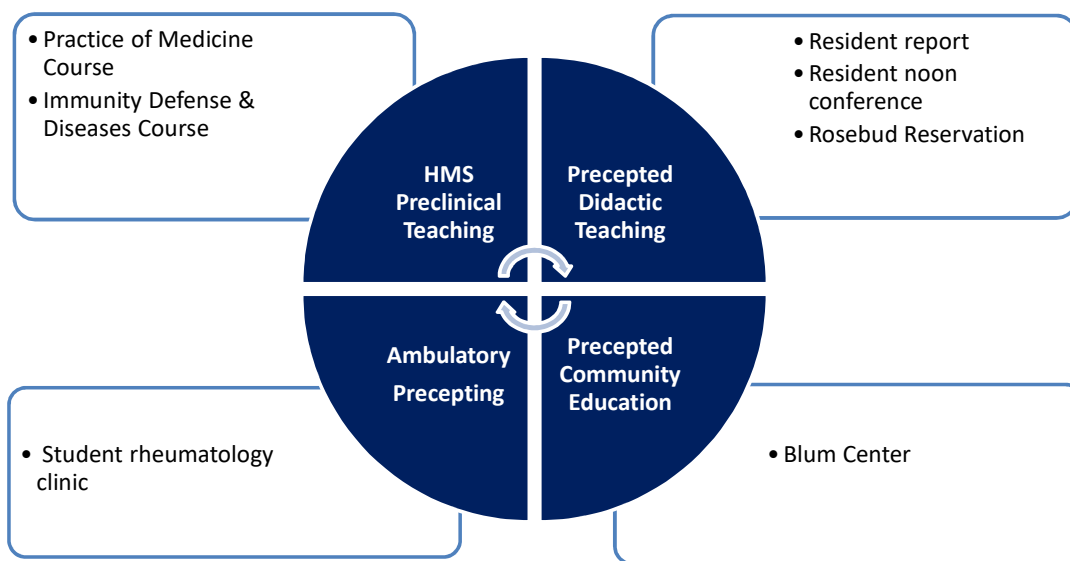
***Longitudinal programs***



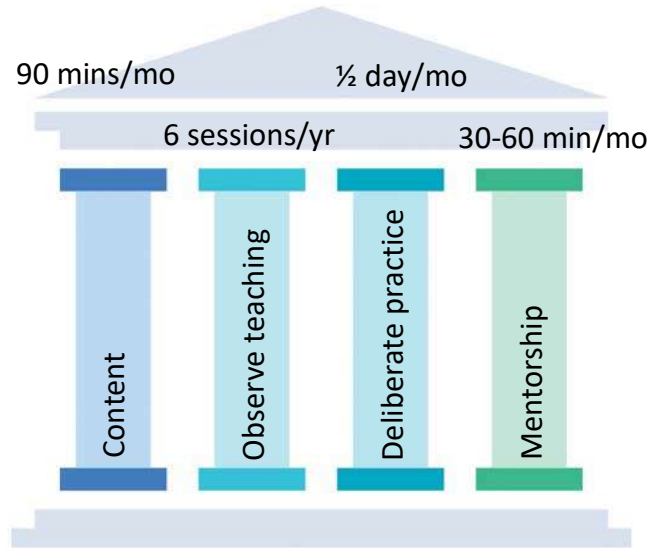
## Direct Observation



## Deliberate Practice



# Time commitment



***Workplace-based learning***

## Barriers to effective workplace-based teaching

- Time
- Expectations
- Perceptions
- Experience
- Lack of feedback
  - Attendings
  - Primary teams



"Yes, as a matter of fact, you have caught me at a bad time."

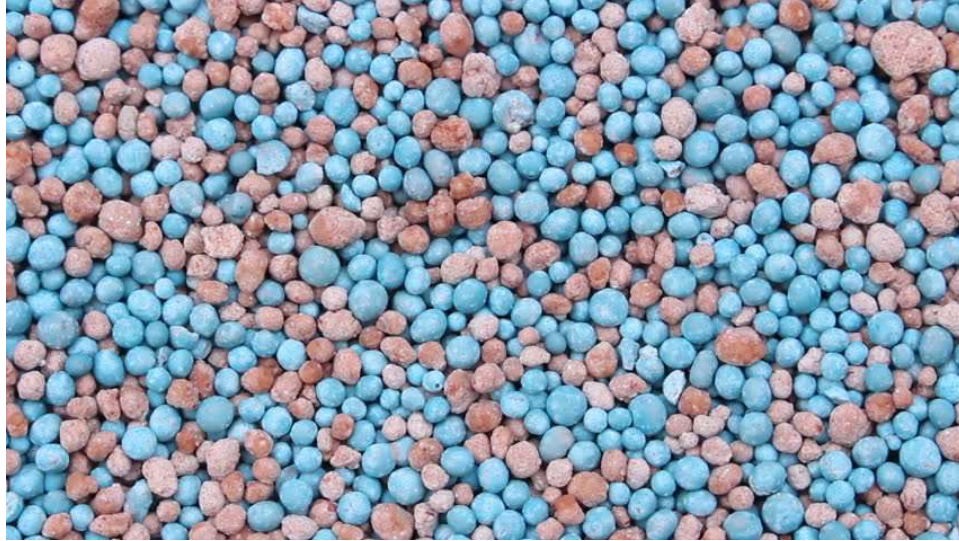
Miloslavsky et al, *Medical Education* 2015

### STEP BY STEP Deliberate Practice



## Deliberate practice

- Set expectations
- Observe and take notes
- Can use a rubric
- Debrief



## Subspecialty consult survey items

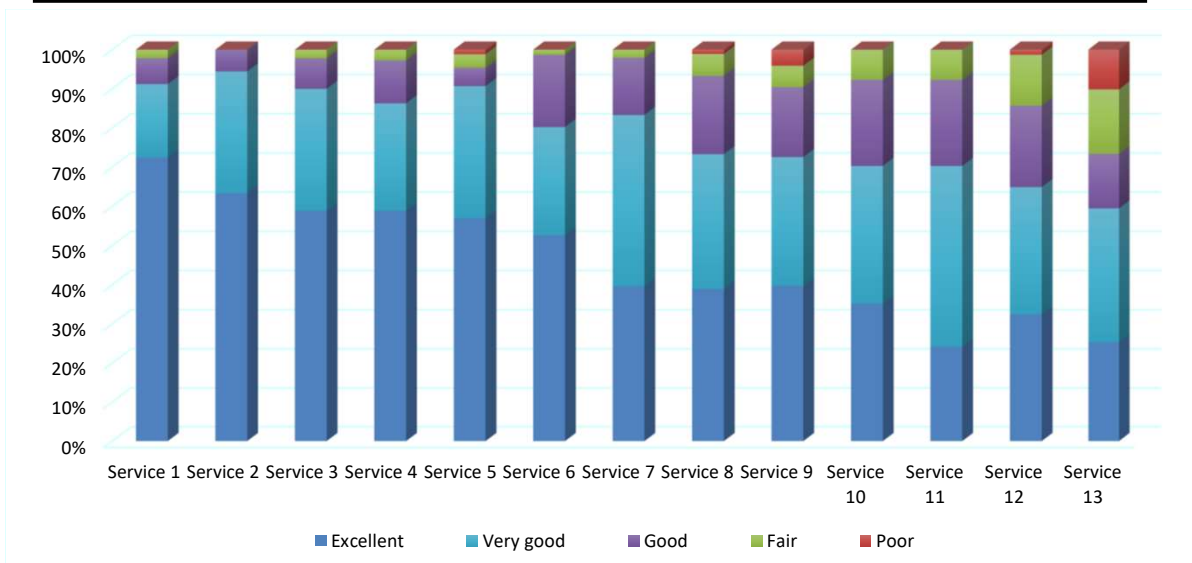
- Rate your overall satisfaction with the X consult service.
- Rate the quality of communication b/w your team and the X consult team.
- How often do you receive pushback...when you initially call the consult?
- Rate the teaching you receive from fellows on X service.
  
- Provide feedback to individual fellows (free text)

Miloslavsky and Chang, J Grad Med Educ 2019



## Overall satisfaction

2024	4.62	4.58	4.47	4.42	4.42	4.32	4.21	4.04	3.99	3.98	3.87	3.82	3.48
2023	4.21	4.57	4.44	4.30	4.08	4.07	4.11	3.95	3.88	3.71	3.79	3.67	3.64
Change	0.40	0.01	0.03	0.12	0.33	0.25	0.09	0.09	0.10	0.27	0.08	0.15	(0.16)



## Assessment

- ACGME Clinician Educator Milestones
  - <https://www.acgme.org/globalassets/pdfs/milestones/standalone/2022/clinicianeducatormilestones.pdf>
- Fellow Teaching Behaviors Milestone Evaluation Tool (Sadun et al)

- ✓ Setting expectations
- ✓ Learner involvement
- ✓ On the Fly teaching
- ✓ Teaching medical decision-making
- ✓ Thinking out loud
- ✓ Providing feedback

## Summary

- Fellows recognize the importance of teaching in their career
- There is strong interest among fellows in opportunities to enhance their teaching skills
- Incorporation of skills should be tailored to the resources available at your institution
  - Curriculum
  - Workplace-based learning
  - Assessment

*Thank you!*

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