



**Faculty Development Seminar**  
Department of Anesthesiology and Perioperative Medicine  
UPMC

# **Mentorship Program**

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# Goals & Objectives



- What is mentorship?
- Differences among mentor/coach/sponsor/connector
- Why is mentorship important?
- The need for a formal mentorship program
- Introduction of the UPMC DAP Mentor-Mentee Program (MMP)
  - The system
  - Current status
  - Initial survey
  - How to participate in the program

# Definition of Mentorship

‘The process whereby an experienced, highly-regarded, empathetic person (the mentor) guides another individual (the mentee) in the development and re-examination of their own ideas, learning and personal and professional development’

# Mentorship is NOT:

## Role Modeling

Passive, observational learning model in which you attempt to emulate desirable behaviors and qualities

## Coaching

Performance of specific tasks, skill, goals

# Differences Between Mentor / Coach / Sponsor / Connector

## BASICS

"To put it simply, the mentor guides, the coach improves, the sponsor nominates, and the connector empowers, but always the mentee benefits." *Chopra et al. JAMA Internal Med. 2018*

Mentoring

Coaching

Sponsorship

Connector

# Six Reasons why Clinicians Need Mentoring

## Mentored academic clinicians

1. get more peer-reviewed research **grants**
2. publish more **papers** in refereed journals
3. get faster academic **promotion**
4. are more likely to **stay** at their academic institutions
5. report greater **belief in their own ability** to accomplish specific academic goals and tasks
6. report greater career **satisfaction**

Characteristics of Primary Care Fellows Who Graduated from National Research Service Award Programs and Their Training Environments Associated with Having Influential and Sustained Mentorship, 1988–1997

Had mentor 134/146 (93.1%)

Characteristic	No Influential Mentor (no. = 37)	Influential but Not Sustained Mentorship (no. = 42)	Influential and Sustained Mentorship (no. = 60)	<i>p</i> Value
Age (years)	38.1 ± 4.1	39.6 ± 5.0	37.8 ± 4.2	.20
Gender (% female)	58.3	42.9	45.0	.25
Race (% white)	83.8	88.1	81.4	.65
Discipline				
General internal medicine	32.4	33.3	40.0	.44
General pediatrics	35.1	26.2	30.0	
Family medicine	29.7	33.3	13.3	
Other discipline	2.7	7.1	16.7	
Years since completed training	3.5 ± 2.6	4.7 ± 2.5	3.5 ± 2.1	.03
Total years of fellowship training	2.2 ± .6	2.3 ± .5	2.3 ± .6	.72
Completed any degree (%)	78.4	83.3	73.3	.48
Completed PhD degree (%)	2.8	2.4	8.3	.19
Apprenticeship model of training (%) (versus early independence)	36.1	33.3	40.7	.74
Wrote grant during fellowship (%)	27.0	35.7	41.7	.15
Trained in single-specialty program (%)	40.5	48.5	49.1	.52
Trained in program funded for both cycles (%)	64.9	76.2	65.0	.87
Proportion of time spent during fellowship in:				
Course work	32.3 ± 18.0	29.2 ± 16.0	27.5 ± 18.4	.36
Clinical practice	17.1 ± 15.8	16.7 ± 11.7	18.5 ± 11.3	.40
Clinical/research teaching	11.7 ± 7.8	9.2 ± 9.7	9.7 ± 8.3	.15
Conducting research	32.8 ± 17.0	38.3 ± 16.0	39.5 ± 17.8	.19
Number of mentors during fellowship	2.5 ± 1.0	2.3 ± 1.0	2.4 ± 1.2	.80
Hours per month with mentor individually	4.3 ± 3.8	4.2 ± 3.6	7.1 ± 8.4	.02
Hours per month with mentor in group settings	8.4 ± 10.0	7.1 ± 7.1	8.0 ± 8.6	.86



# More Research Grants; More Publications

Multivariate Odds Ratios (95% CI) for the Association between Receipt of Mentorship and Subsequent Research Career Development of Primary Care Fellows Who Graduated from National Research Service Award Programs, 1988–1997\*

n = 146 (68%)

Characteristic	On Full-Time Faculty	Spent 40% or More Effort on Research	Provided Research Mentorship to Others	Published One or More Papers per Year	Had Federal Grant as Principal Investigator
No. (%) achieving outcome	97 (68.5%)	60 (41.1%)	61 (41.7%)	46 (31.5%)	38 (26.0%)
No influential mentor	1.0 (reference)	1.0 (reference)	1.0 (reference)	1.0 (reference)	1.0 (reference)
Influential but not sustained mentorship	1.3 (.5–3.4)	1.4 (.5–4.0)	3.2 (.7–15.3)	4.0 (1.0–15.2)	2.1 (.7–6.5)
Influential and sustained mentorship	2.1 (.8–5.2)	2.7 (1.0–7.5)	8.9 (1.8–42.4)	5.2 (1.5–18.4)	2.1 (.7–6.1)
Spent 40% or more effort on research during fellowship	3.3 (1.5–7.2)	4.5 (2.0–10.0)	3.6 (1.1–11.5)	4.7 (1.9–11.4)	—
Spent more than 4 hr/mo with mentor during fellowship	—	.3 (.1–.7)	.2 (.1–.7)	—	—
Age (per yr)	—	—	1.2 (1.0–1.4)	—	—
Wrote a grant during fellowship	—	—	4.1 (1.1–15.6)	—	—
Male gender	—	—	—	4.3 (1.7–10.6)	—
Trained in program funded for both funding cycles	—	—	—	—	3.7 (1.3–10.5)
C-index for multivariate model	.68	.74	.81	.81	.66

\*Blank cells indicate that the variable listed was not a statistically significant predictor of the career variable on multivariate analysis.



# Academic Promotion (Faster)

- Department of **Medicine** at the **University of Toronto**.
- Promotional data from 1988 to 2010 for **382** faculty members appointed before 2003 (**non MMP**) were compared with **229** faculty members appointed in 2003 or later (**with MMP**).
- Faculty with MMP (after 2004) were promoted **1.2 years** (mean) **sooner** versus those appointed before 2003 (3.7 [SD = 1.7] vs. 2.5 [SD = 2],  $p < 0.0001$ ).
- Regardless of year of appointment, **mentor assignment** appears to be significantly associated with **a reduction in time to promotion** versus non-mentored (**3.4** [SD = 2.4] vs. **4.4** [SD = 2.6],  $p = 0.011$ ).

# Academic Promotion (Higher)

## Methods:

A questionnaire was mailed to faculty obstetricians/gynecologists at the 15 Canadian medical schools

## Results:

The response rate was 72% (376/522).

- Having a mentor was associated with a higher likelihood of promotion to Professor (HR, 2.33;  $P = 0.002$ ).

# Stay at their Academic Institutions

	Assistant professors				Associate professors			
	Number of mentors				Number of mentors			
	0 (n=38)	1 (n=209)	2+ (n=224)	$\chi^2$ (P)*	0 (n=139)	1 (n=86)	2+ (n=43)	$\chi^2$ (P)*
Percentage of all possible types of mentoring received - Mean (SD)	25 (18)	43 (18)	51 (18)	59.6 (<.0001)	25 (4)	42 (17)	55 (16)	94.85 (.0001)
Job satisfaction [mean (SD)]	6.2 (1.8)	6.7 (2.0)	7.3 (1.7)	17.7 (.0001)	6.8 (1.7)	7.2 (1.7)	7.7 (1.3)	10.3 (.0057)
Satisfaction with mentoring (mean(sd))	3.5 (2.8)	6.3 (2.9)	7.4 (2.3)	42.8 (.0001)	3.2 (2.4)	6.8 (2.8)	7.3 (2.6)	74.35 (.0001)
Expect to leave within 5 years (%)	58	44	38	5.78 (.06)	33	28	26	1.20 (.55)
<b>Faculty gender</b>								
Men (%)	8	47	45	3.43 (.18)	56	30	14	6.77 (.03)
Women (%)	9	38	53		39	38	23	
<b>Faculty track</b>								
Clinician-Educator (%)	11	45	44	20.04 (.0005)	49	36	15	6.67 (.15)
Tenure track (%)	2	40	58		58	20	22	
Research track—%	13	51	36		50	37	13	

\*Chi square resulting from either comparing percentages in a cross-tabulation or a Kruskal-Wallis non-parametric comparison of means.

# Greater Belief in their own Ability to Accomplish Specific Academic Goals and Tasks

Faculty members at UCSF who had mentors reported significantly greater belief in their own ability to accomplish specific academic goals and tasks (**self-efficacy**) than those who didn't have mentors.

# Greater Career Satisfaction

- Survey to junior faculty at 24 US Medical Schools
- 1,808 (60%) responders
- Career satisfaction multiple questions (total score 20-100)
- Faculty with mentors had higher scores (mean, 62.6 vs. 59.5,  $p < 0.003$ )

# Clinician Educator Faculty often Do not Have Mentors.....

*Table 1.* Descriptive statistics for demographics from 464 survey respondents of whether they have ( $n = 319$ ) or do not have ( $n = 145$ ) a career mentor

Variable/value	Have a mentor, $n$ (%)	$p^*$
Gender		
Female	154 (51.7)	0.50
Male	144 (70.2)	
Ethnicity		
White	186 (68.1)	0.57
Asian	83 (70.9)	
African-American/Latino	24 (72.7)	
Other	10 (55.6)	
School		
Dentistry	20 (64.5)	0.68
Medicine	266 (83.4)	
Nursing	14 (66.7)	
Pharmacy	19 (79.2)	

*Feldman MD, Areal PA, Marshall SJ, Lovett M, O'Sullivan P. Does mentoring matter: results from a survey of faculty mentees at a large health sciences university. Med Educ Online. 2010 Apr 23;15.*

Clinician educator faculty with more teaching and patient care responsibilities were statistically significantly **less likely to have a mentor** compared with faculty in research intensive series (p<0.001).




Percentage of time – teaching		
0–20	168 (72.7)	0.001
21–40	90 (62.9)	
41–60	26 (78.8)	
61–80	3 (25)	
81–100	2 (33.3)	
Percentage of time – patient care		
0–20	129 (80.1)	<0.001
21–40	65 (73.0)	
41–60	44 (56.4)	
61–80	22 (44.9)	
81–100	8 (47.1)	

Percentage of time – research		
0–20	63 (50.8)	<0.001
21–40	55 (73.3)	
41–60	36 (69.2)	
61–80	97 (87.4)	
81–100	37 (72.5)	

Satisfaction with time allocation		
Yes	231 (77.5)	0.026
No	67 (22.5)	



# Need for a formal Mentor-Mentee Program

- Mentorship leads to academic success    
- Research faculty have mentors, but clinician educator faculty may not.
- Formal mentor-mentee program in major industries 
- Reports from an anesthesiology department are rare.

# **Need for a formal Mentor-Mentee Program for Faculty Development**

## **Hypothesis**

- A department-led faculty mentorship program is feasible.

## **Aims**

- Design, implement, and evaluate a mentor-mentee program

# UPMC Mentor-Mentee Program

<https://www.academicprofessionaldevelopment.org>

- The Pitt/UPMC Department of Anesthesiology and Perioperative Medicine initiated a formal Mentor-Mentee Program (MMP) in 2020.
- First Year
  - You will be assigned to onboarding mentors
  - You will select up to three (3) faculty mentors at the end of the first year and engage in two years of MMP activity
- Second year and beyond
  - Meet with mentors at least every two (2) months
  - At the end of the academic year (June 30), you and your mentor will complete your performance review

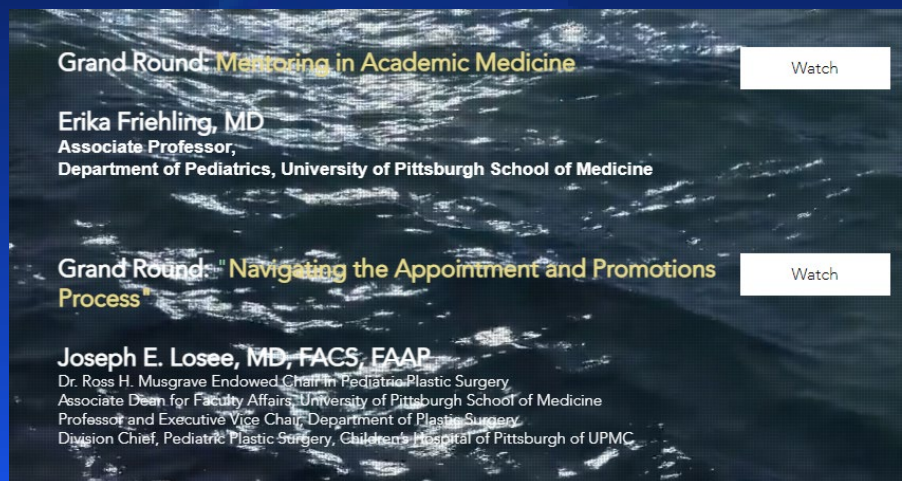
# Methods



82 academic faculty  
(52 junior faculty)



Acceptance by mentor  
Formal initiation (Feb 2020)



Grand Rounds  
Handbook  
Introduction website  
(<https://www.academicprofessionaldevelopment.org/>)

# First-Year Survey (April 2021)

## RESULTS

MENTEES  
(n=52)

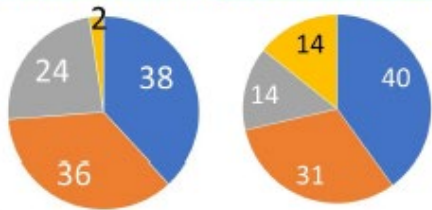
MENTORS  
(n=39)

### Survey Response Rates

81% (42)

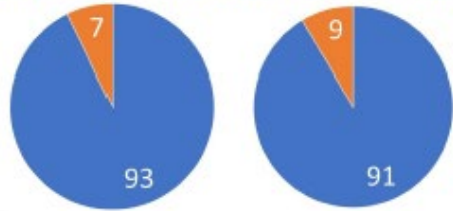
90% (35)

### Number of Mentors / Mentees



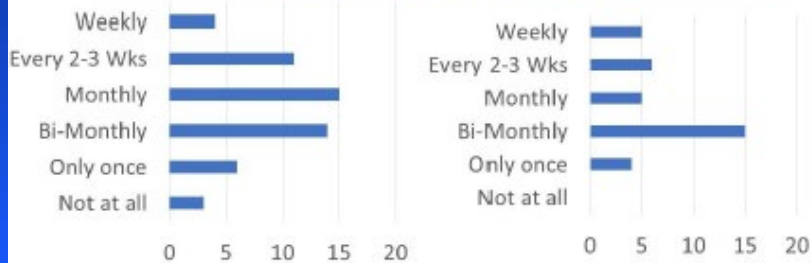
■ 1 ■ 2 ■ 3 ■ ≥ 4

### Are you satisfied with the number?

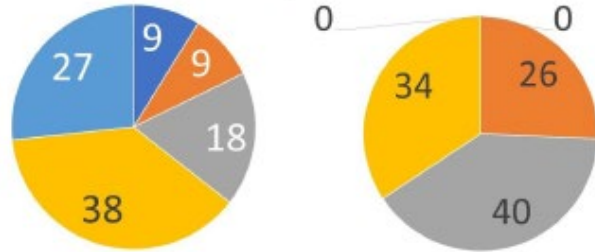


■ YES ■ NO

### How often do you meet?

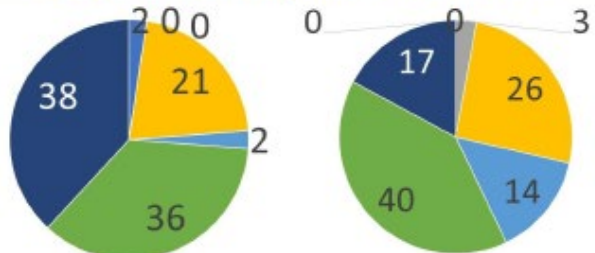


### Has mentorship been effective?



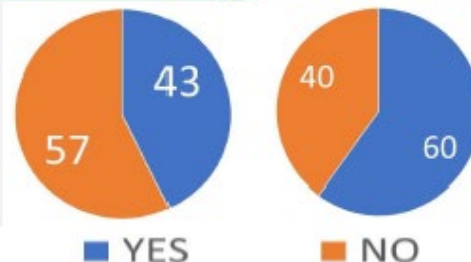
■ Not at all ■ Slightly ■ Moderately ■ Very ■ Extremely

### Overall Mentor-Mentee Experience



■ Extremely Dissatisfied ■ Moderately Dissatisfied  
 ■ Slightly Dissatisfied ■ Neutral  
 ■ Slightly Satisfied ■ Moderately Satisfied  
 ■ Extremely Satisfied

### Need of Self Training as Mentor or Mentee?



■ YES ■ NO

- Mentee chose up to three mentors with >90% satisfaction by both sides.
- >80% of mentor-mentee pairs has met at least bi-monthly basis
- >90% of mentees and 100% of mentors considered mentorship has been effective.
- >70% of mentees and mentors are satisfied with overall experience
- 60% of mentors are interested in self-training.



# Conclusion

- Implementation of a department-led mentor-mentee program for academic faculty members is **feasible and beneficial** in creation of a positive mentorship experience on both sides.
- Administrative support on **meeting prompt** and **longitudinal mentorship training** are required.
- **Longitudinal follow-up** is required.

# To Whom Should I Talk Regarding the MMP?

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