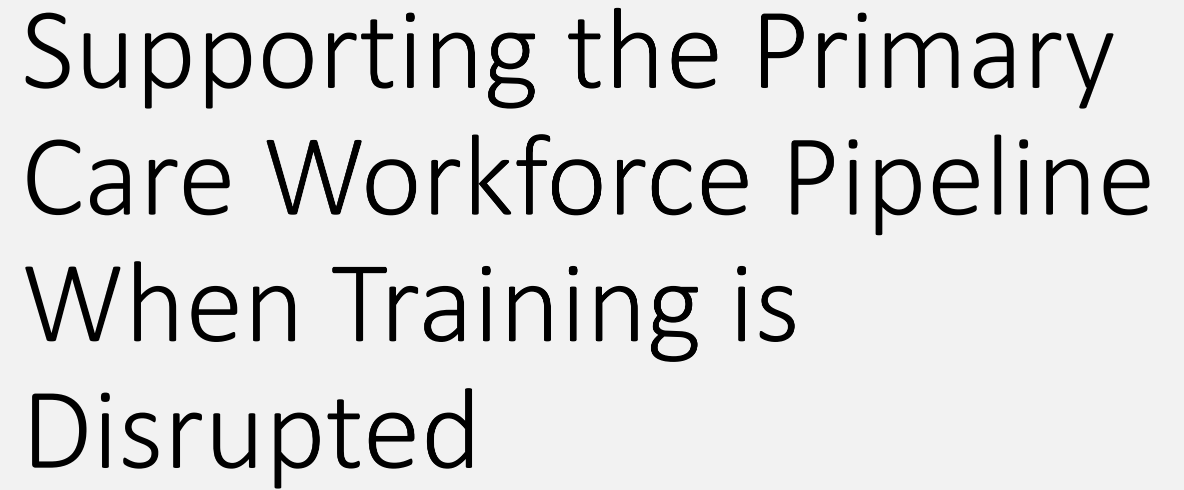

Supporting the Primary Care Workforce Pipeline When Training is Disrupted

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COVID Pandemic Timeline

- Multiple periods of time affecting clinical learning environments
- Partial Impact
  - Graduates 2020-2022
- Partial UME + Full GME Impact
  - Graduates 2023-2026
- Full UME Impact + Unclear GME
  - Graduates 2027 -2029

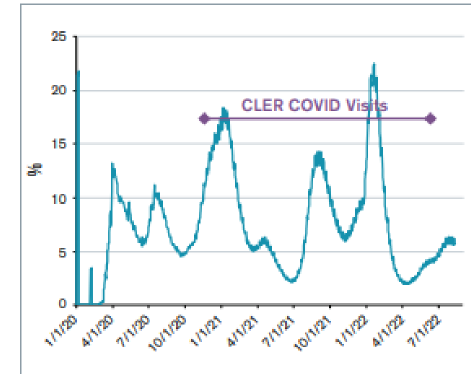


Figure 8. Average Percentage of Inpatient Beds Occupied by Patients with COVID-19[7]

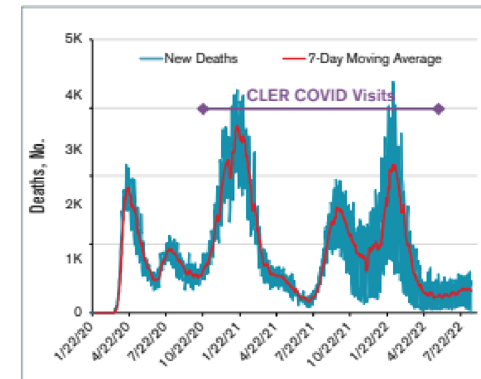


Figure 5. Daily Trends of New COVID-19 Deaths[5]

ACGME Clinical Learning Environment (CLER) COVID National Report

ACGME conducted to understand the impact and develop responses to support GME community during the challenge of the COVID pandemic

Used a modified CLER Site Visit Protocol done virtually

CLER visits are for understanding and institutional feedback and are not accreditation visits

Conducted between October 2020 – July 2022

Stratified random sample of Sponsoring Institutions – Visited 287 institutions

ACGME CLER COVID National Report:
Disruptions in training with long-term implications

"Clinical learning environments anticipated an ongoing need to develop and implement strategies to retain and rebuild their workforce into the future."

"Clinical learning environments anticipated long-term changes in patient care delivery models based on the COVID-19 pandemic experience"

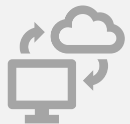
"The COVID-19 pandemic disrupted many aspects of didactic and experiential learning for residents and fellows with anticipated long-term implications."

Examples of Training Disruption

Didactic education moved to virtual lectures

Less hands-on learning

Less group work and development of interpersonal relationships between faculty and residents and between residents



Replace in-person clinical experience with on-line modules and virtual learning

Example:

Replace shadowing in dermatology office with online modules on skin exam findings

Replace in-person clinical experiences with telehealth experiences

Example:

Replace shadowing pediatrician doing developmental assessments to observing over Zoom pediatrician doing developmental assessments with telehealth

ACGME CLER COVID National Report:

Long term impacts on well-being

"Few clinical learning environments appeared to have a long-term strategy to address multiple system-level factors that impact the well-being of the clinical care team; most clinical learning environments were primarily focused on individual resilience."

"The COVID-19 pandemic had a unique impact on residents' and fellows' well-being and their readiness for future practice."

"The disruptions associated with the COVID-19 pandemic were anticipated to have a long-term impact on faculty member workload and well-being."

Delayed Professional Identity Development

Decreased face to face interactions with faculty and senior residents

- Unable to establish trust
- Delayed or lack of opportunity to develop mentoring relationships
- Decreased opportunities to model professional behaviors and values

Increased faculty burnout and exhaustion

- Decreased engagement outside required supervision
- Decreased empathy for challenges of residency
- Residents see burnout in role models → Demoralizing for future practice

Impacts on Medical Student Training

Move to Didactic and Small Group Teaching Remotely

- Decreased student engagement
- Loss of social connectiveness
- Decrease experience and development of team work skills
- Decreased interpersonal communication experience

Conversion of patient interactions to virtual case based experience

- Decreased experience in interpersonal communication and patient care skills
- Decrease team-based skills
- Decreases experience in systems-based practice
- Delayed professional identity development

Removal of medical students from caring for patients during a medical emergency

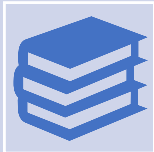
- Delay professional identity development

Impacts of Primary Care GME

Family Medicine Residencies the 2nd most affected by COVID (after EM)	• 2nd highest number of programs in ACGME Pandemic Emergency status (after EM) • Over 25% of FM residency programs in ACGME Pandemic Emergency status for >6 months
Move to Didactic and Small Group Teaching Remotely	• Decreased resident engagement • Loss of social connectiveness • Decrease experience and development of team work skills • Decreased interpersonal communication experience
Conversion of patient interactions to virtual case-based experience	• Decreased experience in interpersonal communication and patient care skills • Decrease team-based skills • Decreases experience in systems-based practice • Delayed professional identity development
Conversion of experience to COVID care	• Decreased variety of clinical experience – Swiss Cheese holes in knowledge and experience • Increased Burnout and Moral injury

ACGME Length of Training Pilot

Pilot to evaluate the impact of extending family medicine length of training to 48 months (4 years)



Case-Control Study Design started in 2013-2022

6 Residencies in the 4 Year Curriculum arm

7 Matched Residencies in 3 Year Curriculum arm

Evaluation studies in process of publication

- Student Interest – No difference[1]
- Financial Sustainability – No negative impact seen[2,3]
- Medical Knowledge Acquisition – Possibly higher in 4 years[4]
- Clinical Volume and Continuity – More clinical volume in 4 years[5]

[1]Eiff MP, et al. A Comparison of Residency Applications and Match Performance in 3-Year vs 4-Year Family Medicine Training Programs. Fam Med. 2019 Sep;51(8):641-648. doi: 10.22454/FamMed.2019.558529.
[2]Carney PA, et al. Financial Considerations Associated With a Fourth Year of Residency Training in Family Medicine: Findings From the Length of Training Pilot Study. Fam Med. 2021 Apr;53(4):256-266. doi: 10.22454/FamMed.2021.406778.
[3]Douglass AB, et.al. Financing the Fourth Year: Experiences of Required 4-Year Family Medicine Residency Programs. Fam Med. 2021 Mar;53(3):195-199. doi: 10.22454/FamMed.2021.249809.
[4]Carney PA, et al. The Association Between Length of Training and Family Medicine Residents' Clinical Knowledge: A Report From the Length of Training Pilot Study. [published online ahead of print January 31, 2023]. Fam Med. https://doi.org/10.22454/FamMed.2023.427621.
[5]Eiff MP, et al. Resident Visit Productivity and Attitudes About Continuity According to 3 Versus 4 Years of Training in Family Medicine: A Length of Training Study. [published online ahead of print February 13, 2023]. Fam Med. https://doi.org/10.22454/FamMed.2023.486345.

What is a 4-year residency program?

All the same components of a 3-year program, plus:

- Expanded core:
  - Inpatient experiences in all four years of training
  - Expanded Health Systems Management (including population health) and Leadership (longitudinal)
  - Expanded Community Medicine (longitudinal)
  - Required rotations in care of vulnerable populations
- Enhanced continuity and more clinical encounters/experiences
  - Pre-COVID - >2500 encounters (average 2700+)
- Area of concentration (AOC)

4 Year Block Curriculum

R1	Adult Medicine Intern (10 wks)	AM NF (2 wks)	ICU (4wks)	Maternity Care R1 (4 wks)	MC/PD NF (4 wks)	Inpt Peds (4 wks)	Gyn (2wks)	MSK (2 wks)	Geri (2 wks)	OPP (2 wks)	Surg (2 wks)	Outpatient Longitudinal (4 wks)	Span. Elect. (2wks)	Spanish/ FMI (4 wks)	Vacation (3 wks)			
R2	Adult Med Jr (4 wks)	AM NF (4wks)	Maternity Care Jr (4 wks)	Peds Swing (2 wks)	Neo (2 wks)	Peds ED (2 wks)	ED (4 wks)	Gyn (2wks)	OPP (2 wks)	MSK (2 wks)	Surg (2 wks)	VA-Geri (2wks)	Derm (2 wks)	HIV (2 wks)	Outpatient Longitudinal (4 wks)	Elective (4 wks)	July Inpatient/ Outpt Swing	Vacation (4 wks)
R3	Adult Med Swing (2wks)	ICU 2 (4 wks)	AM NF (2 wks)	LGH MC Sr (2 wks)	MC Swing (2wks)	MC/ PD NF (2 wks)	Inpt Peds (4wks)	UMASS Sports Med (4 wks)	Gyn (2wks)	Pall Care (2 wks)	OPP (4 wks)	Surg (2 wks)	Outpatient Longitudinal (4 wks)	AOC (4 wks)	Elective (4 wks)	FMA (4wks)	Vacation (4 wks)	
R4	Adult Med Sr (4 wks)	LGH MC Sr (2 wks)	MC/PD NF (2wks)	MC Swing (2wks)	Peds ED (2 wks)	ED (4 wks)	Clinic Chief (4 wks)	MSK (2 wks)	OPP (2 wks)	VA-BH (4wks)	Outpatient Longitudinal (6wks)	AOC (8 wks)	Elect (2 wks)	July Inpatient/ Outpt Swing	Vacation (4 wks)			

Outpatient Longitudinal Curriculum Content by Year of Training

R1: Health Systems Management (HSM), Community Med, Behavioral Health, Integrative Medicine, Dermatology

R2: HSM, Community Med, Integrative Medicine, Addiction Med, Subspecialty Services

R3: HSM, Community Med, AOC

R4: HSM, Community Med, AOC

Gyn=Women's Health; MSK=Musculoskeletal Med; OPP=Outpatient Pediatrics; Surg=Surgery; Pall Med=Palliative Medicine; Derm=Dermatology

Impact of 4 Year Length of Training Pilot on Training During COVID

Systemic resiliency

- More flexibility to change curriculum to “make up” lost time
- More flexibility to allow for leaves of absence without extending training
  - Family leave
  - Medical leave – COVID related and mental health

Individualized Learning Plans

- Using CBME prior to pandemic → easier transition
- Structure to address differential effects of pandemic on education
- Focus on competency by graduation

Burnout and exhaustion

- May exacerbate due to being in residency longer

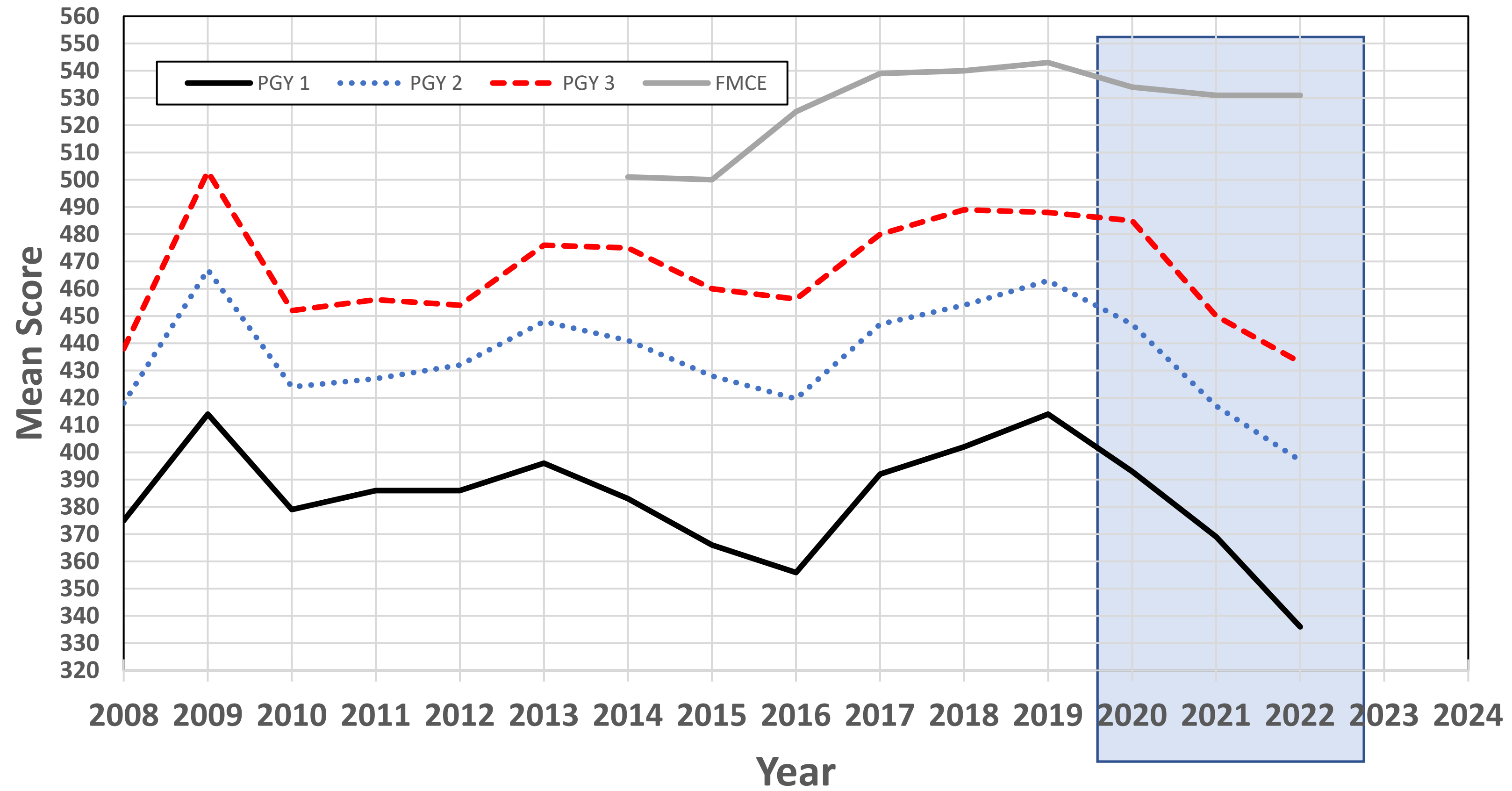
Integrating Population Health into Training –
Experience at Lawrence FMR
Teaching Health Center 4 Year Program
Increased Longitudinal Community Health as part of 4 Year Curriculum Innovation
40 hours per year plus didactic sessions
Longitudinal engagement with community partners
City NGOs
City Government
Participate in FQHC community health work
SDOH Screening and Interventions
Mobile Food Market
Medical Legal Partnership
Voting Registration at Clinic
Healthcare for the Homeless/Mobile Health Unit
Advocacy for FQHC and Patients
COVID Infection and Vaccine Education in Community
COVID disruptions severely affected curriculum

Tip of the Iceberg

Family Medicine In-Training Exam (ITE) Scores

- Administered by American Board of Family Medicine (ABFM) in October of each year
- Done at residency sites (proctored by program)
- Psychometrically tied to ABFM Initial Certification Exam
  - Same blueprint of material
  - Same scoring scale
  - Designed to predict performance on certification exam
  - Used by programs as assessment of medical knowledge acquisition

Changes in Mean ITE score at Resident Level



Decreased ITE Score Growth During Residency Since COVID

ITE Growth

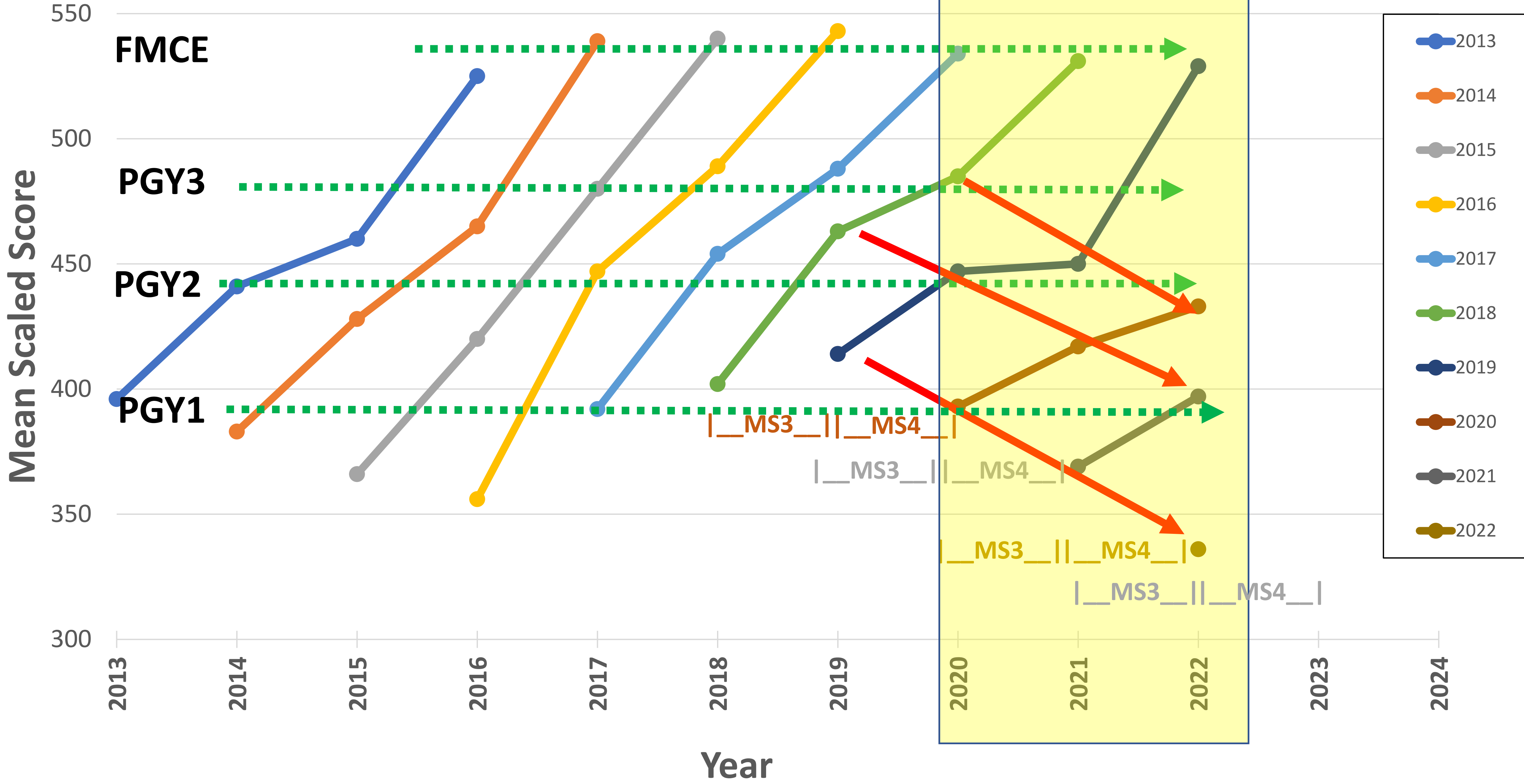
Growth PGY1 to 2 | Growth PGY2 to 3 | PGY1-2 Reference | PGY2-3 Reference

Mean Score

0 10 20 30 40 50 60 70 80 90 100

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

Cohort Year


Mean ITE Scores by Cohort and Year
Mean Scaled Score
550
500
450
400
350
300
FMCE
PGY3
PGY2
PGY1
__MS3__		__MS4__
__MS3__		__MS4__
__MS3__		__MS4__
__MS3__		__MS4__
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Year
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022

Graduate Practice Plans

- Do not know the full impact of this yet from data as this year the first class of graduates where entire residency after COVID Pandemic started
- Anecdotally = decreased interest in full time primary care
  - Part time
  - Urgent care
  - Hospitalist
  - Locums tenens
  - Non-clinical work

Hypothesized Long-term COVID Impacts on Training and Practice

Greater downstream impacts when disruptions occur earlier in training

Shifts in professional identity

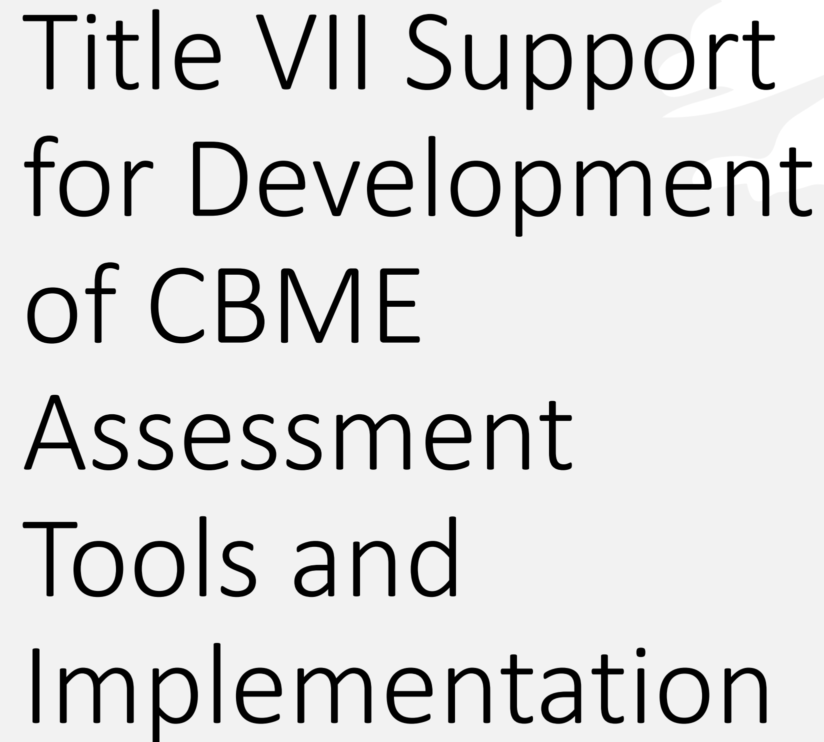
Increased burnout, disengagement, and moral injury

Decreased competency of new graduates (shifting training to employers)

Decreased trust in institutions

Reduction is primary care workforce

Recommendations to Address Issues



Title VII Support for Development of CBME Assessment Tools and Implementation

- COVID Accelerated need to rely on competency-based assessments
    - Since 2020, ABFM has required program directors to use competency-based assessments to determine residents’ ability to graduate and be board eligible
    - Removed 1650 visit requirement and other specific number requirements for Classes 2020-2022.
- 2023 Family Medicine Residency Requirements
    - Moving to requiring competency-based assessments of residents
    - Require every resident to have an Individualized Learning Plan (ILP) every 6 months
- Residencies and specialty leadership identify lack of standardized and validated assessment tools
    - Risk of inequities and bias
    - Risk of inadequate assessments (social graduation)

Support for Additional Training Time for Competency

Current GME funding tied to "minimum training period required for board certification."

Program Directors are graduating residents at lower levels of competency

- In 2019, 72% of graduating PGY-3s were scored in at least one ACGME Sub-Competency on the Milestone below that recommended for unsupervised practice[1].
- COVID has increased this practice

Multiple forces compel program directors to graduate residents

- Institutional pressure – will not employ residents past funded training time
- Societal pressure – residents at end of long path and often with high debt
- Belief that employers will provide support and monitor safety – lifelong learning

[1]Clements DS, Holmboe ES, Newton WP. Milestones in Family Medicine: Lessons for the Specialty. *Fam Med*. 2021;53(7):618-621. doi:10.22454/FamMed.2021.107044

Support for Additional Training Time for Competency

CMS GME Funding

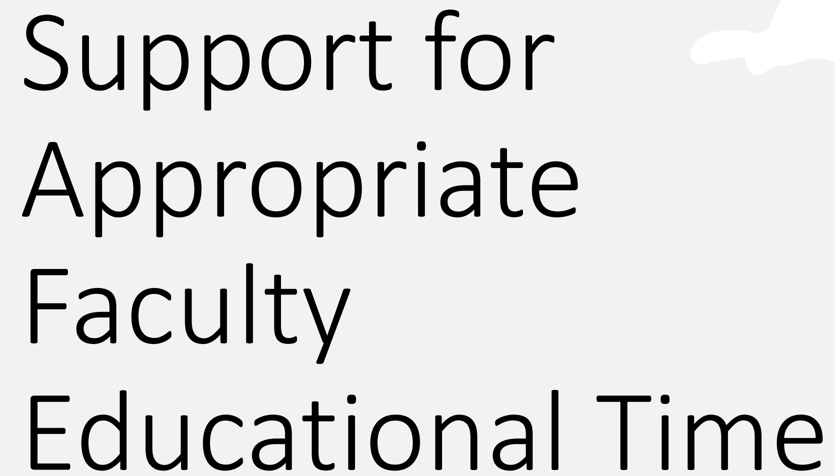
- Increase flexibility for the time allowed for a trainee to be funded to extend by 3-6 months to allow for FMLA leaves and ability for programs to train to competency instead of to 36 months

HRSA THC-GME

- Increase flexibility similar to CMS above
- Continue to support 48 month of length of training

Fund addition year of training for 4 Year AIRE (Advancing Innovation in Residency Education) Programs

Support for Appropriate Faculty Educational Time



- 2023 ACGME Residency Requirements significantly decrease faculty time
  - PD – Most reduces from 0.7 FTE to 0.5 FTE
  - APD- Removed requirement. Added “additional leadership” = Reduced from 0.4 FTE to 0.2 FTE or less
  - Core Faculty – Reduces from “60% Time to residency” to 0.1 FTE administrative time
- Most programs losing 1-2 FTE of total education time for program
  - Reduction in developing and performing resident assessments
  - Reduction in ability to develop innovative programs
    - Community health connections
    - Develop curricula to meet emerging community needs

Summary of Recommendations

Title VII Support for Development of CBME Assessment Tools and Implementation

Additional Training Time for Competency

Financial or Regulatory Support for Appropriate Faculty Educational Time

Thank you!