ROBERT GRAHAM CENTER

*Policy Studies in Family Medicine and Primary Care*

# The Impact of Graduate Medical Education on Physician Maldistribution

**March 20, 2019**

**@TheGrahamCenter**

# Speakers

Ted Epperly, MD

Erin Fraher, PhD, MPP

Joe Gravel, MD

ROBERT GRAHAM CENTER

# A Copernican Revolution in Graduate Medical Education: Putting Patients' Health Care Needs at the Center of GME Discussions

**Erin P. Fraher, PhD MPP**

The Robert Graham Center Primary Care Forum

The Impact of Graduate Medical Education on Physician Distribution

March 20, 2019

UNC
THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

# This presentation in one slide: Four key steps to reforming GME system to improve access to care

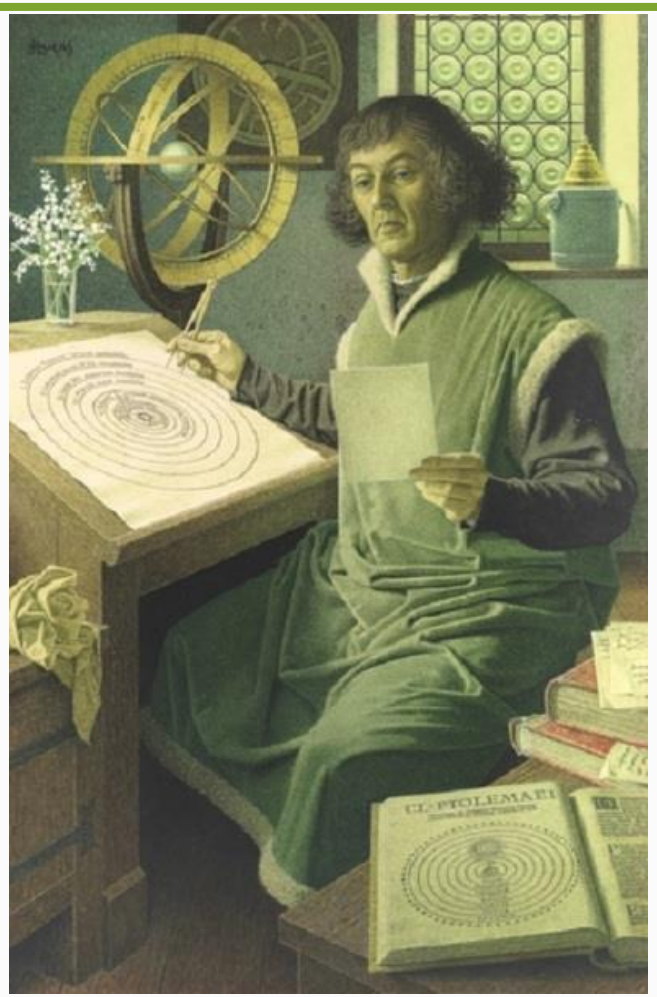
- **Foment a Copernican Revolution**
  Reframe GME policy to put patients at center, not physicians
- **Align GME Funding with Population Health Needs**
  Address rural population's "essential health care services"
- **Promote generalist training and practice**
  Encourage broad scope of practice and team-based care
- **Embrace our roles as "data agitators"**
  - Use data to drive GME investments and accountability
  - Learn from state "policy laboratories"

# Putting patients and populations at the center of GME discussions

The Copernican revolution starts with different question. ***Not*** how many physicians do we need? But instead: what essential health care services are needed in rural areas?

- Primary Care
- Behavioral health and substance abuse/opioid use disorders
- Obstetrics and prenatal care
- General surgery, trauma and procedural care
- Long-term and home health care

And acknowledges the interdependence of different physician specialties…



Source: National Geographic Society
https://goo.gl/images/j6Lh4G

"For the one-quarter of Americans who live outside metropolitan areas, general surgeons are the essential ingredient that keeps full-service medical care within reach. Without general surgeons as backup, family practitioners can't deliver babies, emergency rooms can't take trauma cases, and most internists won't do complicated procedures such as colonoscopies."

*Washington Post, January 1, 2009*

# Lack of rural obstetric services in rural counties associated with adverse birth outcomes

"From 2004 to 2014, 9 percent of all rural counties lost access to hospital obstetric services, and **more than half of all rural counties** in this country are now without a single local hospital where women can get prenatal care and deliver babies."[1]

"In rural US counties not adjacent to urban areas, loss of hospital-based obstetric services, compared with counties with continual services, **was associated with increases in out-of-hospital and preterm births**"[2]

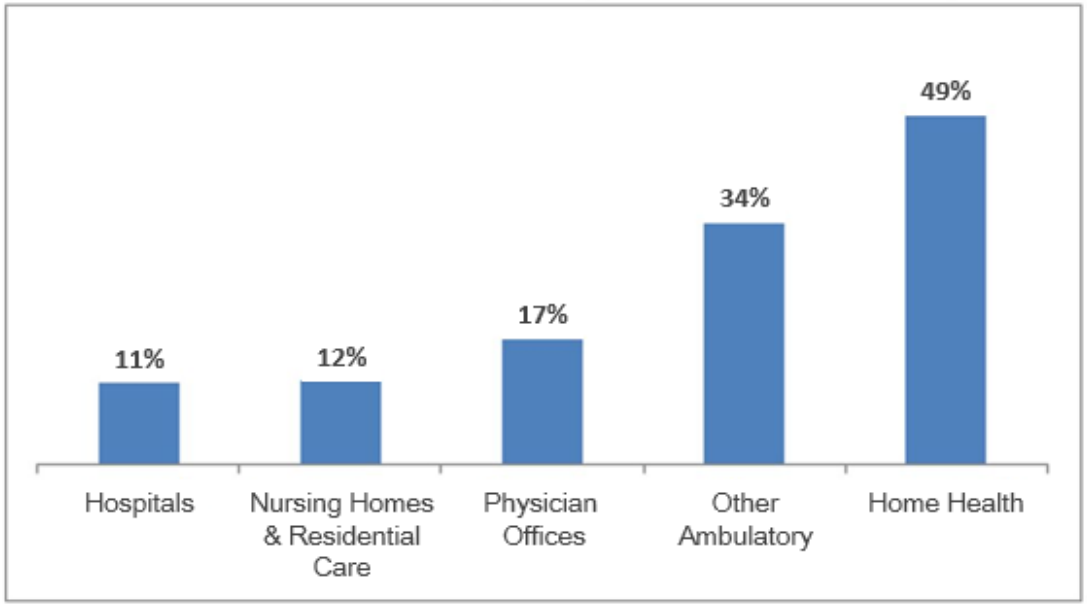
1 Pearson C & Taylor F. Mountain maternity wards closing, WNC women's lives on the line. *Carolina Public Press.* 25 September 2017. Accessed 10 Oct 2017 at: https://carolinapublicpress.org/27485/mountain-maternity-wards-closing/

2 Kozhimannil, KB et al. "Association between of Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States". JAMA. 2018;319(12):1239-1247

# Increased focus on social determinants of health and payment incentives are shifting care upstream to outpatient, community and home settings

- Shift from fee-for-service to value-based payments and fines that penalize hospitals for readmissions are shifting care from inpatient to ambulatory and community-based settings
- Medicare Advantage plans, Medicaid and Department of Veteran Affairs increasingly referring more patients for home health and community-based services
- But most GME funding goes to hospitals

**Exhibit 1: Health Care Job Growth by Setting: December 2007–January 2017**




*Source: Authors' analysis of BLS Current Employment Statistics data.*

Turner A, Roehrig C, Hempstead K. What's Behind 2.5 Million New Health Jobs? *Health Affairs* Blog. March 17, 2017. http://healthaffairs.org/blog/2017/03/17/whats-behind-2-5-million-new-health-jobs/

# These shifts require investing in community-based teams of health care providers

- Need to enhance GME training in community-based settings
- Encourage GME training in team-based models of care that include "traditional" health professionals as well as community health workers, community paramedics, the clergy, medical lawyers and other community-based workers
- Promote integrated behavioral health and primary care delivery models with new team structures and new roles.
  Example: social workers who serve as:
  - Behavioral health specialists: provide interventions for mental, behavioral health and substance abuse disorders
  - Care Managers: coordinate, monitor and assess treatment plans
  - Referral role: connect patients to community resources, transportation, food etc.

Fraser MW, Lombardi BM, Wu S, Zerden LD, Richman EL, Fraher EP. Social work in integrated primary care: A systematic review. *Journal of Social Work and Research.* 2018; 9(2):0-36.

# Meanwhile, news of physician shortages dominate the headlines

## Doctor shortage, increased demand could crash health care system

By **Jen Christensen**, CNN
updated 5:37 PM EDT, Wed October 2, 2013

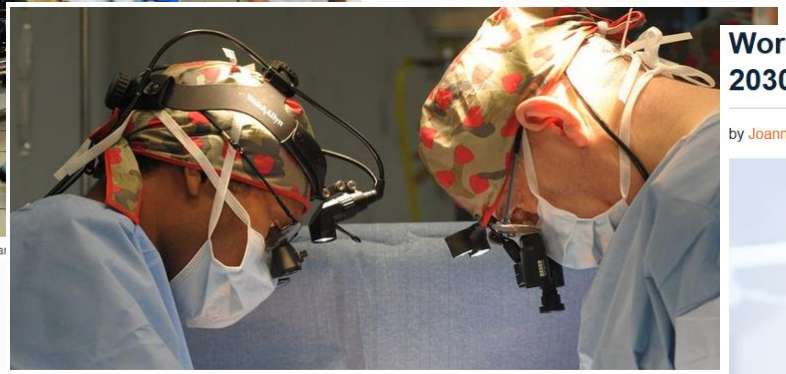

Some doctors worry patients who can't get in to see primary ca

Well

DOCTORS

## Lots of New Patients, Too Few Doctors

By DANIELLE OFRI, M.D. JANUARY 16, 2014, 11:53 AM 52 Comments



BRIEF

## Doctor shortage could exceed 121K by 2030, report says

AUTHOR
**Meg Bryant**

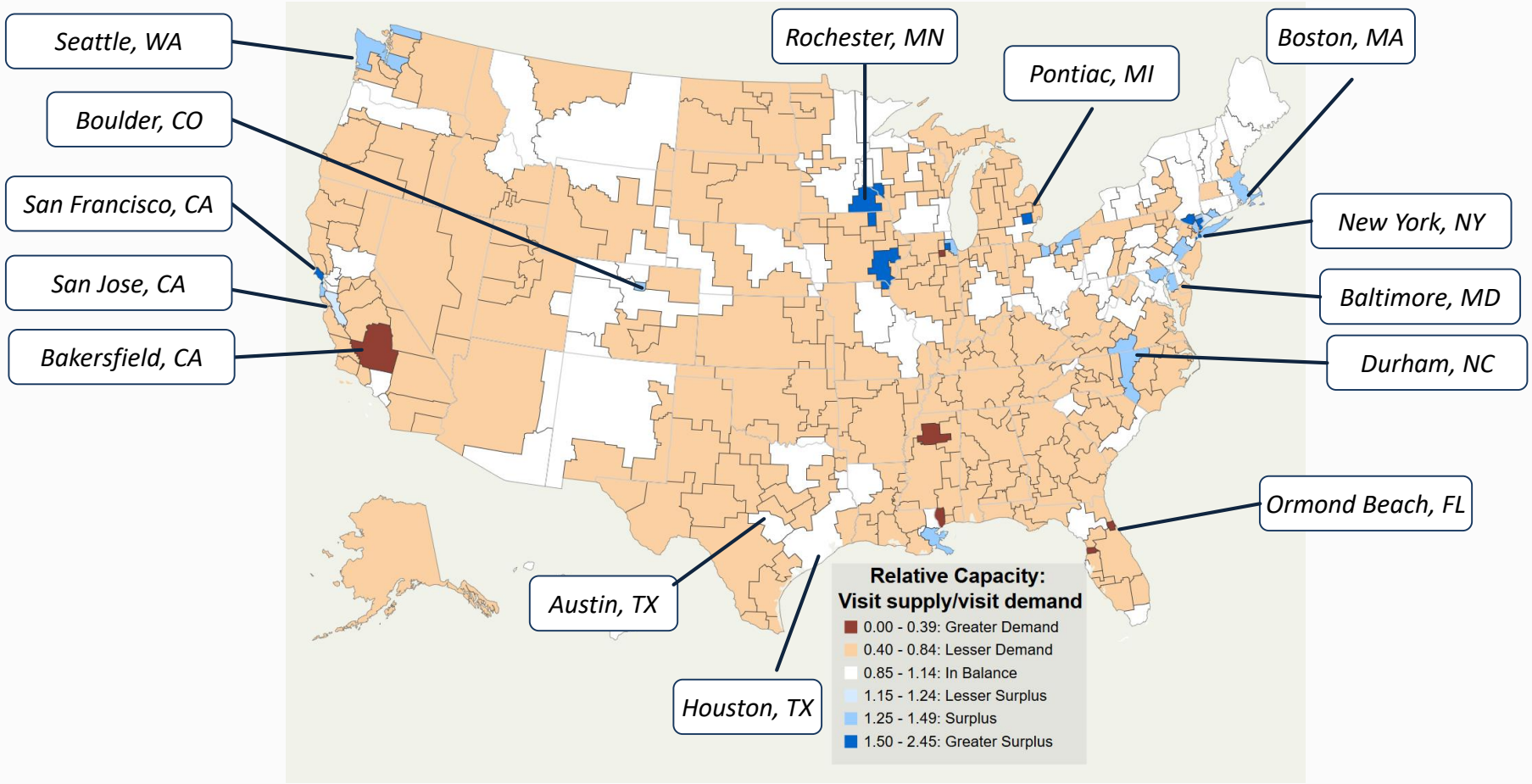
**Dive Brief:**

- Warnings of a worsening physician shortage continue, with new analysis

## Worse than ever: Physician shortage could hit 120K by 2030

by Joanne Finnegan | Apr 12, 2018 10:30am

# The real issue is maldistribution: We are a nation of haves and have nots




Source: Fraher et al. Cecil G. Sheps Center, UNC-CH https://www2.shepscenter.unc.edu/workforce

# Will geographic distribution improve? Not likely without GME reform

By Fitzhugh Mullan, Candice Chen, and Erika Steinmetz

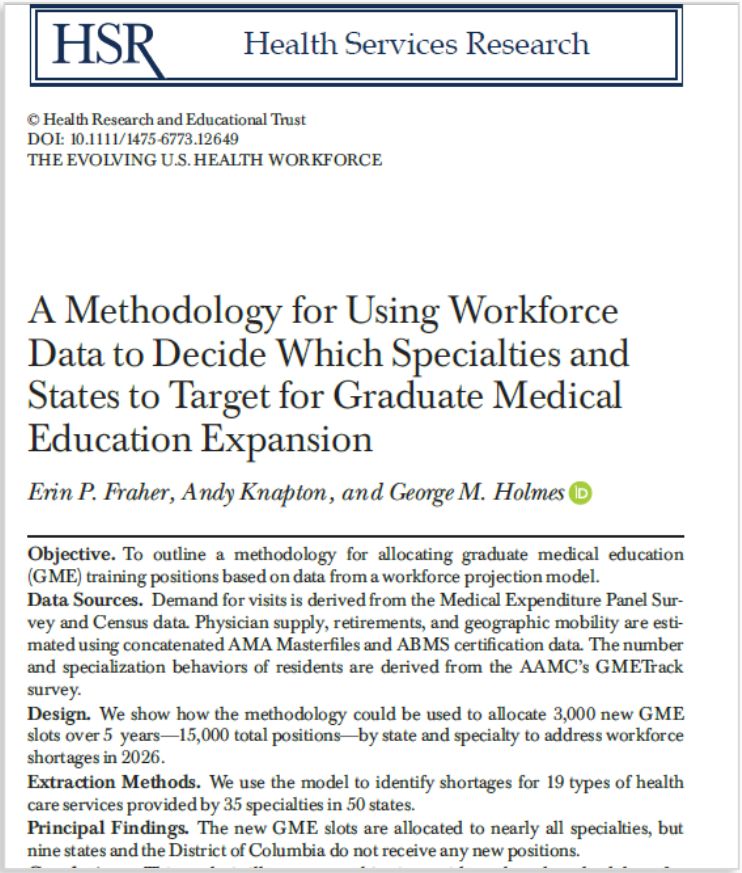
## The Geography Of Graduate Medical Education: Imbalances Signal Need For New Distribution Policies

ABSTRACT Graduate medical education (GME) determines the overall number, specialization mix, and geographic distribution of the US physician workforce. Medicare GME payments—which represent the largest single public investment in health workforce development—are allocated based on an inflexible system whose rationale, effectiveness, and balance are increasingly being scrutinized. We analyzed Medicare cost reports from teaching hospitals and found large state-level differences in the number of Medicare-sponsored residents per 100,000 population (1.63 in Montana versus 77.13 in New York), total Medicare GME payments ($1.64 million in Wyoming versus $2 billion in New York), payments per person ($1.94 in Montana versus $103.63 in New York), and average payments per resident ($63,811 in Louisiana versus $155,135 in Connecticut). Ways to address these imbalances include revising Medicare's GME funding formulas and protecting those states that receive less Medicare GME support in case funding is decreased and making them a priority if it is increased. The GME system badly needs a coordinating body to deliberate and make policy about public investments in graduate medical education.

F. Mullan, C. Chen, and E. Steinmetz, "The Geography of Graduate Medical Education: Imbalances Signal Need for New Distribution Policies," *Health Affairs,* vol. 32, no. 11 (2013): 1914-21

- Highlights need for "distributional fairness" of federal GME funds (~$14.5 billion)
- Redistribution of existing Medicare GME funds unlikely so need methodology to target new funds to needed populations and geographies

# What if we actually used workforce data to determine where to target GME?



HSR Health Services Research


DOI: 10.1111/1475-6773.12649
THE EVOLVING U.S. HEALTH WORKFORCE

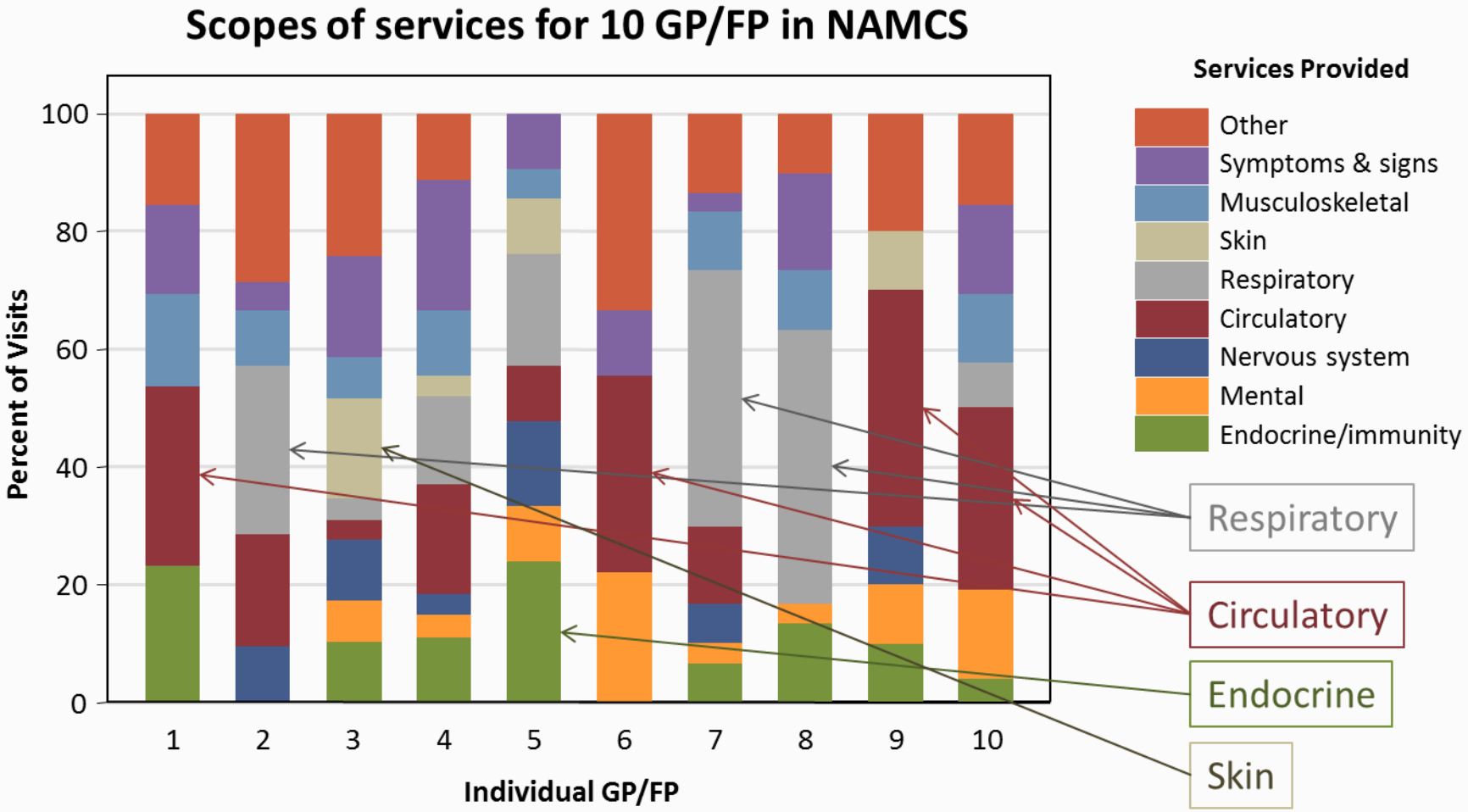
A Methodology for Using Workforce Data to Decide Which Specialties and States to Target for Graduate Medical Education Expansion

*Erin P. Fraher, Andy Knapton, and George M. Holmes*

**Objective.** To outline a methodology for allocating graduate medical education (GME) training positions based on data from a workforce projection model.
**Data Sources.** Demand for visits is derived from the Medical Expenditure Panel Survey and Census data. Physician supply, retirements, and geographic mobility are estimated using concatenated AMA Masterfiles and ABMS certification data. The number and specialization behaviors of residents are derived from the AAMC's GMETrack survey.
**Design.** We show how the methodology could be used to allocate 3,000 new GME slots over 5 years—15,000 total positions—by state and specialty to address workforce shortages in 2026.
**Extraction Methods.** We use the model to identify shortages for 19 types of health care services provided by 35 specialties in 50 states.
**Principal Findings.** The new GME slots are allocated to nearly all specialties, but nine states and the District of Columbia do not receive any new positions.

- Findings suggest expanding GME in states with:
  - Poor health outcomes and high health care utilization (Arkansas, Mississippi and Alabama)
  - Large, growing populations (Texas and California)
  - Aging populations (Florida)
  - Rural states with low resident/population numbers (Idaho, Wyoming, Montana, Alaska and Nevada)
- And expanding GME in generalist specialties, like Family Medicine

# Family Physicians have broad scopes of practice and can adjust services to meet rural health care needs



# "Plasticity" of workforce depends on numerous individual-, practice- and system-level factors

- Professional's training (initial and ongoing)
- Density/availability of other providers with similar/competing scopes of practice
- Patient population
- Payment model
- Model of care and referral patterns
- Personal preferences and demographic characteristics
- Regulation
- Hospital executives, practice managers and HR decisions about deployment
- Local geography

Holmes GM, Morrison M, Pathman DE, Fraher E. The Contribution of "Plasticity" to Modeling How a Community's Need for Health Care Services Can Be Met by Different Configurations of Physicians. *Academic Medicine*. 2013; 88(12): 1877-1882

# States are "policy laboratories" for GME innovation

- States actively engaged in GME reform to address concerns about:
  - physician maldistribution by specialty, geography, setting
  - having enough GME slots to match medical school expansions
  - fragility of Teaching Health Center funds
- Have voiced strong desire to move toward system that better aligns funding with population health needs but…
- Note that training institutions benefit from lack of transparency and vigorously oppose increasing accountability
- Despite challenges, increasing number of strong state models exist
- Need to diffuse lessons learned and challenges to inform policy efforts at state and federal level

# Contact information

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**http://www.healthworkforce.unc.edu**

UNC
THE CECIL G. SHEPS CENTER
FOR HEALTH SERVICES RESEARCH

# The Impact of Graduate Medical Education on Physician Maldistribution

## Robert Graham Center – Primary Care Forum

*March 20, 2019*


## Ted Epperly, MD

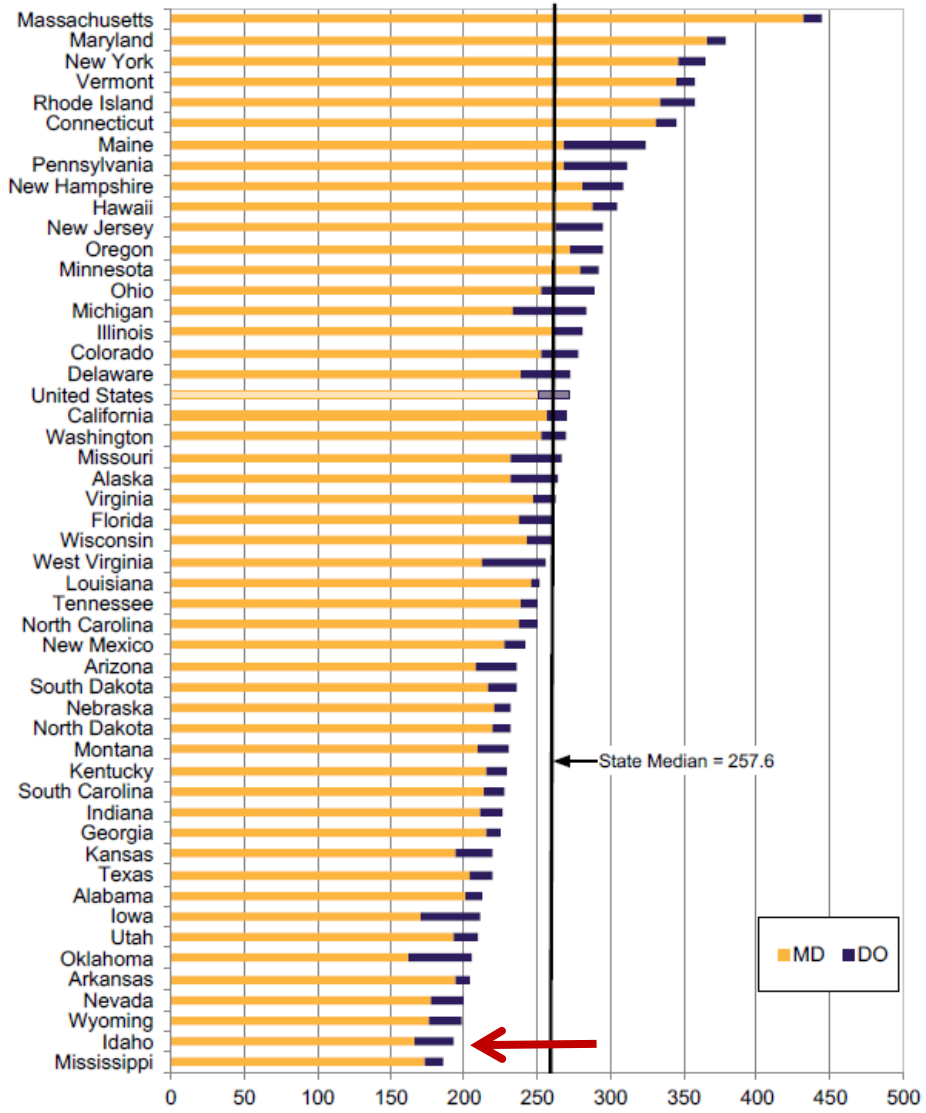
CEO / DIO| Family Medicine Residency of Idaho
Past President and Board Chair America | American Academy of Family Physicians
ACGME | Past Board of Directors
COGME |Council Member
Idaho State Board of Education | GME Coordinator

# IDAHO

- 43rd State
- 1.7 Million People
- 183,000 Square Miles
- Geologic Wonder
- Frank Church Wilderness Area

# The Problem

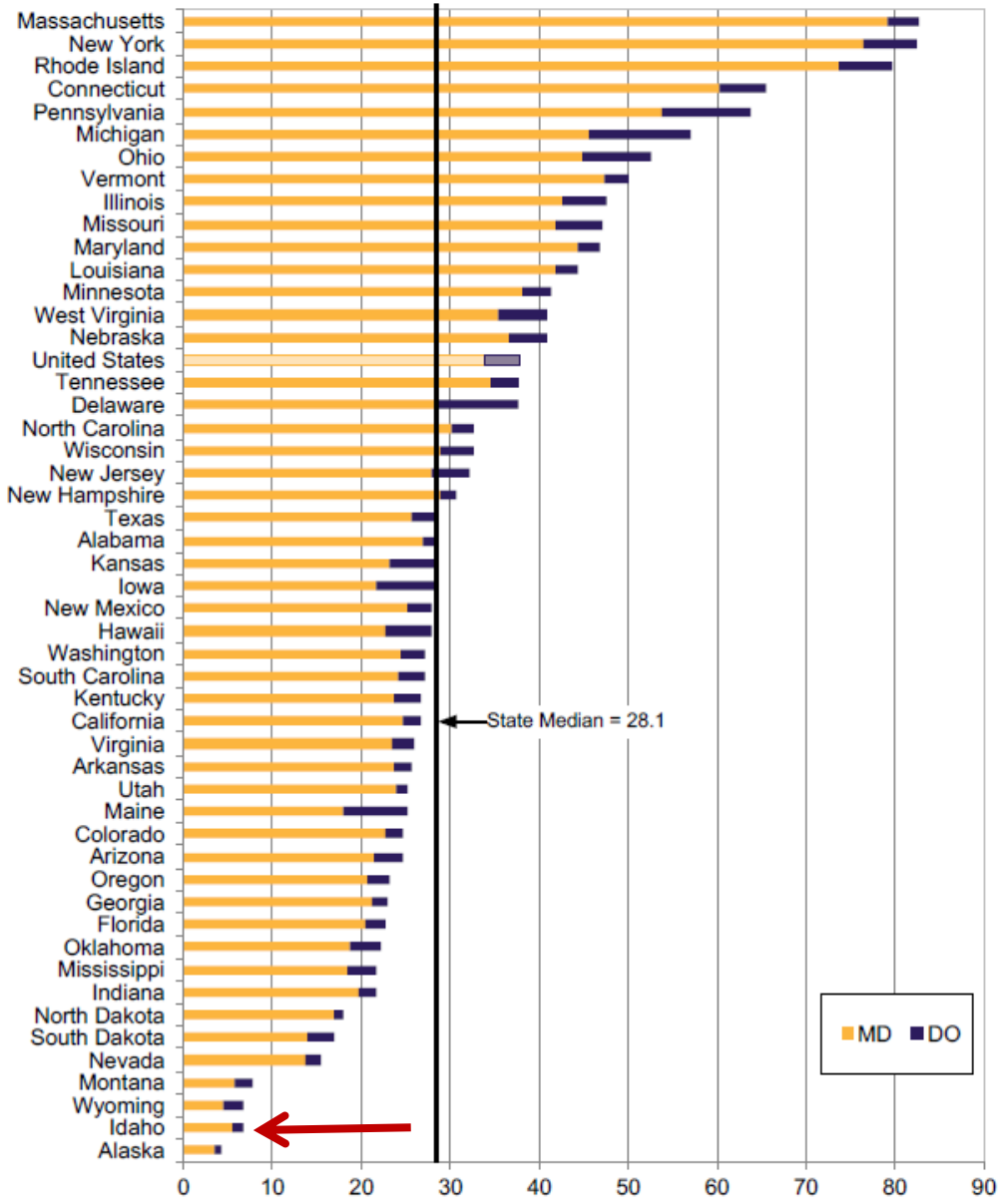
## Active Physicians per 100,000 Population




*Sources: July 1, 2016, population estimates are from the U.S. Census Bureau (released December 2016). Physician data are from the 2017 AMA Physician Masterfile (December 31, 2016).*

Note: Physicians whose school type was unavailable (n = 39) are excluded.

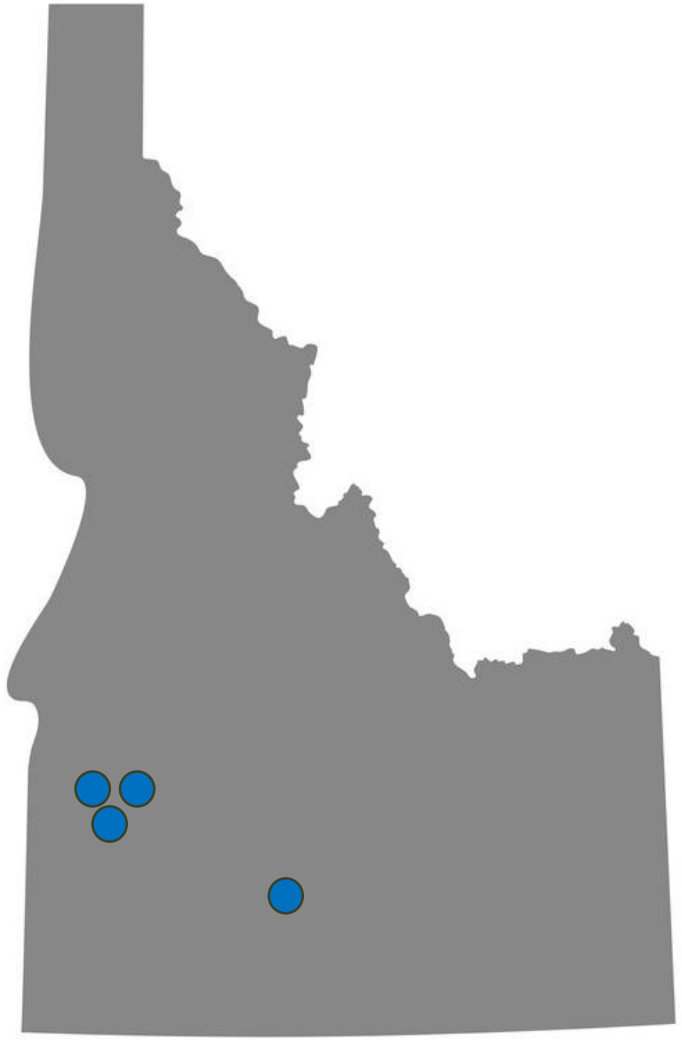
# Residents and Fellows on Duty as of December 31, 2016



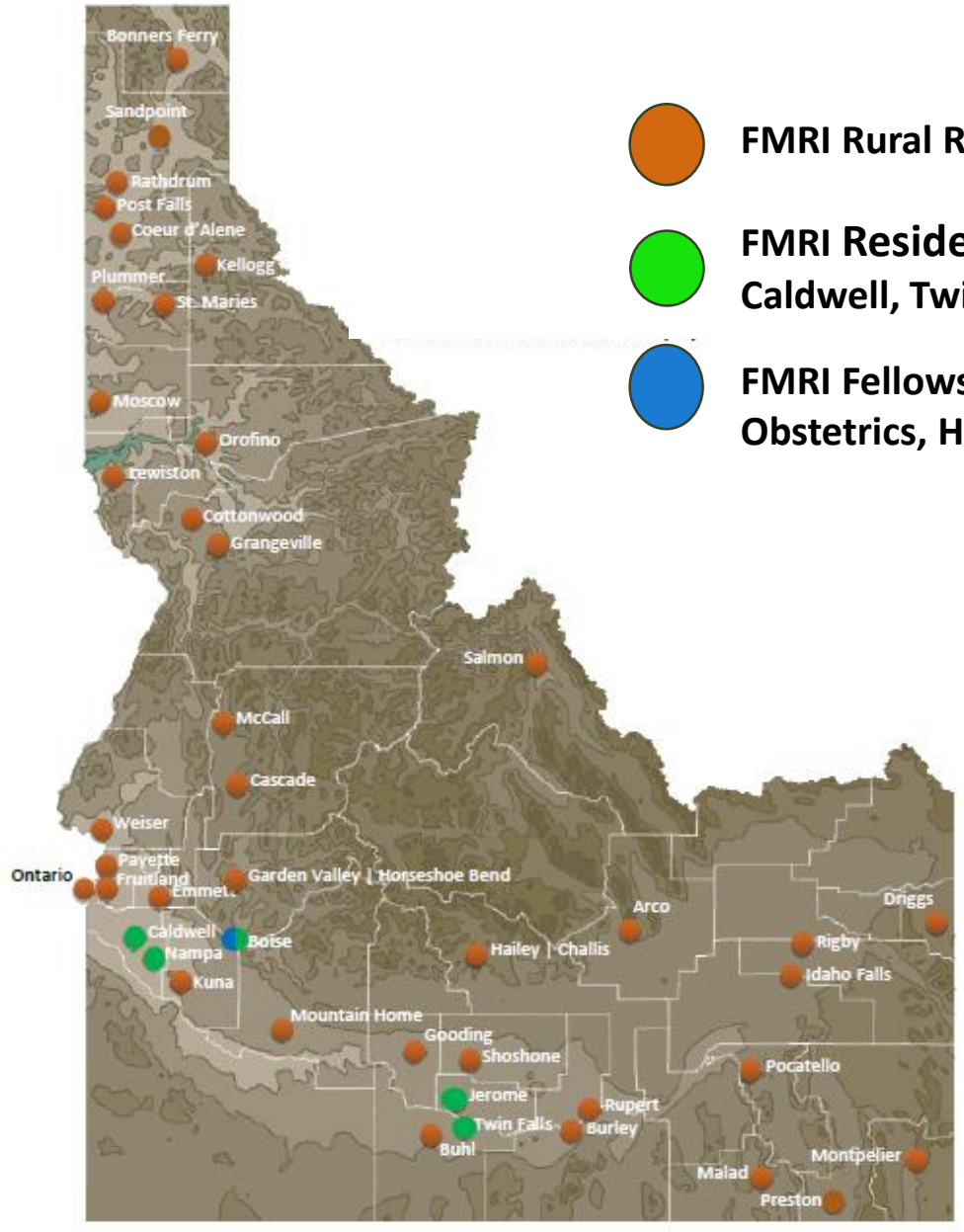

*Sources: July 1, 2016, population estimates are from the U.S. Census Bureau (released December 31, 2016). Resident physician data are from the National GME Census in GME Track® as of August 2017.*

# Family Medicine Residency of Idaho (FMRI)

- 1974 (4-4-4) 12 FM Residents
- 501(c)3 Teaching Health Center (2011)
- Four Family Medicine Residencies (Boise, Nampa, Caldwell, Twin Falls)
- Four Fellowships (SM, HIV, Geriatrics, OB)
- 69 Family Medicine Residents in Program
  - 36 – Boise
  - 18 – Nampa
  - 9 – Caldwell
  - 6 – Twin Falls
- 9 Locations
- 35,000 Patients
- 125,000 Visits / year
- $38M Annual Budget



# The Family Medicine Residency of Idaho (FMRI) Training Sites




**FMRI Rural Rotation Sites (40)**

**FMRI Residency Programs (Boise, Nampa, Caldwell, Twin Falls/Jerome**

**FMRI Fellowships (Sports Medicine, Geriatrics, Obstetrics, HIV/Viral Hepatitis)**

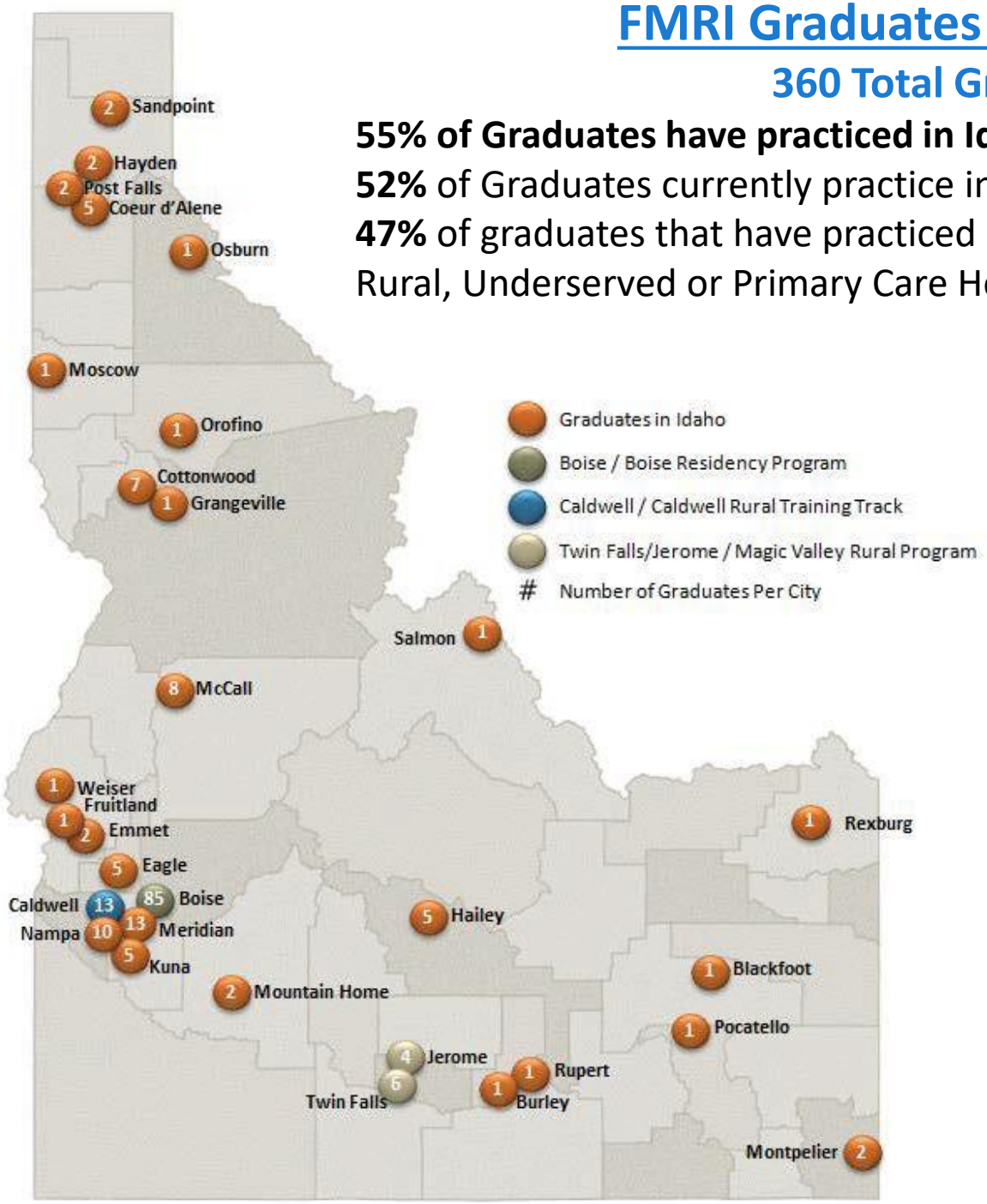
# FMRI Graduates (1974 – 2018)

## 360 Total Graduates

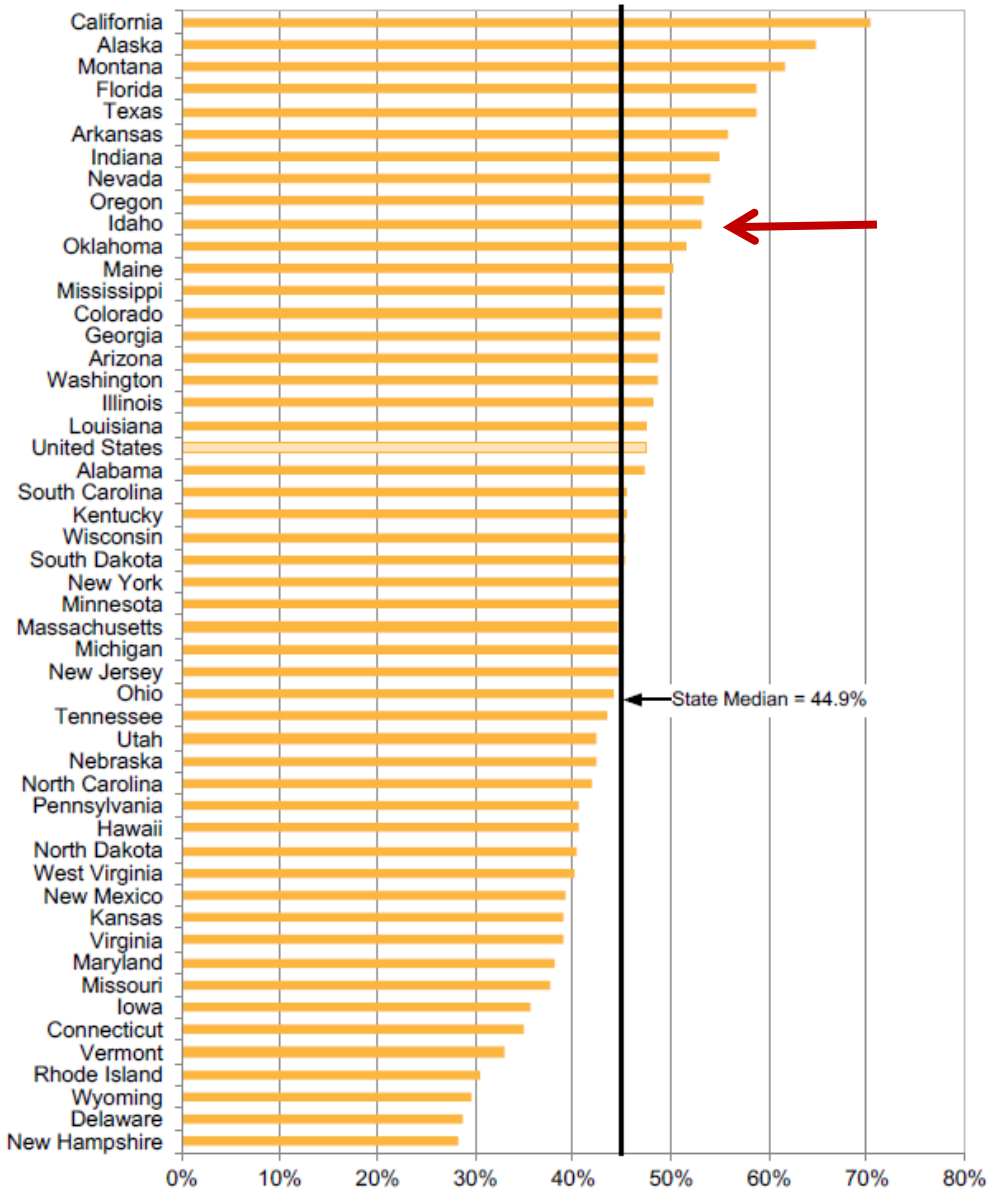
**55% of Graduates have practiced in Idaho;**

**52%** of Graduates currently practice in Idaho

**47%** of graduates that have practiced in Idaho have practiced in Idaho's Rural, Underserved or Primary Care Health Professional Shortage Areas

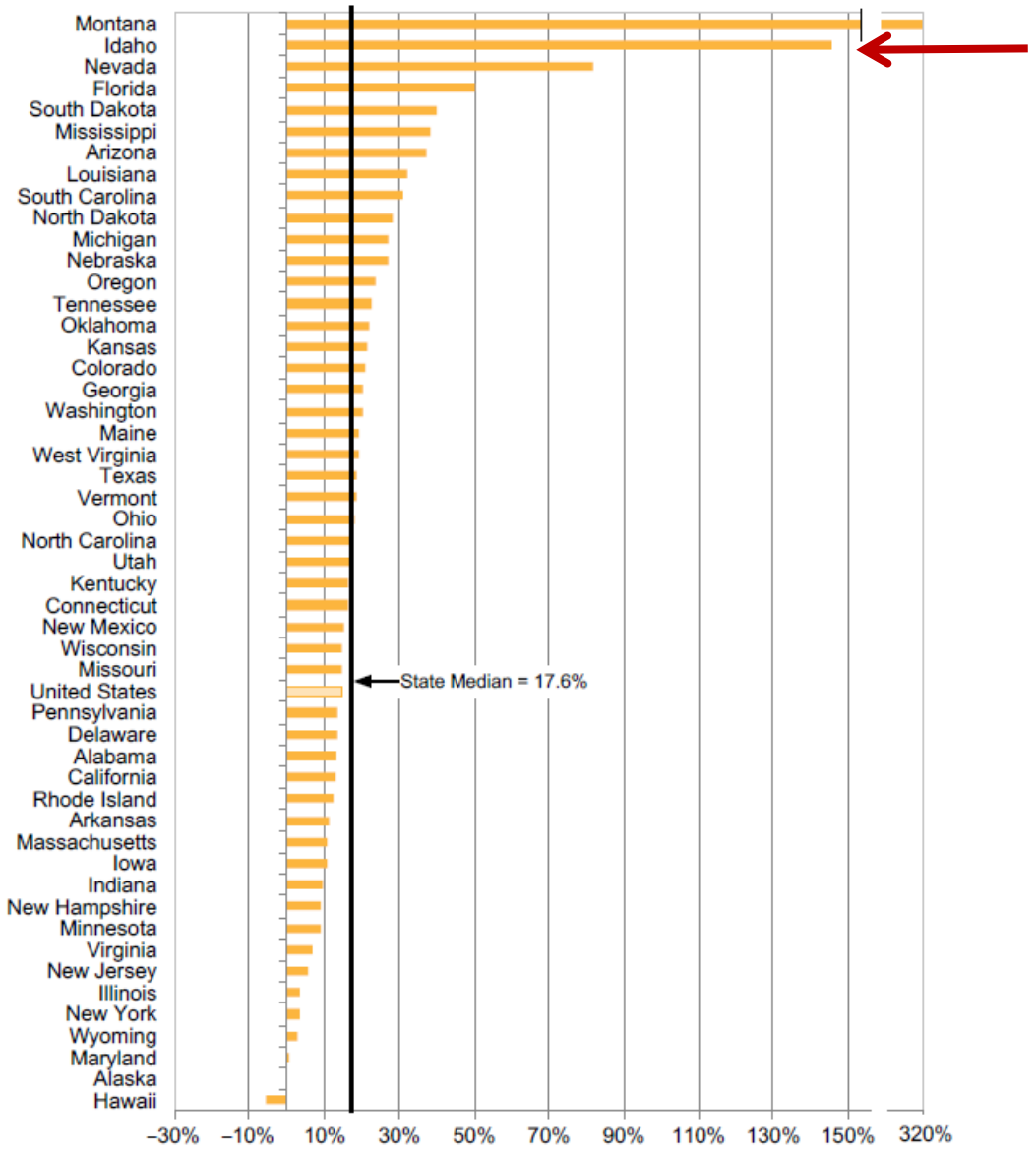


# Percentage of Physicians retained from Graduate Medical Education (GME) 2016




*Source: AMA Physician Masterfile (December 31, 2016).*

# Percentage Change in Number of Residents and Fellows in ACGME-accredited programs, 2006-2016




*Source: 2006 and 2016 National GME Census in GME Track® as of August 2017.*

# Family Medicine/ Primary Care is a Team Sport

## Team

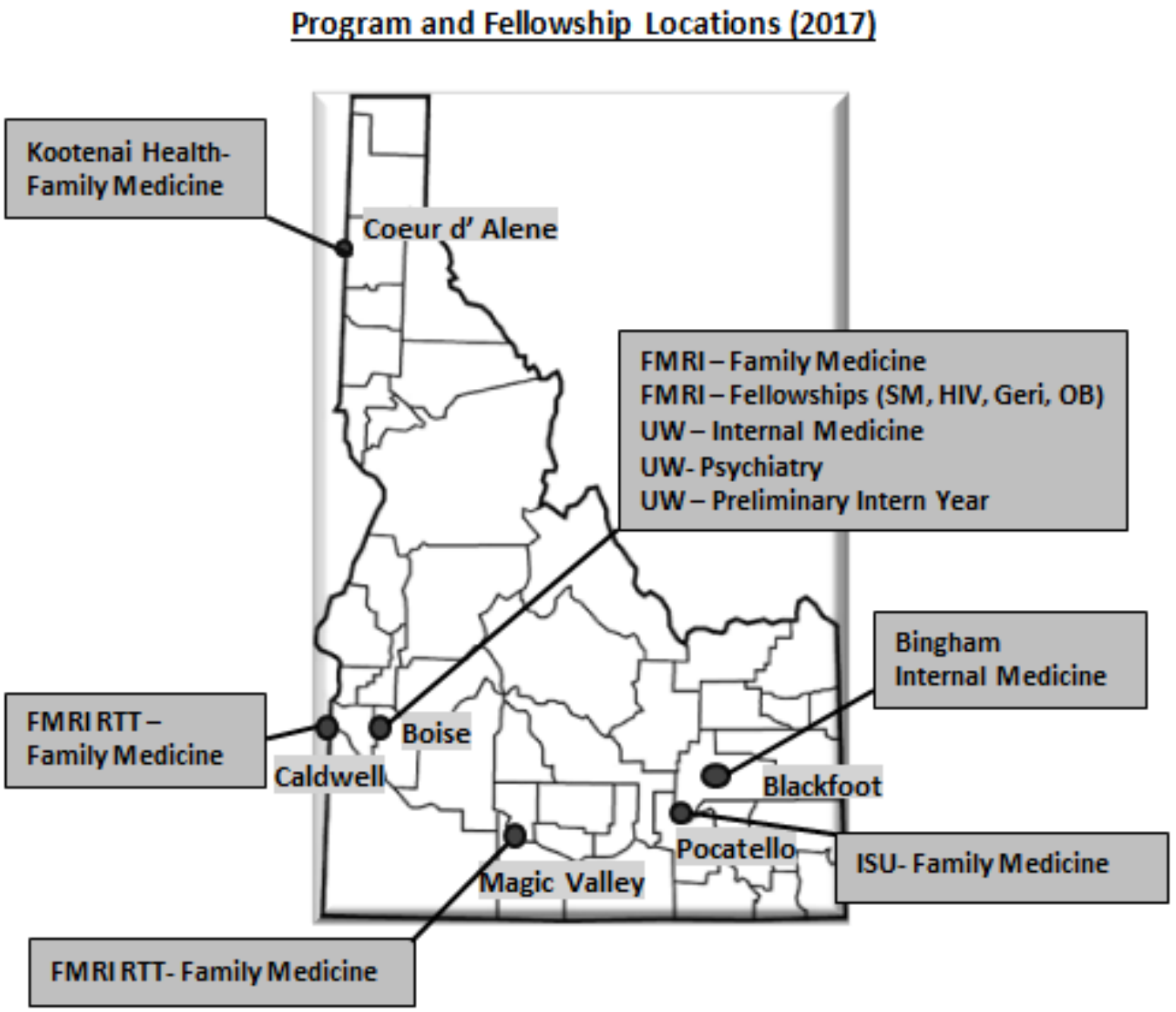
- Physician(s)
- NP / PA(s)
- RN/LPN/MA(s)
- CHW(s)

**Telehealth** – Connect to FM/PC Practice Platform

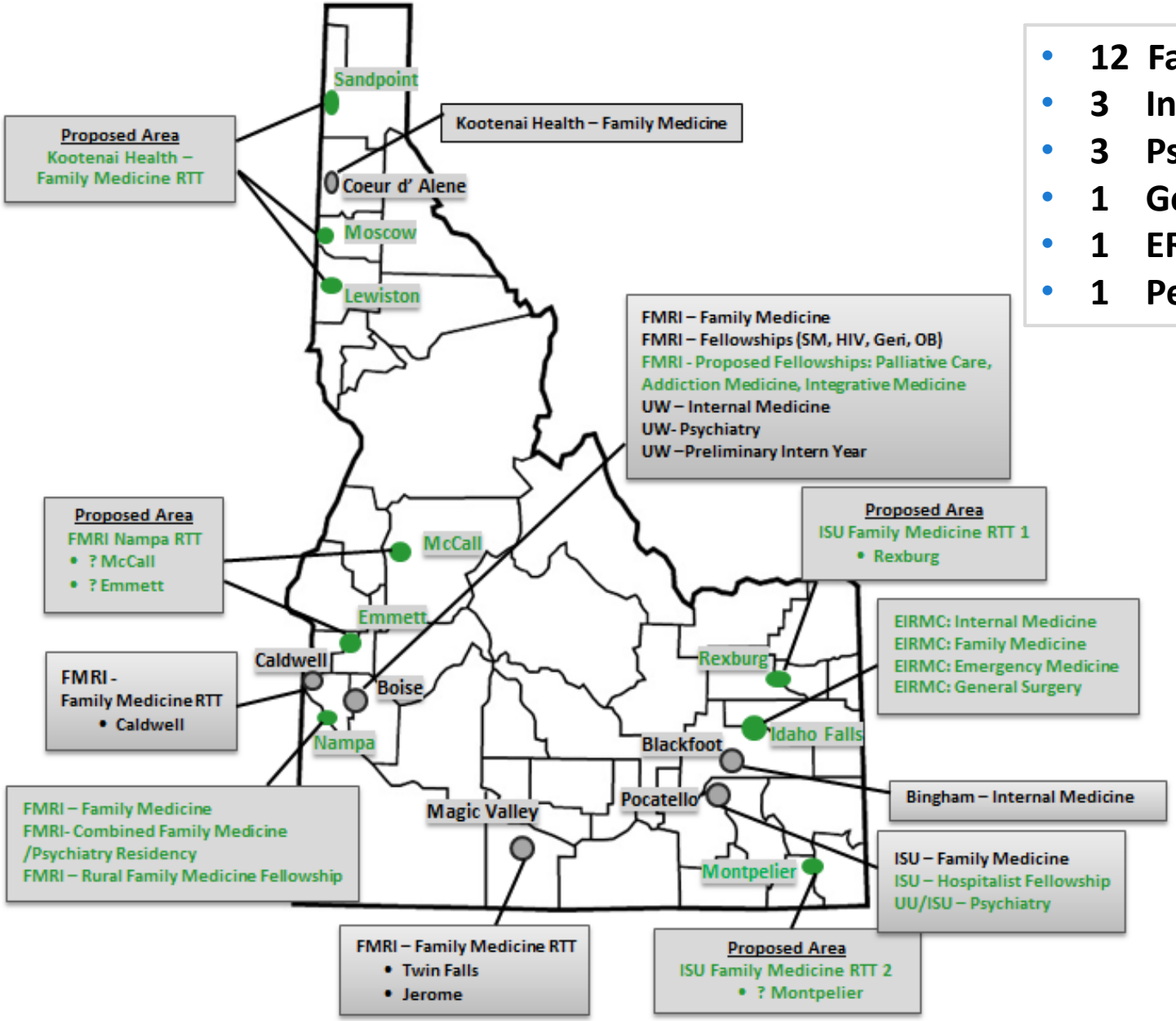
## Outcomes

- Population Health
- Quality
- Increased Satisfaction
- Decreased Burnout

# Programs Specialties and Locations in Idaho (2017)



# Program and Fellowship Locations (2028)




- 12 Family Medicine
- 3 Internal Medicine
- 3 Psychiatry
- 1 General Surgery
- 1 ER
- 1 Pediatrics

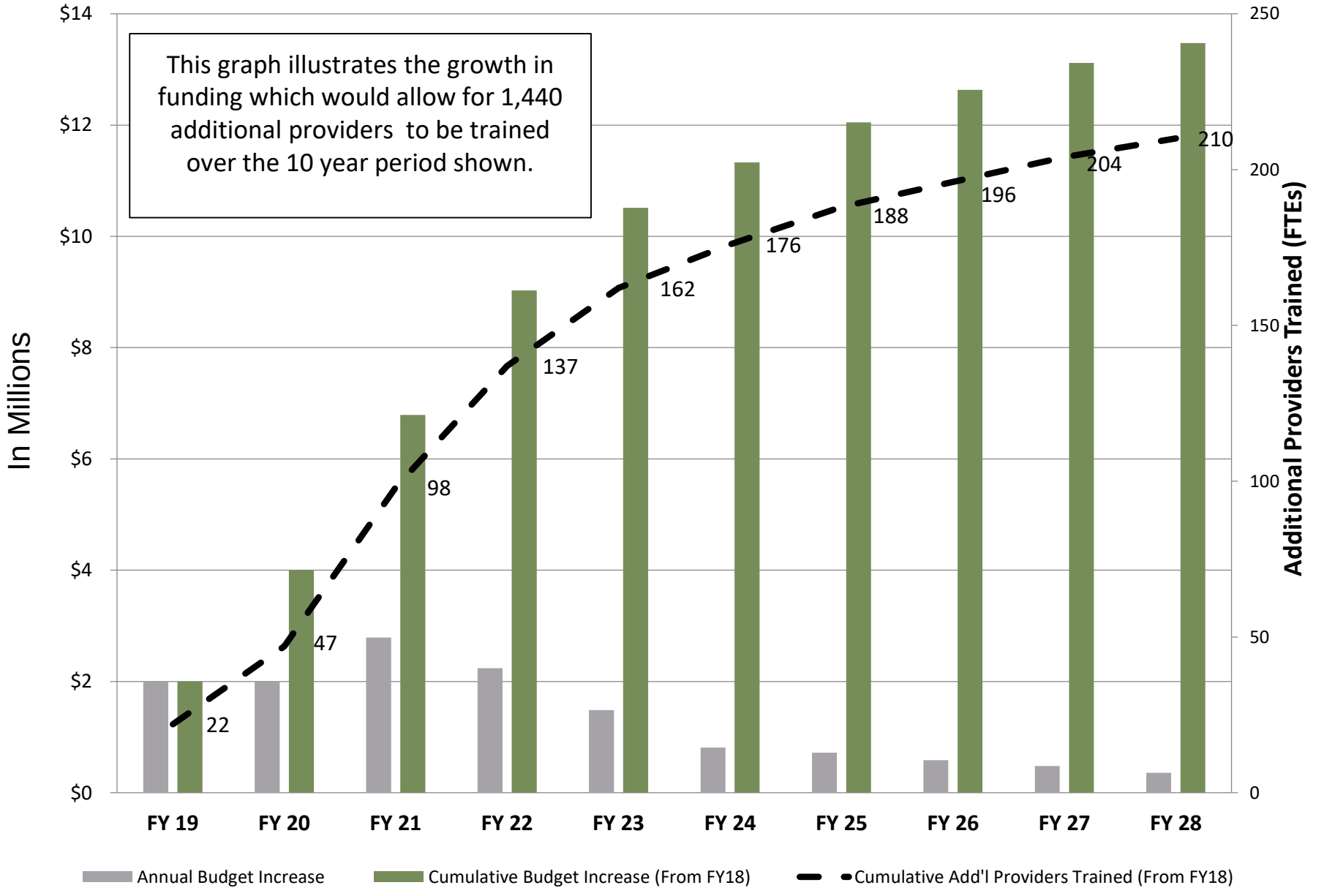
# Ten Year Growth in Graduate Medical Education Programs, Residents and Fellows, and Cost to Idaho's Legislature

| | 2017 | 2028 | % Increase |
|---|---|---|---|
| **GME Residency Programs** | 9 | 21* | 233% |
| **GME Fellowship Programs** | 4 | 9 | 225% |
| **Residents and Fellows Training in Idaho/year** | 141 | 356 | 252% |
| **Number of Graduates Each Year from Idaho's GME Programs** | 52 | 124 | 237% |
| **GME Residents per 100,000 Citizens in Idaho** | 6.7 (National Average is 28.1) | 17.7 (Assuming Idaho's Populations grows to 2 Million People by 2028) | 276% |
| **State Support of GME and Additional Healthcare Programs in Idaho** | $5,138,700/year | $16,349,000/year | 318% |

** The Nampa combined Family Medicine/Psychiatry program is being counted as both a family medicine and psychiatry program as it is producing physicians that will be Board Certified in Family Medicine and Psychiatry.*

**The state's investment in additional healthcare providers is matched 2-to1 by the programs and sponsors. Each physician will generate $1.9 Million per year in economic impact and 12 jobs —total impact to Idaho will be $1.9 Billion and 12,000 new jobs—and quality healthcare for citizens throughout Idaho.**
**Return on investment (ROI) 15.9 to 1**

# 10 Year GME Growth and Additional Providers Trained



# ACGME and COGME

- Both actively working on sustainable GME in medically underserved areas and populations

Accreditation Council for Graduate Medical Education

COGME

means

Council of Graduate Medical Education

# Summary

- Reshape our thinking – “Copernican Revolution”
- “States are the laboratories of our Nation” - Innovation
- Teams are Important!
- Continue to dial this in!

# Impact of GME on Physician Maldistribution- Lawrence, MA

Robert Graham Center Primary Care Forum

Joseph W Gravel Jr MD
Chair, Family Medicine & Community Health
Senior VP & Chief Medical Officer
Greater Lawrence Family Health Center
Lawrence, Massachusetts


Boston Medical-
Industrial Complex
Teaching Health
Center- Lawrence

# Where I Practice



LAWRENCE FAMILY MEDICINE
RESIDENCY

# Greater Lawrence Family Health Center prior to 1994

- 10,000 patients, 100+ employees
- 3 primary care sites – all small, not very attractive
- Infant mortality ~17/1000 live births
- Clinicians assigned through the National Health Service Corps (NHSC) -they came, burned out and left.
- Usually unable to accept new patients
- Lack of available specialist services for Spanish-speaking Medicaid patients lacking transportation

# Greater Lawrence Family Health Center- 2019

- 62,000+ patients
- 2nd largest FQHC in Massachusetts
- 600+ employees (3rd largest in city)
- 270,000 visits/12,000 hospital/790 deliveries
- 73 FPs, 21 NPs, several specialists (OB, Psych)
- 6 neighborhood sites, 2 SBHCs, 16 shelters
- Infant Mortality 6/1000 live births
- Many clinicians with 10-20 years tenure
- Many innovative programs
- FPs provide High risk maternity services/ C-sections, HIV, Hepatitis C, Sports Medicine, Integrative Medicine, Opioid addiction treatment, Group medical visits, Homeless program

# What changed?

We started a residency in 1994 (first Teaching Health Center in USA)

# GLFHC/Lawrence FMR Collaboration

- GLFHC (a Community Health Center) is the residency's sponsoring organization for accreditation - not the hospital
- Lawrence General Hospital is a supporting partner
- Residents, faculty and staff all employed by Greater Lawrence Family Health Center
- Academic affiliations with University of Massachusetts Medical School and Tufts University School of Medicine
- **Medicare funding: Hospital passes through most** (~90%) **of the Medicare GME** to the CHC- **but at their whim**
- **THC funding: Health Center gets 100% directly**
- HRSA funding- Not eligible for Teaching Health Center funding to support all residents- **expansion only**
- **2011- THC funding allowed expansion from 8 residents/year to 10 residents/year-** 1,280,000 additional patient visits over next 40 years

# Specialty Maldistribution -> Geographic Maldistribution

## 2018 NRMP Resident Match Positions Offered- Massachusetts- **1368**

- Anesthesiology 131
- Psychiatry 81 (only 5.9%)
- Emergency Medicine 66
- Radiology 52
- Internal Medicine 486 (approx. 10% will enter primary care)- 49
- Neurology 45
- Family Medicine 44 **(only 3.2% of residency positions offered)**
- Pathology 39
- Pediatrics 84 (approx. 40% will enter primary care)- 33
- Orthopedics 26
- Dermatology 19

**(9.2% primary care – higher performing, lower cost health systems = 40-50% primary care)**

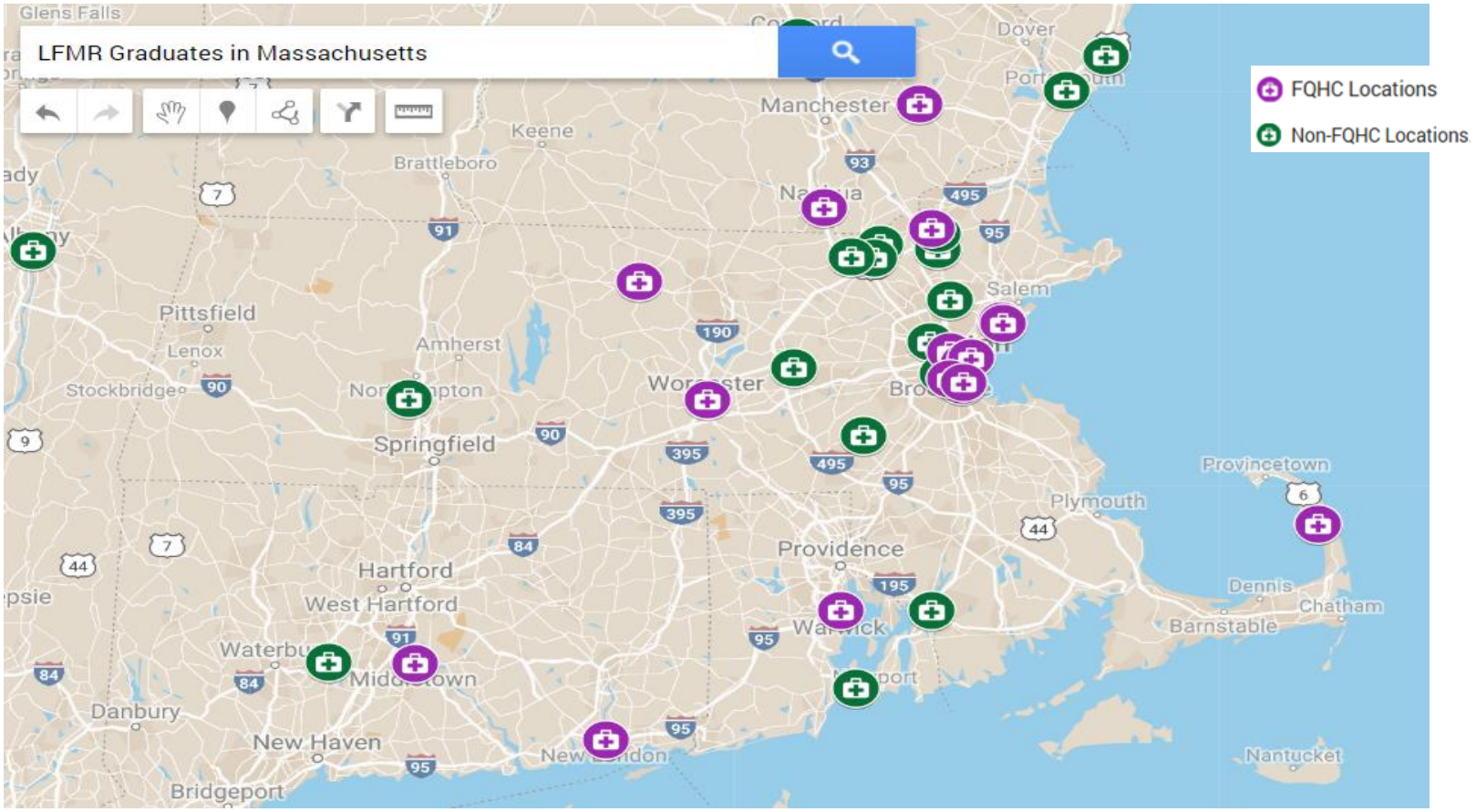
# Family Physician Production 1994->2019
# Current Score: 184-0

- Greater Lawrence Family Health Center= 184 (this June: 191)
- Massachusetts General Hospital (Boston) +
  Brigham & Women's Hospital (Boston) +
  Beth Israel Deaconess Medical Center (Boston) +
  Tufts Medical Center (Boston) +
  Baystate Medical Center (Springfield) +
  Lahey Medical Center (Burlington) = 0

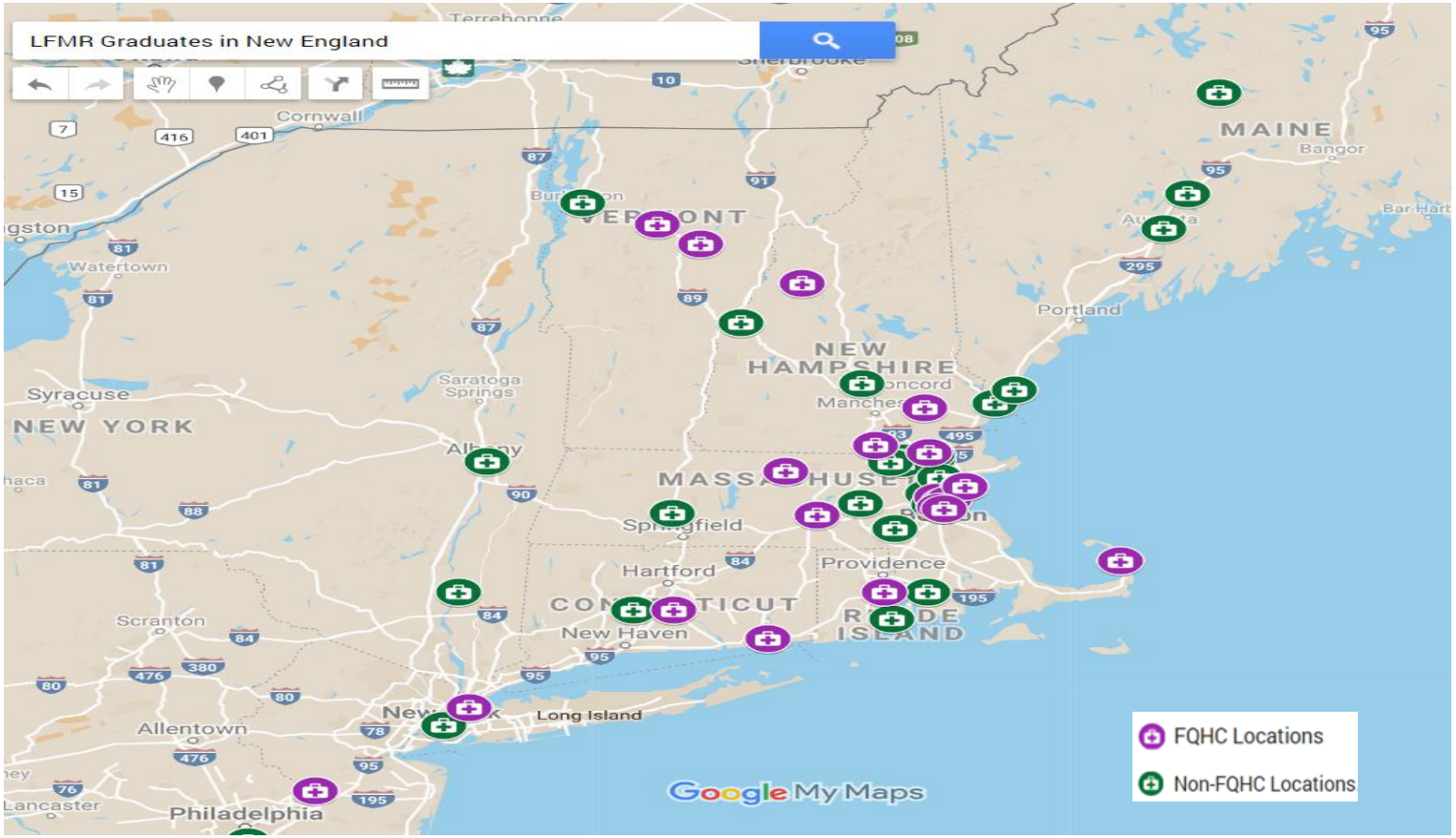
# LFMR Graduate Outcomes: Location of Practice

- 99% are doing Primary Care (183/184)
- 80% work in underserved areas (147/184)
- 54% work in FQHCs (*compared to 9% nationally*) (100/184)
- 45% still in Massachusetts (83/184)
- 32% currently work in FQHCs in Massachusetts (58/184)
- 28% worked at GLFHC in present or past (52/184)
- 18% currently work in Lawrence, MA (34/184)
- 17% currently work in rural areas (31/184)
- 14% (of 22 years) of graduates –currently at GLFHC (26/184)

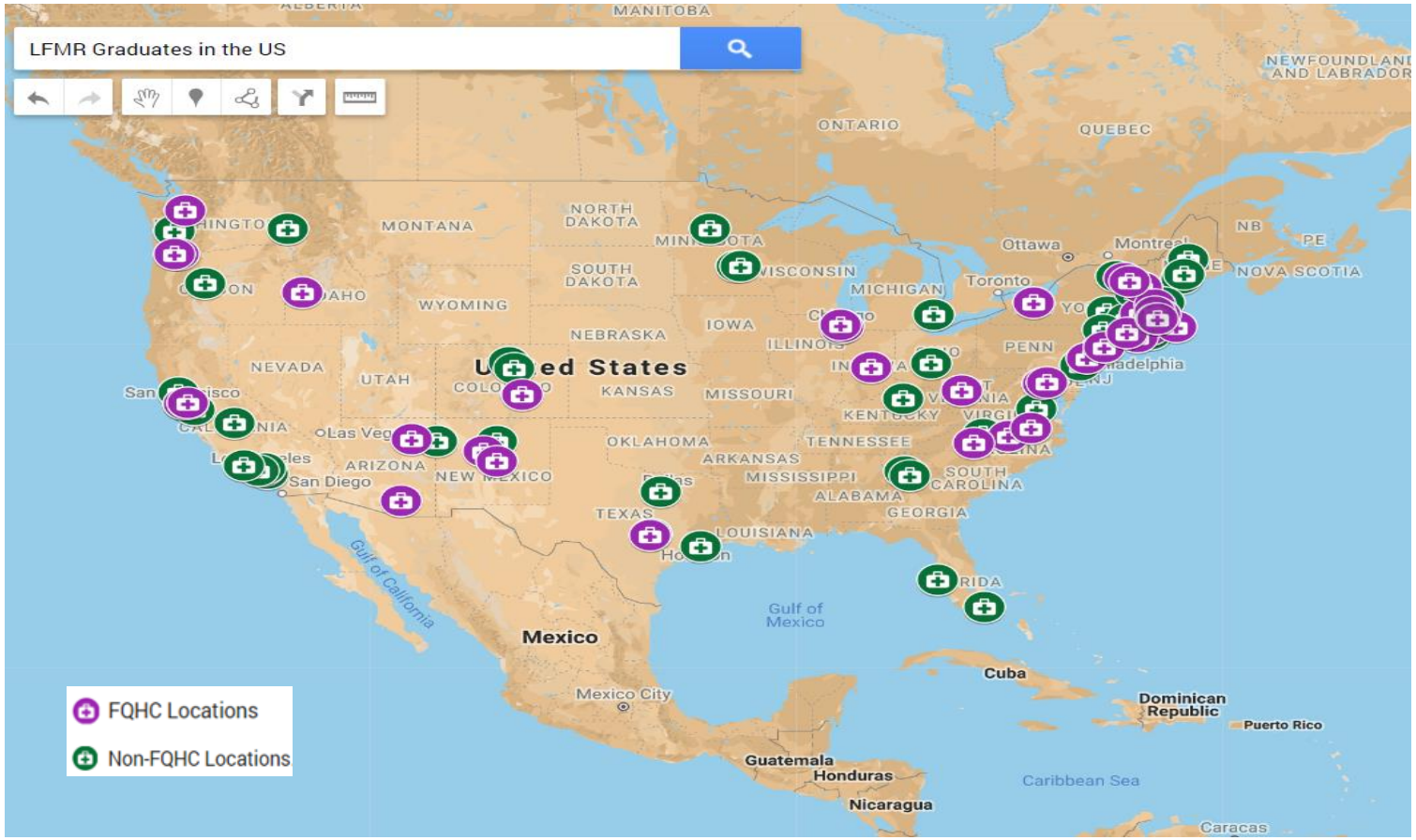
# LFMR Graduates in Massachusetts



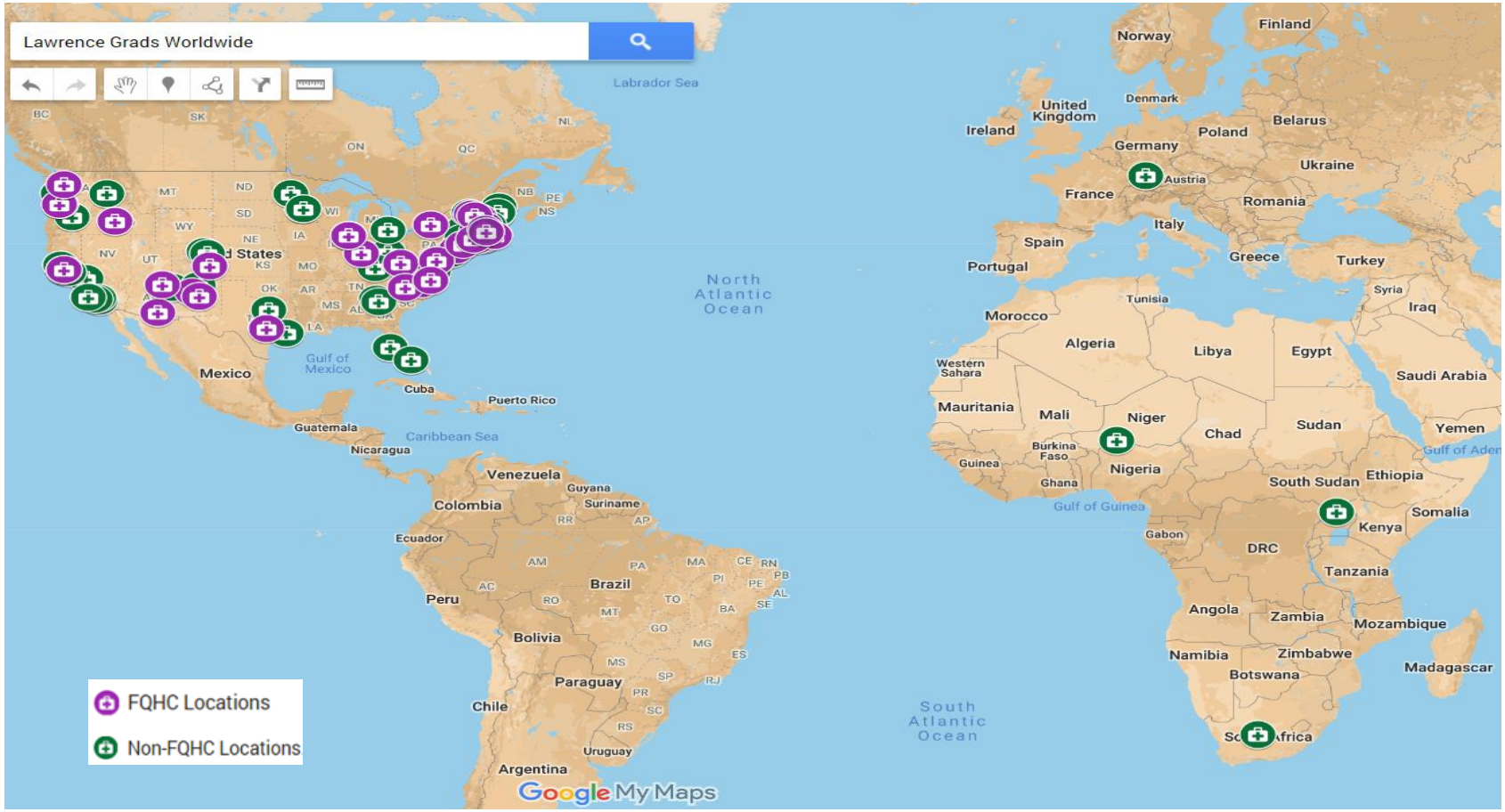
# LFMR Graduates in New England



# LFMR Graduates in the US

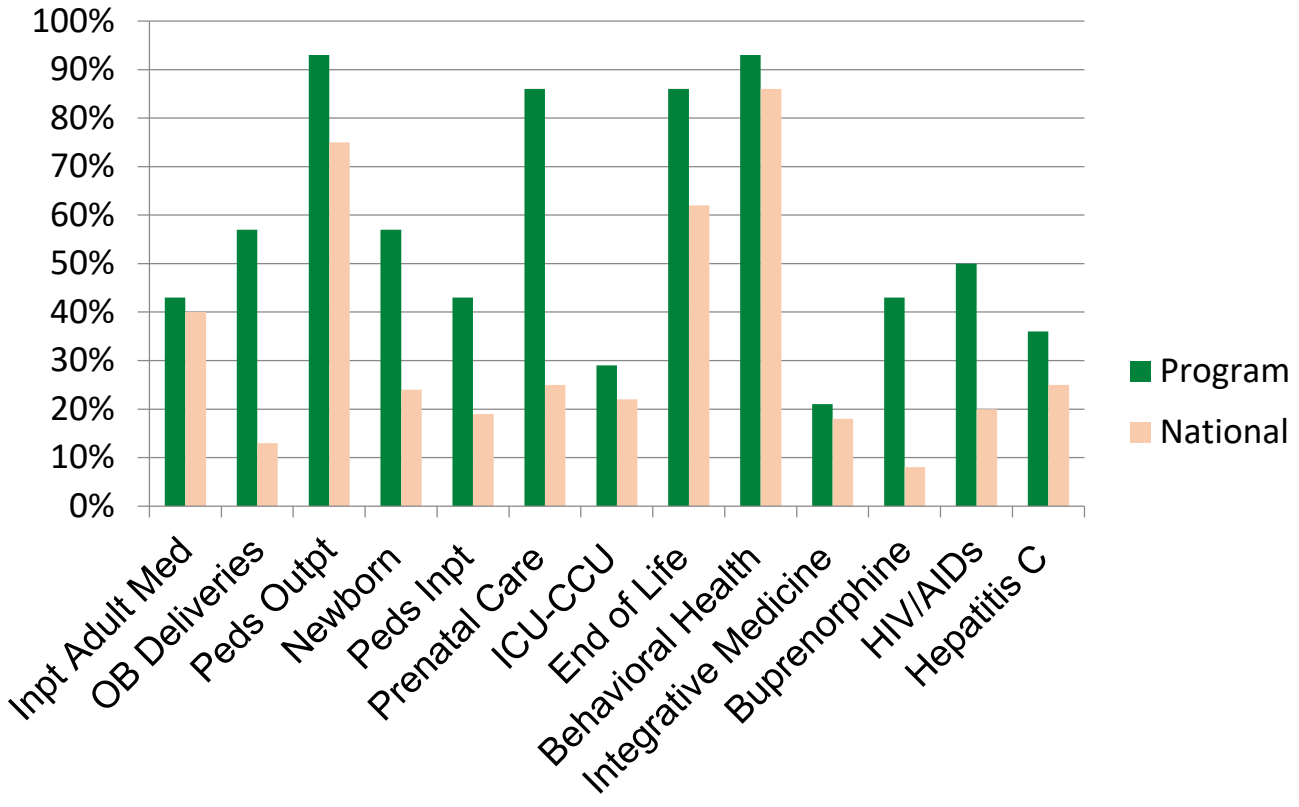


# LFMR Graduates Worldwide



Swiss Army Knives Look The Same on the Outside-
But All “Primary Care” is Not the Same Scope of Practice

# LFMR Graduate Outcomes: Scope of Practice



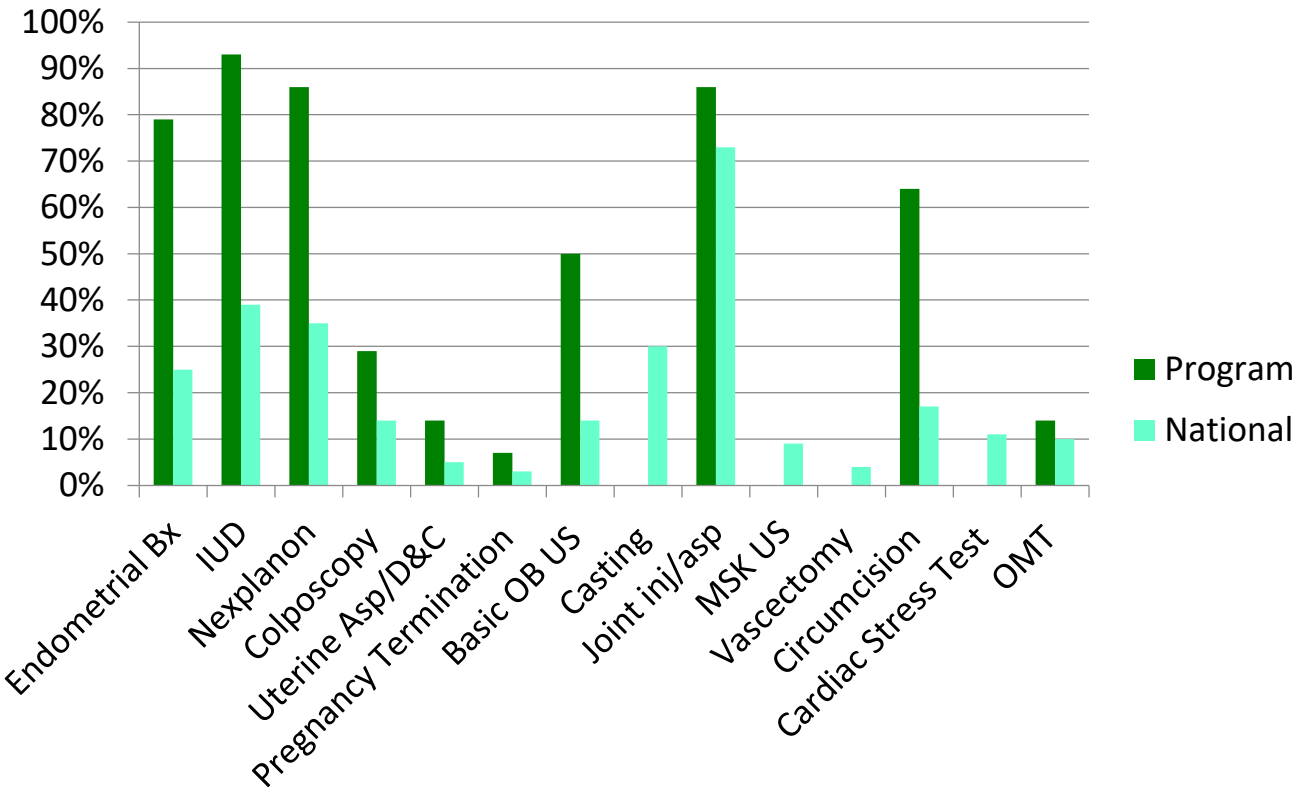
# Why THC graduates have superior exposure in training

- Specialist maldistribution & access- Broader scope of FM helps mitigate these issues-> residents learn to handle most things without referral
- Patients are sicker & more complex- inpatient & ambulatory clinic
- Maternity care- volumes and higher risk (diabetes, malnutrition, obesity, SUD)
- Lack of access & limited Medicaid coverage for behavioral health- poverty's extremely high disease burden of anxiety, depression, serious psychiatric disease: residents address these issues (with support) daily
- Substance use disorder – all residents obtain Medically Assisted Opioid Treatment certification
- Homelessness, other social determinants of health addressed (70% of patients have food insecurity)
- Cost effectiveness required – pharmacy, testing, imaging- and 10% still "self-pay"

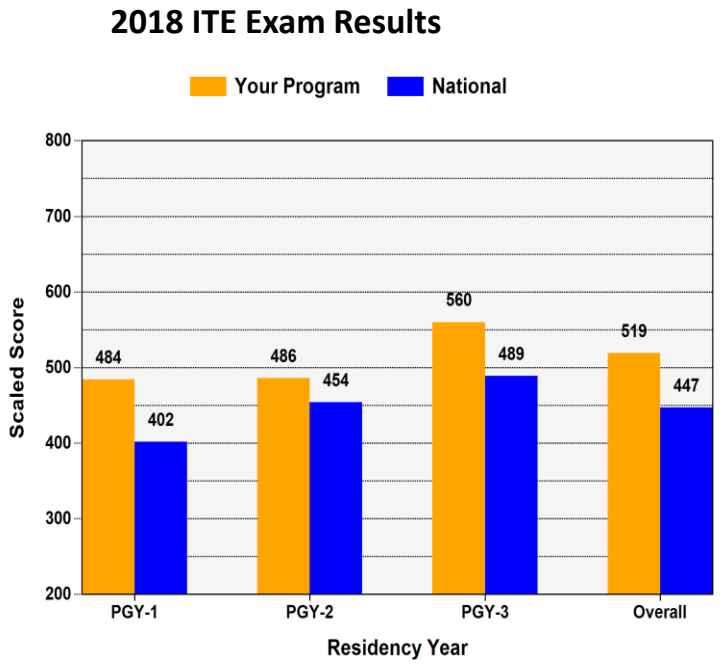
# Procedures Required for Demonstrated Competency of ALL Residents for Graduation

| Procedure | Required # (total for all residents/[% R4s complete]) | Responsible Faculty |
|---|---|---|
| EKG Interpretation | 5 (198) [85%] | Anthony Valdini |
| Cryosurgery | 5 (95) [71%] | Cara Marshall |
| Skin Biopsy | 5 (114) [57%] | Cara Marshall |
| I & D Abscess | 3 (82) [85%] | Vince Waite |
| Wet Mount/KOH | 5 (174) [100%] | Julie Johnson |
| Pap Smear | 5 (265) [100%] | Julie Johnson |
| Anoscopy | 2 (19) [43%] | Vince Waite |
| IUD Insertion | 2 (162) [100%] | Julie Johnson |
| IUD Removal | 2 (59) [85%] | Julie Johnson |
| Contraceptive Implant Insertion | 2 (513) [100%] | Julie Johnson |
| Contraceptive Implant Removal | 2 (145) [100%] | Julie Johnson |
| Endometrial Biopsy | 2 (94) [100%] | Julie Johnson |
| Simple Laceration Repair | 3 (152) [100%] | Vince Waite |
| Normal Vaginal Delivery | 60 (1705) [100%] | A[100%]ndrew Smith |
| EFM Interpretation | 5 (40) [57%] | Andrew Smith |
| Amniotomy | 1(276) [100%] | Andrew Smith |
| Fetal Scalp Electrode | 1 (66) [71%] | Andrew Smith |
| IUPC Placement | 1 (45) [100%] | Andrew Smith |
| Vaginal Laceration ($1^{st}$/$2^{nd}$ Degree)/Episiotomy Repair | 5 (398) [100%] | Andrew Smith |
| Large Joint Aspiration/Injection | 5 (at least 1 knee, 1 shoulder) (326) [100%] | Warren Bodine |
| Neonatal Resuscitation | 10 (283) [100%] | Keith Nokes |

# LFMR Graduate Outcomes: Procedural Practice



# Objective Outcomes -Standardized Exams
# (More Robust Patient Experience-> Higher Test Scores)

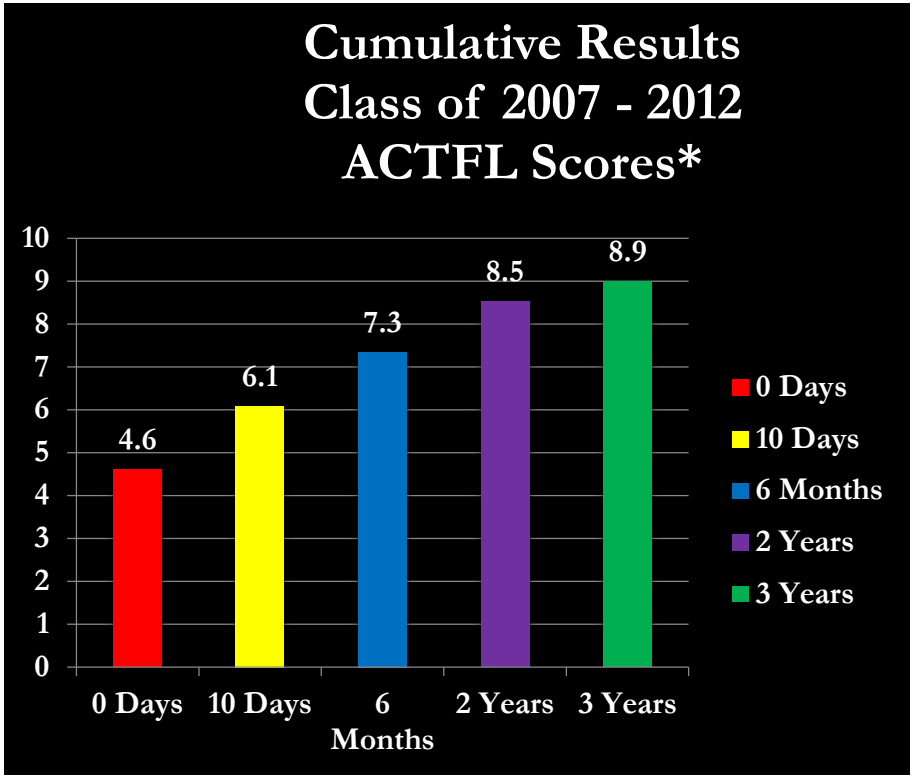



**American Board of Family Medicine Certification Exam Results**- 5 Year Average

- LFMR average is 611.
- (Passing is 380.)
- Residency has one of highest 5 year averages in the US

# Why We Teach Spanish

- Lawrence - 74% Spanish-speaking
- 45 million Spanish-speakers as first or second language in US
- The Hispanic Population is projected to nearly triple by 2050, from 46.7 million in 2008 to 132.8 million in 2050.
- In that year, Hispanic residents will represent 30 percent of the nation's total population.
- 10-day intensive program at Dartmouth (Rassias)
- Spanish teacher/translator
- Individualized one-on-one teaching
- Paired with bilingual medical assistant
- Majority of daily patient interactions are in Spanish
- International language elective encouraged and funded
- **Spanish Language not required to apply; all residents graduate proficient**



# Areas of Concentration- Generalists with Additional Skills


Increases Physician Satisfaction,
Helps Mitigate Specialist Maldistribution

# Teaching Health Centers Are Magnets for Primary Care Workforce (& Residents ->“Community-Based Faculty”)

Aid Recruitment to Underserved Areas & Retention Through Part-Time Teaching Opportunities

Greater Lawrence Family Health Center

# Lawrence Family Medicine Residency Class of 2023

Lawrence Family Medicine Residency

**Corrine Ainsworth**
University of Massachusetts

**Kathleen "Katy" Anthony**
Vanderbilt University School of Medicine

**Alaina Aristide**
Icahn School of Medicine at Mt Sinai

**Miguel Joaquin**
Michigan State University College of Human Medicine

**Denise Lobo**
University of Florida College of Medicine

**Patrick O'Neil**
University of Maryland

**Patrick Salemme**
Jacobs School of Medicine at University of Buffalo

**Wesley "Alex" Spacht**
University of Chicago Pritzker School of Medicine

**Angela Sterling**
University of Central Florida College of Medicine

**Thu "Tina" Tran**
University of Texas Southwestern Medical School

**Rebecca Weiner**
Rutgers New Jersey Medical School

**Beverly Williams**
University of New Mexico School of Medicine

# THANK YOU

@TheGrahamCenter

ROBERT
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