

Panel: Training a Health Care Workforce to Meet your
State's Needs (and Wants)

Addressing Challenges: Data, Tools and Primary Care

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NCSL

August 2013




AAFP Center for Policy Studies

tools & resources

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ROBERT GRAHAM CENTER UPDATE

Review and freely borrow from our annotated slide series on Graham Center analyses, health policy and primary care.

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THEMES

Guiding the work of the Robert Graham Center

- [The Value of Primary Care](#)
- [Health Access and Equity](#)
- [Delivery and Scope of the Medical Home](#)
- [Healthcare Quality and Safety](#)

White Paper

The House of Representatives has proposed to use Federal funds to raise Medicaid payments rates for primary care physicians to those of Medicare (Section 1721 of HR 3200). The Graham Center estimated the effects on total gross revenue of the average physician nationally and the total gross revenue of the average family physician in each state. The white paper shows the widely variable but important impact.



Read the report:

[Estimated effects of Sec. 1721 of draft bill HR 3200](#)



THE ROBERT GRAHAM CENTER **exists to...**

Improve individual and population health by enhancing the delivery of primary care.

The Center aims to achieve this mission through the generation or synthesis of evidence that brings a family medicine and primary care perspective to health policy deliberations from the local to international levels.

WHAT'S NEW

- [Primary Care Physicians by State](#)
(09/01/2009)
- [Decreasing self-perceived health status despite rising health expenditures](#)
(09/01/2009)
(One-Pagers)
- [The effect of facilitation in fostering practice change](#)
(06/01/2009)
(One-Pagers)
- [Effects of proposed primary care incentive payments on average physician Medicare revenue and total Medicare allowed charges](#)
(05/01/2009)
(Monographs & Books)
- [Specialty and geographic distribution of the physician workforce: What influences medical student & resident choices?](#)
(03/02/2009)
(Monographs & Books)

ACA & the Inadequacies of the Primary Care Workforce

- Hlth Aff, 2008(Colwill): 44k short by 2025

- Health Aff May 2008 vol. 27 no. 3w232-w241

Post ACA

- AAMC, 2010 – 46k short by 2025
- Re-affirming reports from Mass Med Society, Washington Post, others
 - PC Workforce/Infrastructure not ready for pent up demand of newly insured



ACA & the Inadequacies of the Primary Care Workforce

Reports highlight a problem of

- Supply

A problem, but perhaps less important than

- Distribution

- Composition

- Scope of Practice

- A workforce ready for New Models of delivery, team-based care

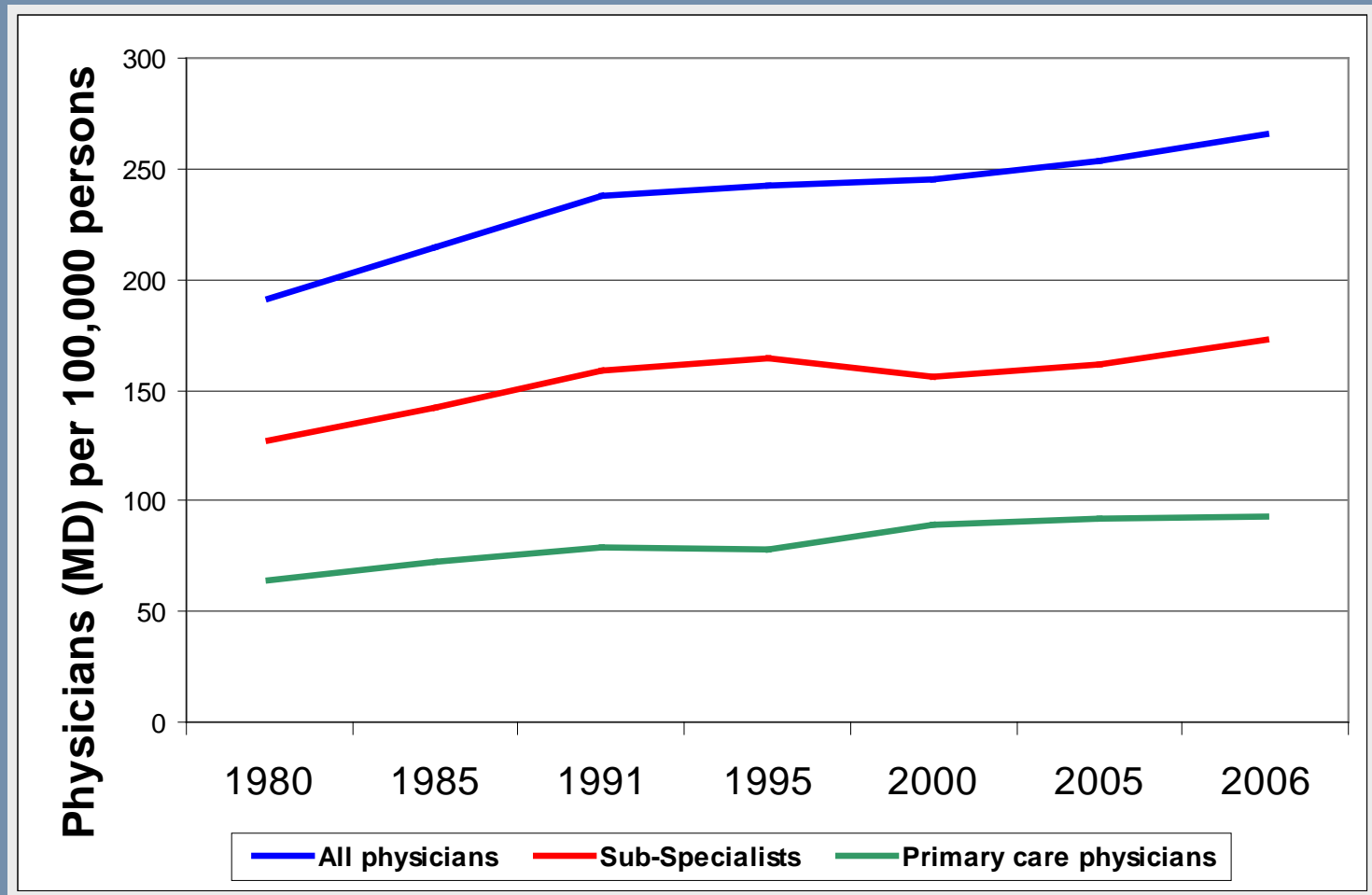


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Physician Specialties to Population Ratio 1980-2006

(Physicians per 100,000 persons)





U.S. Primary Care Workforce by Provider Type, 2010

Primary care provider	Number
Physicians	208,807
Nurse practitioners	55,625
Physician assistants	30,402
Total	294,834

2010 AMA Masterfile, 2010 National Provider Identifier File



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Primary Care : Population Ratio

- 1:1400 PC Physician: Population
- 1:1100 PC Providers: Population



What ratio matters?

- Comparative review for AHRQ: Greater than Western European peers
- Historical perspective: Largest, best trained PC Workforce in US History

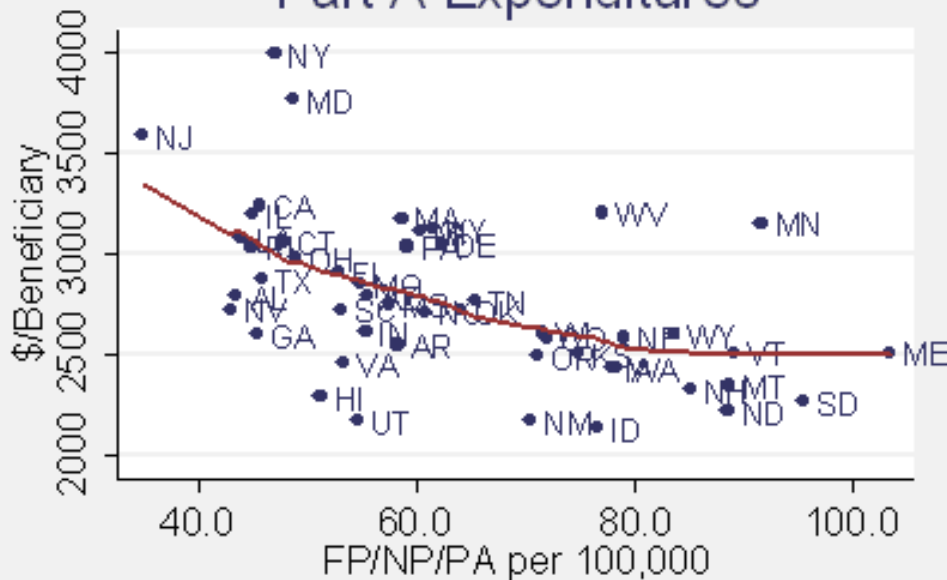


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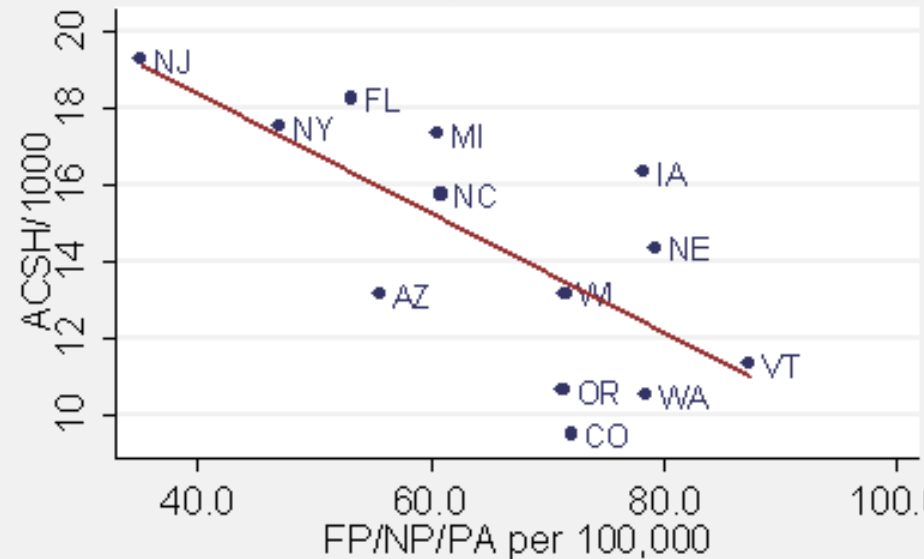
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What ratio matters?

Part A Expenditures



Avoidable Hospitalizations (HCUP)



Between 1500:1 and 2000:1 (FP + NP+PA; 1000:1 with other PCPs) if costs and avoidable hospitalizations matter

Difficulty demonstrating for General Internal Medicine

Distribution

- Primary Care/Population ratios vary widely by most measures of geography
 - State, County, Tract, or PCSA



Primary Care Physicians... Where
aren't they?

Geographic Distribution of Primary Care Health Care Professionals, 2010

Geography	All			Primary Care					US Population
	NP	PA	Physicians	NP	PA	Family Medicine	General Internal Medicine	General Pediatrics	
Urban Large	84.3%	84.4%	91.0%	72.1%	75.1%	77.5%	89.8%	77.6%	80%
Rural Small	8.9%	8.8%	6.5%	11.0%	11.6%	11.1%	6.7%	9.6%	10%
Rural Isolated	3.9%	3.7%	1.7%	7.7%	6.9%	7.2%	2.4%	7.3%	5%
Rural, Frontier	2.8%	3.0%	0.7%	9.1%	6.3%	4.2%	1.1%	5.5%	5%

Consequences of Maldistribution



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SPECIAL ARTICLE

[◀ Previous](#) Volume 353:1810-1818 October 27, 2005 Number 17 [Next ▶](#)

The Metrics of the Physician Brain Drain

Table 1. Characteristics of International Medical Graduates (IMGs) in Physician Workforces of the United States, the United Kingdom, Canada, and Australia.

Country	No. of Physicians per 100,000 Population	Total No. of IMGs	% of IMGs in Workforce	% of IMGs from Lower-Income Countries	% of IMGs from the Three Other Developed Countries
United States	293	208,733	25.0	60.2	6.5
United Kingdom	231	39,266	28.3	75.2	2.5
Canada	220	15,701	23.1	43.4	22.3
Australia	271	14,346	26.5	40.0	33.5

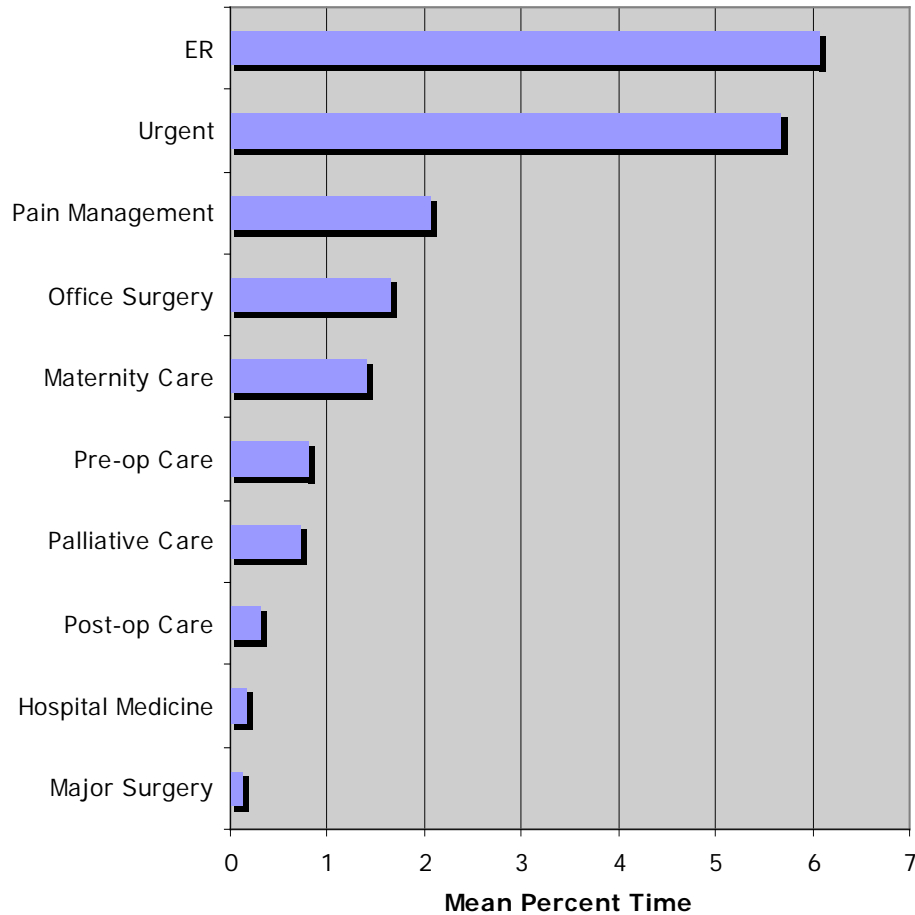
Scope of Practice: The Case of Family Medicine

- 2004 - Future of Family Medicine:
 - Suggests our discipline is in part defined by the 'Basket of Services' it delivers
- Using ABFM diplomate data 2003-present, we discover:
 - Wide variation in scope : Rural to Urban, Regionally, by Age/Gender/ Years in practice
 - Declines in several key areas

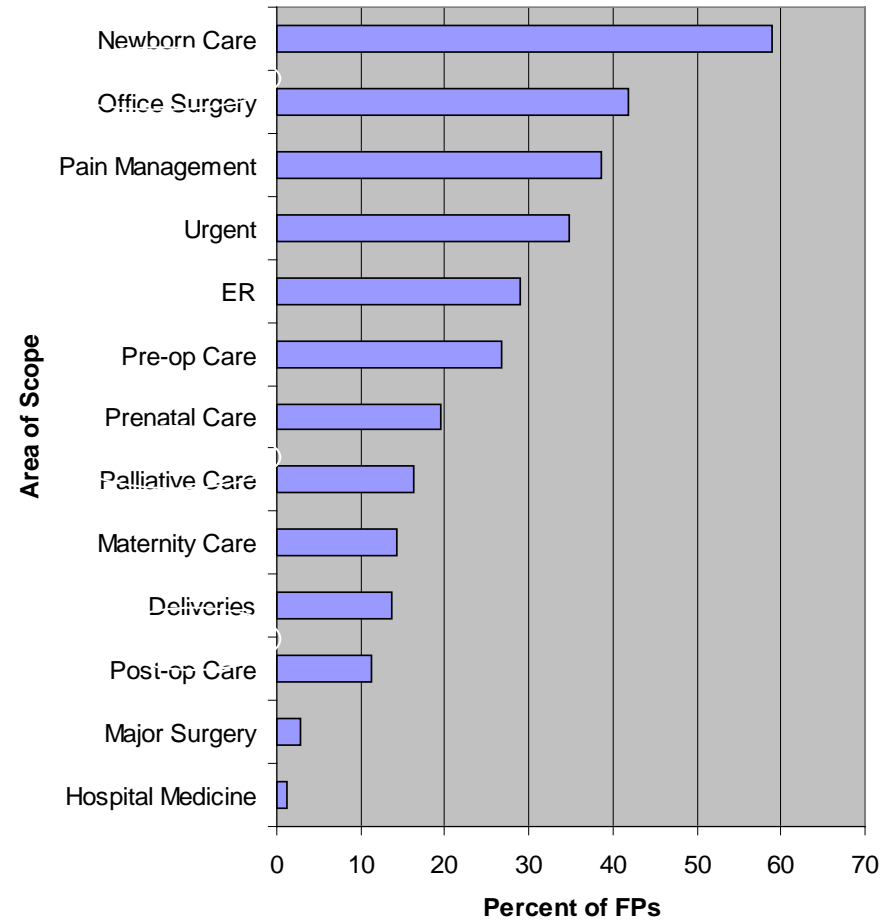


What is Comprehensive Care?

Mean Percent Time Practicing in a Given Area

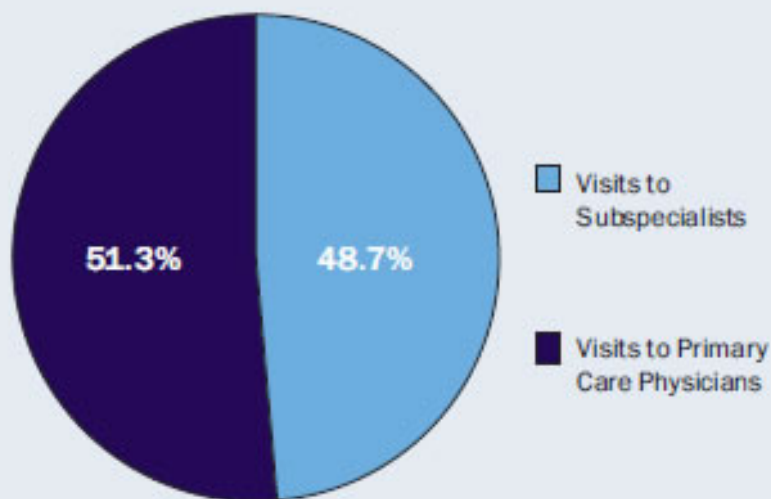


Percent of FPs in Any Given Area of Scope

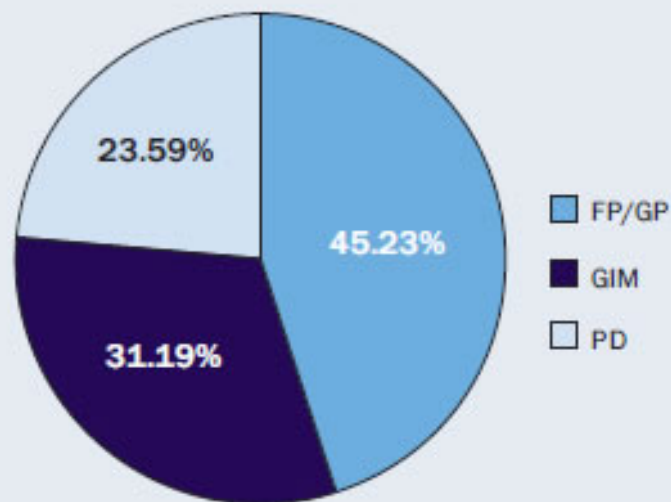


Visits to Office Based Physicians

Non-primary care vs. primary care



Within primary care



Abbreviations: FP/GP = Family Physician/General Practitioner, GIM = General Internists Medicine, PD = General Pediatrician

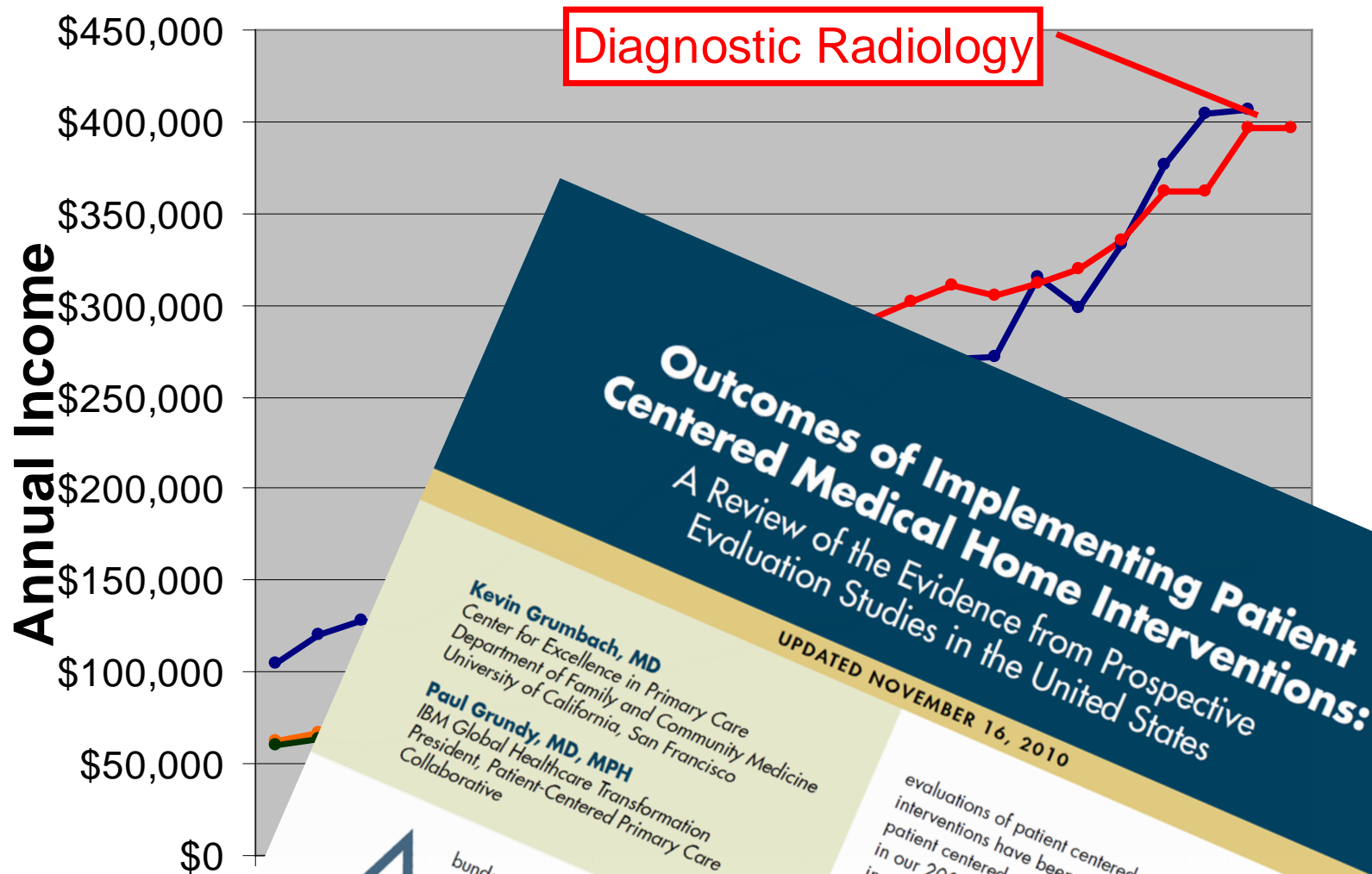
<http://www.ahrq.gov/research/pcwork1.htm>



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Progress of the Physician Payment Gap



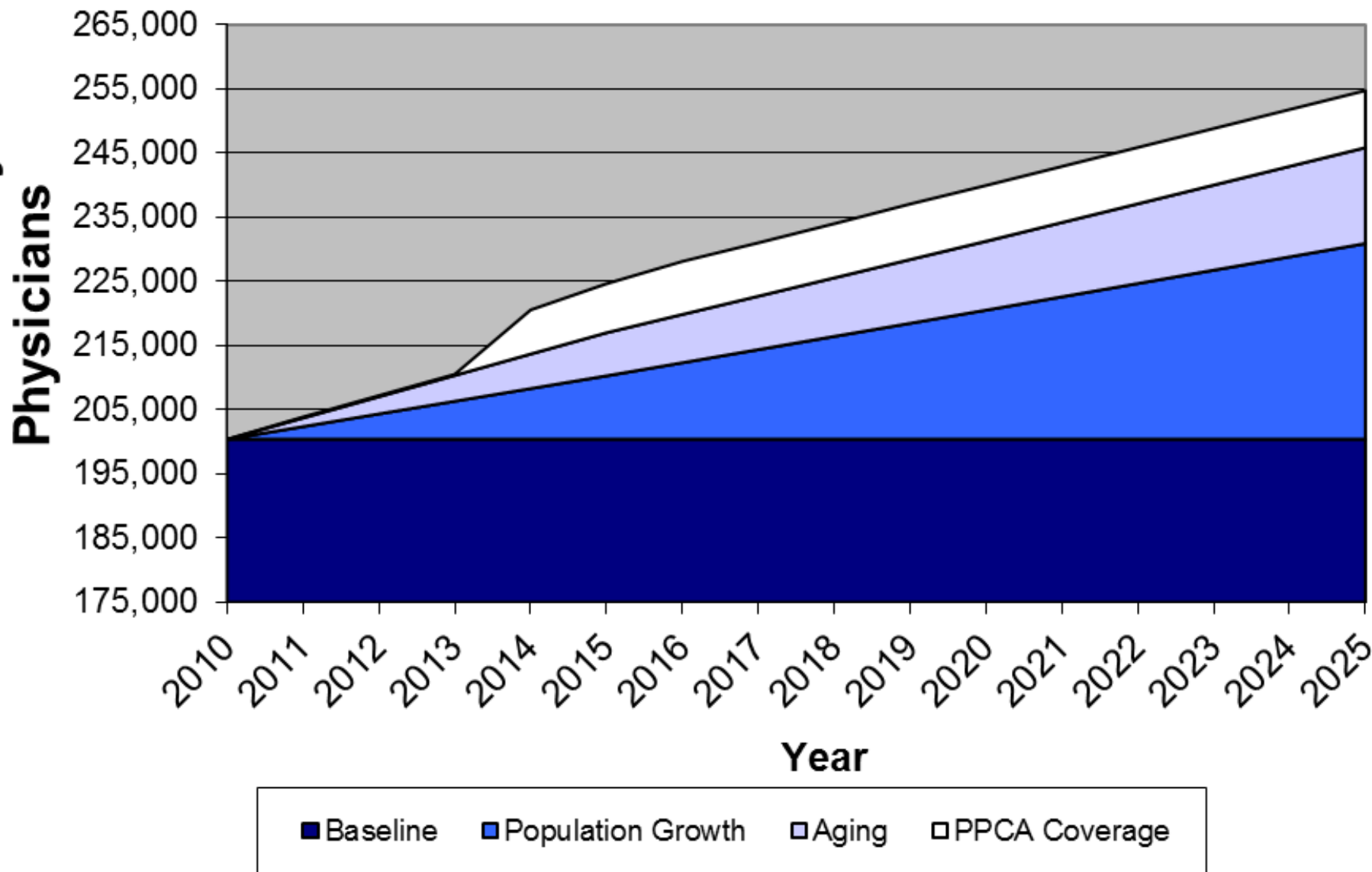
1997

A abundant research comparing nations, states and regions within the US, and specific systems of care has shown that health systems built on a solid foundation of primary care deliver more effective, efficient and equitable care.^{1,2} However, some policies that fail to invest adequately in primary care are largely responsible for the implementation of patient-centered medical home interventions of patient centered medical home interventions have been released. These include some patient centered medical home initiatives mentioned in our 2009 report which have released updated findings from ongoing assessments, as well as evaluations of new patient centered medical home initiatives not included in last year's report. In total, the report involve more than a million patient centered medical home initiatives in thousands of diverse settings, including both private and public settings.



Projection of Primary Care Physician Use

Number of Primary Care Physicians



Growth of Osteopathic Medical Colleges

An era of Allopathic, Osteopathic, (and offshore) expansion

Total Enrollment and Number of Colleges

Enrollment
Number of colleges

18000 30

Figure 1. Projected First Year Enrollment for Current and New Schools.

	Baseline	Projected				
	2002 ⁵	2009	2010	2011	2012	2013
Schools accredited in 2002 (125)	16488	18125	18546	18723	19011	19123
Accredited schools since 2002 (5)		228	292	384	456	508
130 schools accredited as of 2008	16488	18353	18838	19107	19467	19631
Applicant Schools as of 2009 (5)		40	160	220	280	315
Total (135)	16488	18,393	18,998	19,327	19,747	19,946
% Increase from 2002		11.6%	15.2%	17.2%	19.8%	21.0%
# Increase from 2002		1,905	2,510	2,839	3,259	3,458

How might we inform, direct or monitor expansion?

World Health Organization - Social Accountability

Education	Research	Community Service
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Boelen C, Heck J. *Defining and Measuring the Social Accountability of Medical Schools*.
Geneva: Division of Development of Human Resources for Health, World Health Organization;
1995. Document WHO/HRH/95.5.

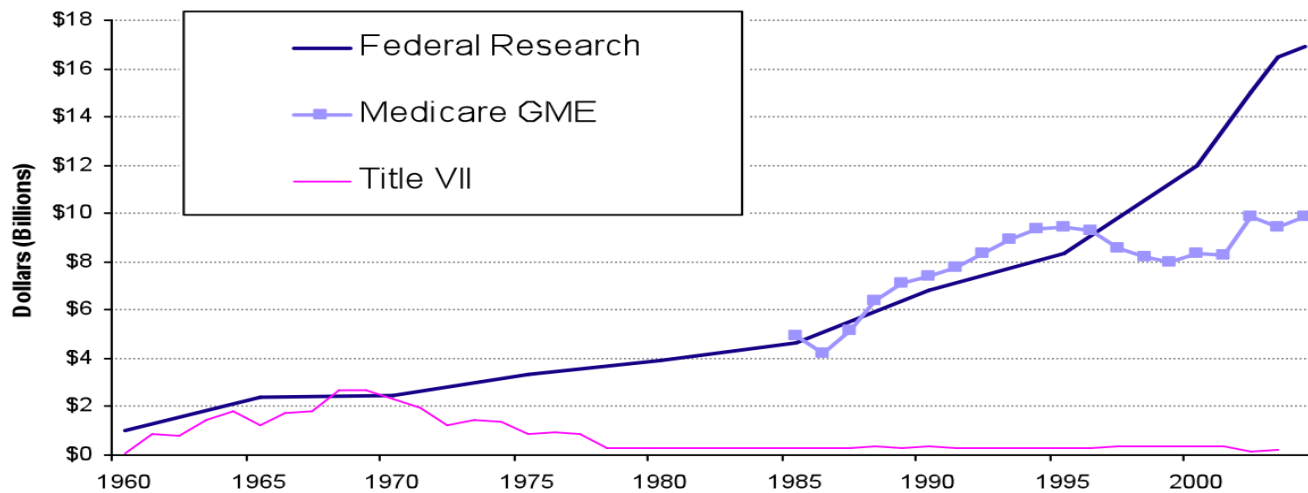


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Federal Funding for Medical Education and Primary Care

Figure 6: U.S. Medical School Revenue, 2008 Dollars



Source: AAMC Data Book, Centers for Medicare and Medicaid Services, Health Resources and Services Administration

Social Mission of Medical Education: Ranking the Schools

ACADEMIA AND CLINIC

Annals of Internal Medicine

The Social Mission of Medical Education: Ranking the Schools

Fitzhugh Mullan, MD; Candice Chen, MD, MPH; Stephen Petterson, PhD; Gretchen Kolsky, MPH, CHES; and Michael Spagnola, BA

Background: The basic purpose of medical schools is to educate physicians to care for the national population. Fulfilling this goal requires an adequate number of primary care physicians, adequate distribution of physicians to underserved areas, and a sufficient number of minority physicians in the workforce.

Objective: To develop a metric called the social mission score to evaluate medical school output in these 3 dimensions.

Design: Secondary analysis of data from the American Medical Association (AMA) Physician Masterfile and of data on race and ethnicity in medical schools from the Association of American Medical Colleges and the American Association of Colleges of Osteopathic Medicine.

Setting: U.S. medical schools.

Participants: 60 043 physicians in active practice who graduated from medical school between 1999 and 2001.

Measurements: The percentage of graduates who practice primary care, work in health professional shortage areas, and are underrepresented minorities, combined into a composite social mission score.

Results: The contribution of medical schools to the social mission of medical education varied substantially. Three historically black colleges had the highest social mission rankings. Public and community-

based medical schools had higher social mission scores than private and non-community-based schools. National Institutes of Health funding was inversely associated with social mission scores. Medical schools in the northeastern United States and in more urban areas were less likely to produce primary care physicians and physicians who practice in underserved areas.

Limitations: The AMA Physician Masterfile has limitations, including specialty self-designation by physicians, inconsistencies in reporting work addresses, and delays in information updates. The public good provided by medical schools may include contributions not reflected in the social mission score. The study was not designed to evaluate quality of care provided by medical school graduates.

Conclusion: Medical schools vary substantially in their contribution to the social mission of medical education. School rankings based on the social mission score differ from those that use research funding and subjective assessments of school reputation. These findings suggest that initiatives at the medical school level could increase the proportion of physicians who practice primary care, work in underserved areas, and are underrepresented minorities.

Primary Funding Source: Josiah Macy, Jr. Foundation.

Ann Intern Med. 2010;152:804-811.

For author affiliations, see end of text.

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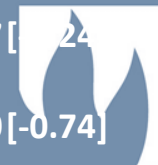
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Medical Schools Social Mission Score, Primary Care, HPSA and Minorities

Rank	School Name	State	Social Mission Score	% Primary Care [std score]	% HPSA [std score]	URM School State (Nation) Ratio [std score]	School URM %	State (Nation) URM %
1	Morehouse	GA	13.98	43.7[1.20]	39.1[1.40]	3.15[11.38]	83.3%	26.5%
2	Meharry	TN	12.92	49.3[2.00]	28.1[0.14]	2.99[10.78]	79.3%	26.5%
3	Howard	DC	10.66	36.5[0.19]	33.7[0.78]	2.71[9.68]	71.9%	26.5%
4	Wright State- Boonshoft	OH	5.34	49.2[1.98]	28[0.12]	1.31[3.23]	19.0%	14.5%
5	U Kansas	KS	4.49	45.2[1.42]	43.9[1.96]	0.77[1.12]	11.6%	15.1%
6	Michigan State University	MI	4.13	43.6[1.20]	26.5[-0.05]	1.24[2.99]	23.7%	19.1%
7	East Carolina-Brody	NC	3.72	51.9[2.36]	34.2[0.84]	0.62[-0.82]	17.3%	28.1%
8	U South Alabama	AL	3.15	42[0.97]	52.7[2.97]	0.29[-0.78]	8.2%	28.7%
9	Ponce	PR	3.02	33[-0.31]	43.8[1.94]	0.84[1.38]	82.5%	26.5%
10	Iowa-Carver	IA	2.97	37.1[0.28]	21[-0.69]	1.35[3.38]	8.1%	6.0%

Medical Schools Social Mission Score, Primary Care, HPSA and Minorities

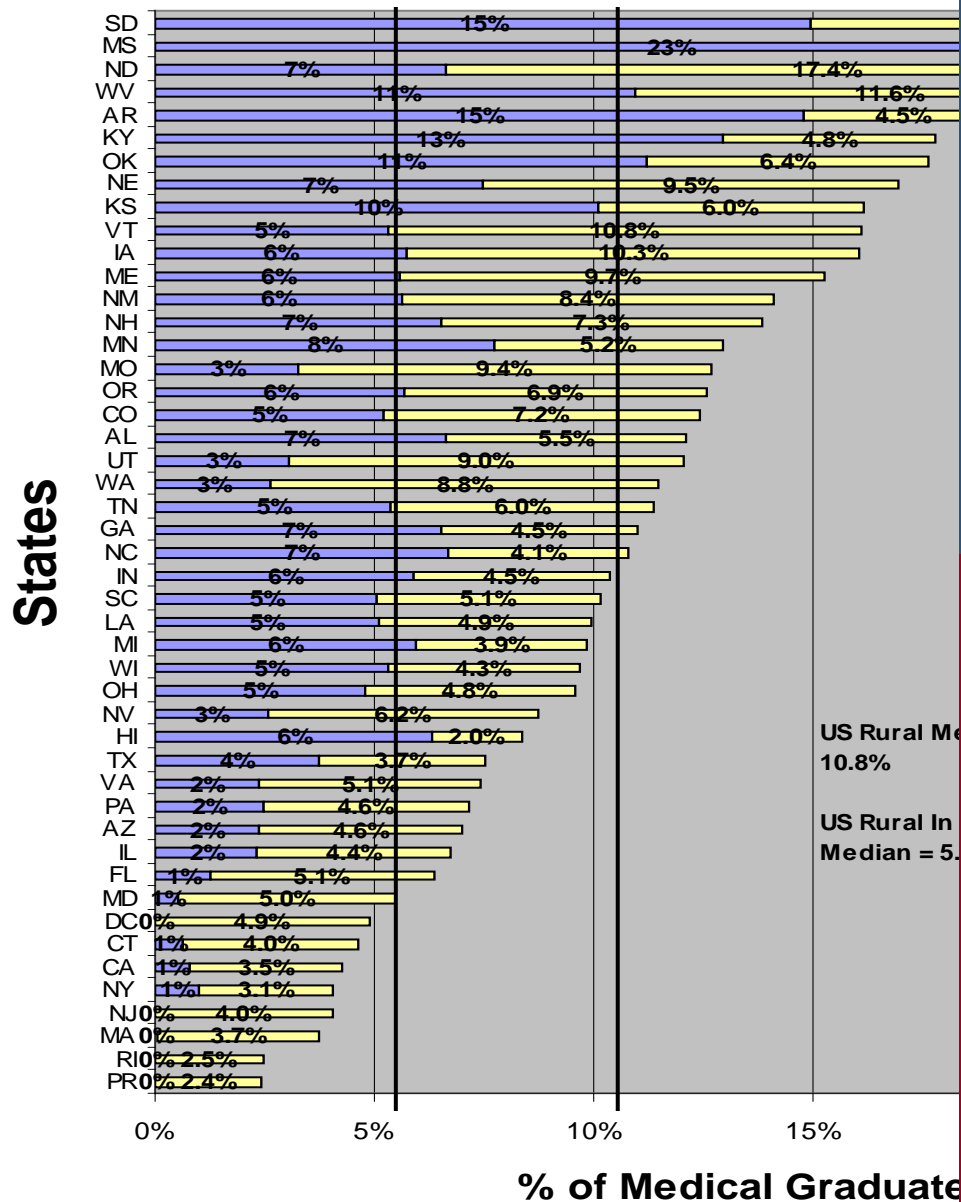
Rank	School Name	State	Social Mission Score	% Primary Care [std score]	% HPSA [std score]	URM School:State (Nation) Ratio [std score]	School URM %	State (Nation) URM %
132	Einstein	NY	-2.13	26.1[-1.28]	24.8[-0.25]	0.33[-0.60]	8.8%	26.5%
133	Stony Brook	NY	-2.21	29.1[-0.85]	20.4[-0.76]	0.33[-0.60]	10.5%	31.7%
134	Jefferson	PA	-2.34	32.1[-0.42]	20.6[-0.72]	0.18[-1.19]	4.8%	26.5%
135	Uniformed Services	MD	-2.36	29.6[-0.78]	21.4[-0.64]	.024[-0.95]	6.5%	26.5%
136	UMDNJ-New Jersey	NJ	-2.46	23.7[-1.61]	17.8[-1.05]	0.54[0.20]	14.8%	27.7%
137	New York University	NY	-2.65	24.3[-1.53]	22.1[-0.55]	0.34[-0.57]	9.0%	26.5%
138	UC Irvine	CA	-3.02	32.9[-0.32]	14.2[-1.47]	0.17[-1.24]	7.0%	41.2%
139	Northwestern-Feinberg	IL	-3.11	24.4[-1.51]	19.5[-0.86]	0.30[-0.74]	7.9%	26.5%
140	UT Southwestern	TX	-3.64	26.8[-1.18]	15.1[-1.36]	0.21[-1.09]	9.3%	44.7%
141	Vanderbilt	TN	-3.95	21.9[-1.86]	20.8[-0.70]	0.13[-1.38]	3.6%	26.5%



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% of Medical Graduates in Rural



Top 3:

1) South Dakota:
31%

2) Mississippi: 28%

3) North Dakota:
24%

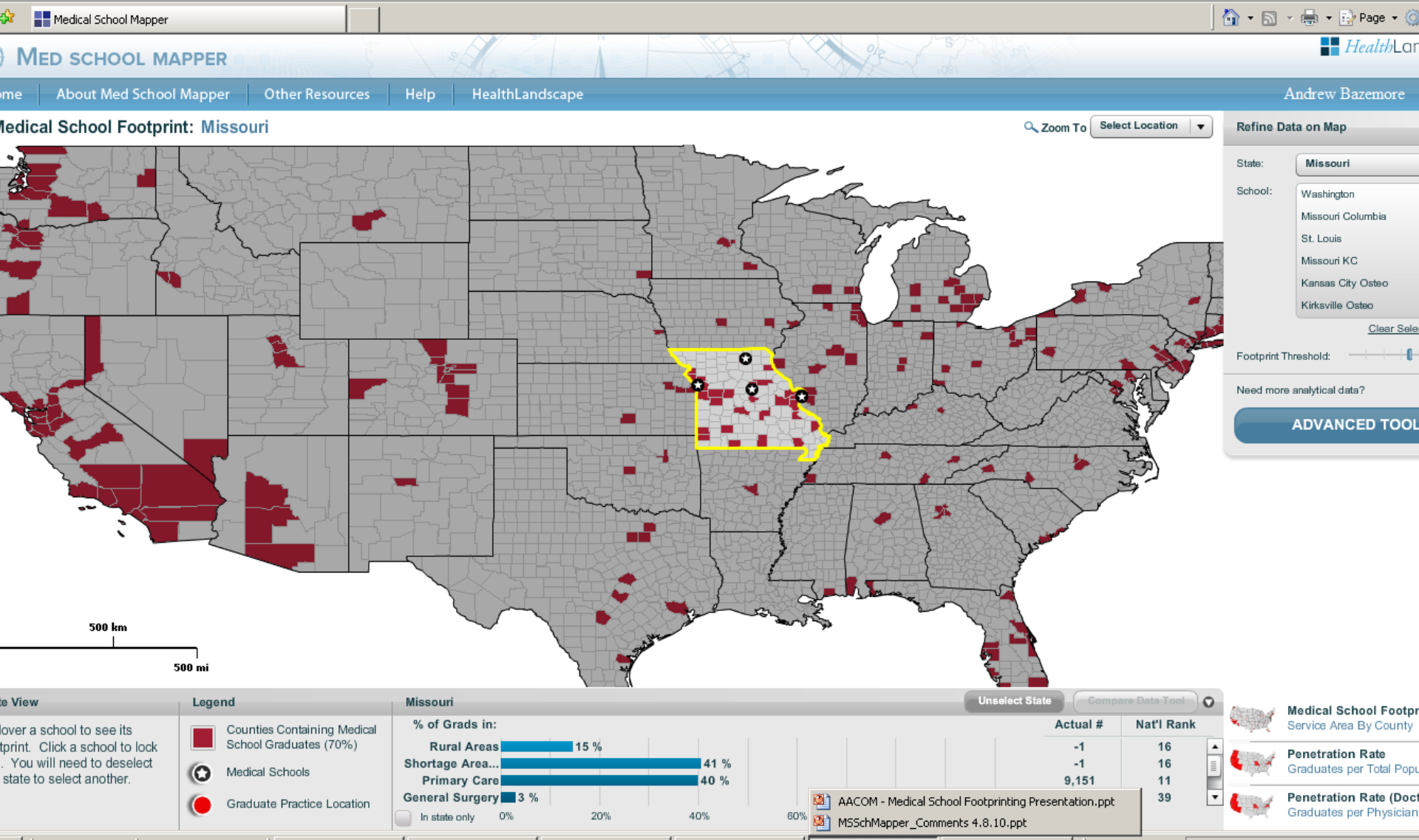
Bottom 3:

1) Puerto Rico:
2.4%

2) Rhode Island:
2.5%

3) Massachusetts:
3.7%

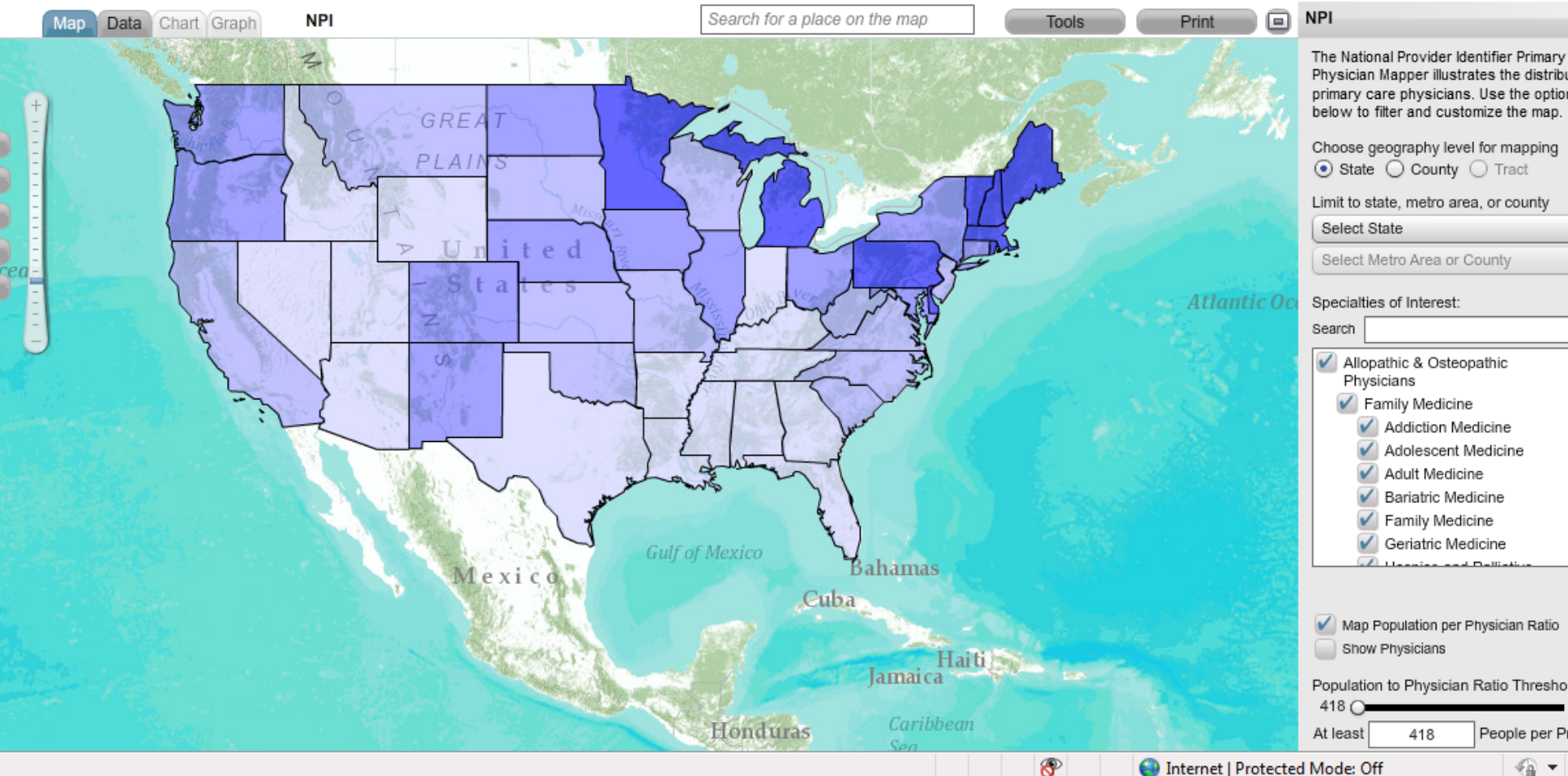
Measuring Accountability to State's Interest and ROI



Primary Care Physician Mapper

The Primary Care Physician Mapper illustrates the distribution of primary care physicians by state, county, or census tracts in metropolitan areas. The physician data source is the National Provider Identifier (NPI), maintained by the Centers for Medicare and Medicaid Services (CMS). Any provider who bills Medicare, Medicaid, or certain private insurance companies will be counted in the NPI dataset.

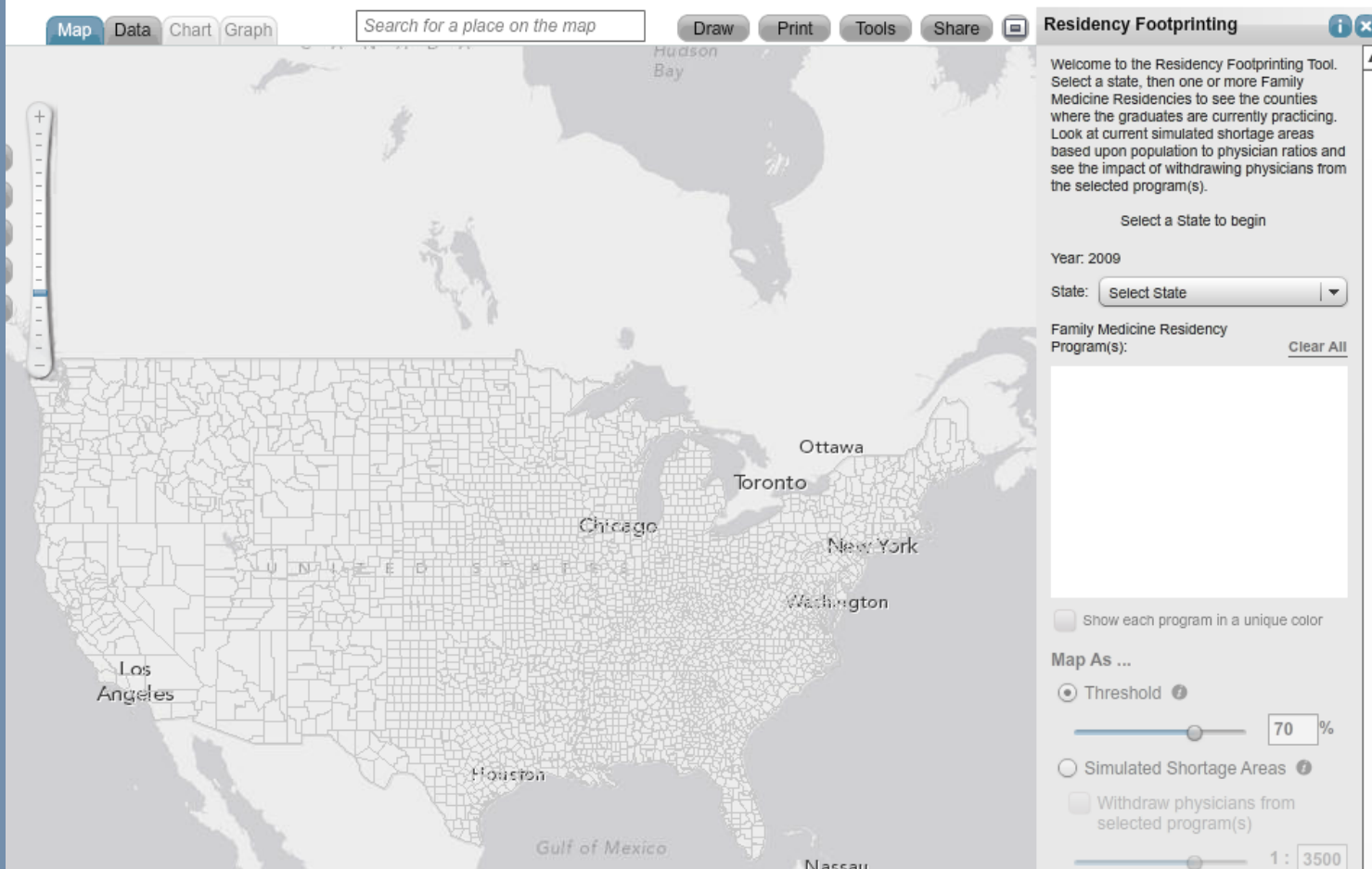
The Primary Care Physician Mapper allows the user to dynamically set the threshold at which map areas with a certain physician to population ratio are displayed. Users may select individual primary care specialties under 'Specialties of Interest' to explore their unique distributions. For example, a user might search for 'Pediatricians' or check the 'Pediatrics' box to understand variation in Pediatrician to population ratios in a region or nationally. A user may visualize raw counts of physicians or create maps showing the ratio of one or more primary care specialties to the population within a selected geography. Use the options on the right hand side of the mapper to create the map and legend that answers your question of interest.



Residency Footprinting Mapper

What is a footprint map? These maps depict the historical relationship between a program and its community, state, and region. The areas incorporated in the 70% threshold footprint have most consistently attracted program graduates and may not have had as many family physicians if the program had not existed. In this regard, the footprint may indicate an area's measure of dependence on the program for its family physicians. Areas with graduates that are outside the footprint are not unimportant, as many may be underserved areas. Residency programs can use these maps for internal reflection about whether they are fulfilling their missions, and to demonstrate their value to hospital and community leaders.

Start by selecting a state and then selecting one or more residency programs within that state. Adjust the threshold slider bar to see where the majority of graduates are practicing. Turn on the "Simulated Shortage Areas" to see where population-to-physician ratio is at, or below, the set threshold. Select "withdraw physicians from selected program(s)" to see which counties would have a primary care physician-to-population ratio lower than that which you have selected, if graduates from those programs were no longer practicing in those counties.



Residency Training Sites: Best/Worst Primary Care

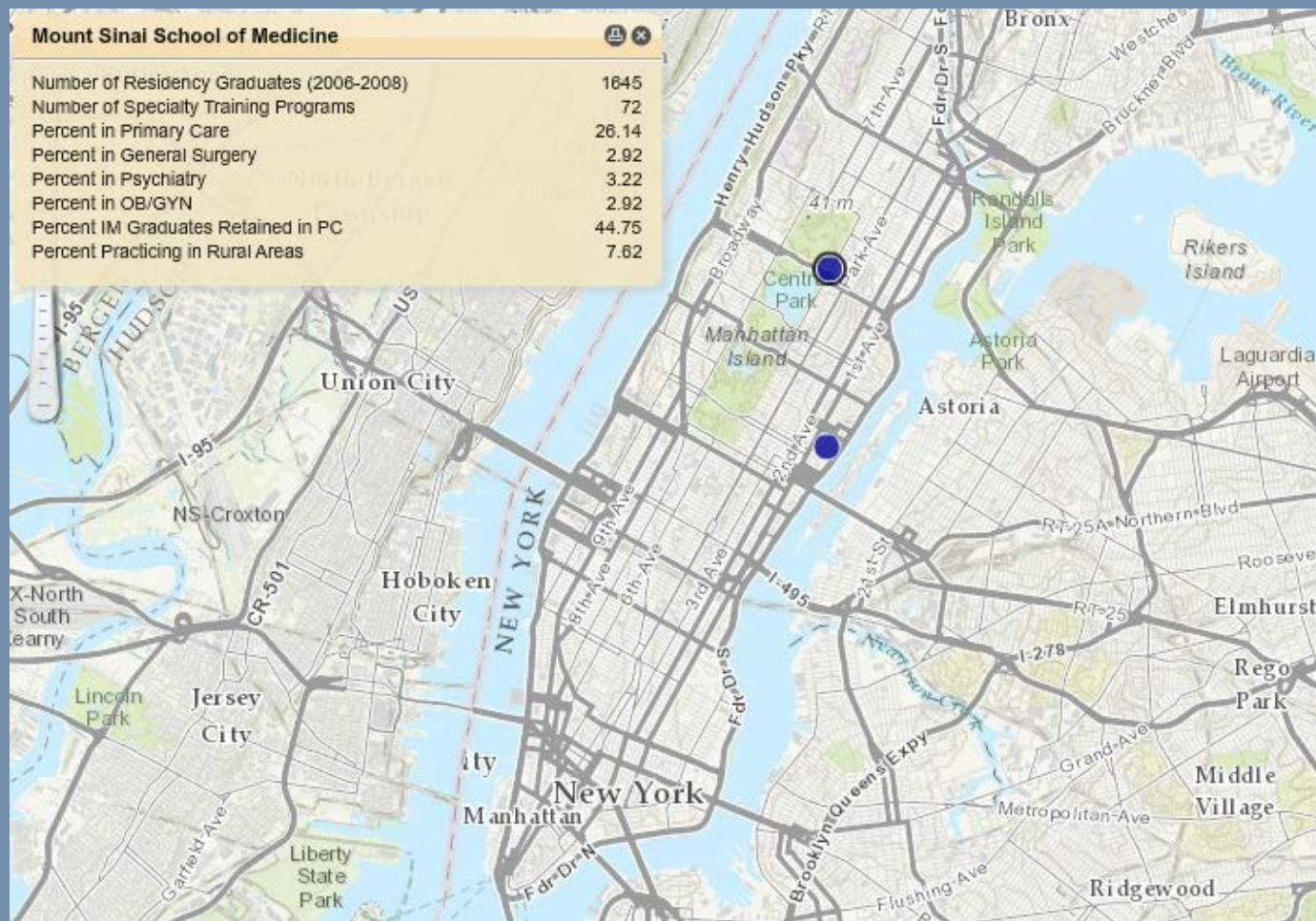
	State	Grads	Spec	PC	% PC
1. Univ Nevada SOM	NY	239	11	129	54%
2. Bronx-Lebanon	NY	286	12	143	50%
3. KP South. California	CA	286	16	140	49%
4. Brooklyn Hosp Center	NY	227	9	109	48%
5. James H Quillen COM	TN	240	12	113	47%
157. Vanderbilt	TN	793	59	67	8.5%
158. Stanford	CA	781	70	65	8.3%
159. Brigham and Women's	MA	893	45	69	7.7%
160. Mass General	MA	848	44	55	6.5%
161. Wash Univ	MO	1048	72	66	6.4%

* Limited to programs with more than 200 graduates between 2006-2008

Residency Training Sites: Best/Worst Rural production

	State	Grads	Spec	Rural	% Rural
1. Univ Puerto Rico	PR	343	29	74	61%
2. Geisinger Health System	PA	220	21	57	46%
3. Mary Hitchcock Mem Hosp	NH	361	37	80	44%
4. Univ of Kansas	KS	233	11	46	30%
5. James H Quillen COM	TN	240	12	40	29%
157. New York Presbyterian	NY	1,599	70	7	1.4%
158. St. Luke's-Roosevelt	NY	529	29	3	1.3%
159. Cedars-Sinai	CA	325	27	2	1.2%
160. UCLA Medical Center	CA	458	33	2	0.8%
161. Boston Children's	MA	423	29	0	0%

* Limited to programs with more than 200 graduates between 2006-2008 and physic
direct patient care



	Grads	Spec	PC	% PC	Rural	% Rural
Mount Sinai	1,645	72	430	26%	51	7.6%
New York Presbyterian	1,599	70	137	8.6%	7	1.4%



Primary Care and Rural Outlook

Overall GME Primary Care Production	25.2%
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Primary Care Physician Workforce*	32%
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COGME Primary Care Workforce Recommendation*	40%
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* COGME 20th Report

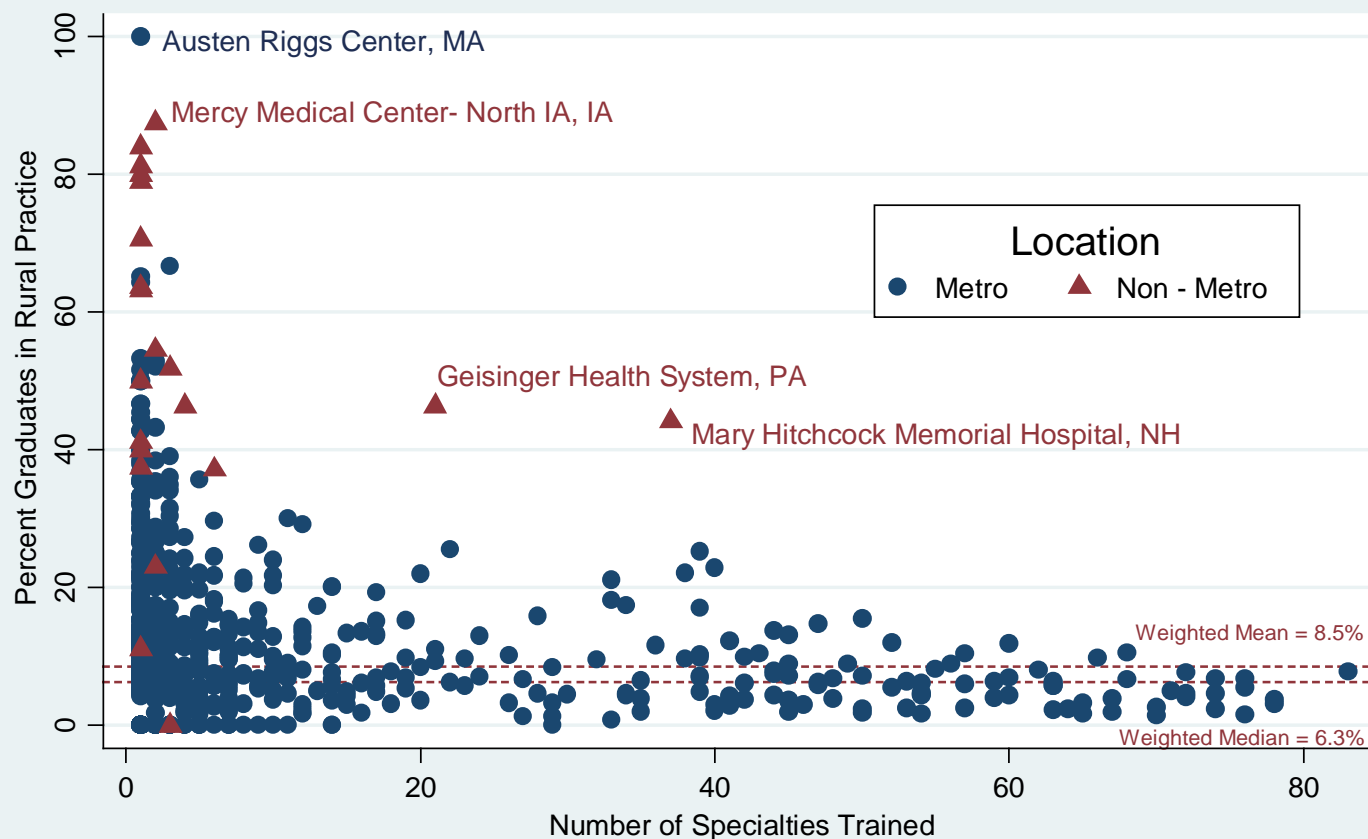
Overall GME Rural Production	4.8%
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Rural Physician Workforce*	11.4%
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Rural U.S. Population*	19.2%
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* Fordyce et al. 2005 Physician Supply and Distribution in Rural Areas of the United States

Rural Outcome Relative to Number of Specialties Trained

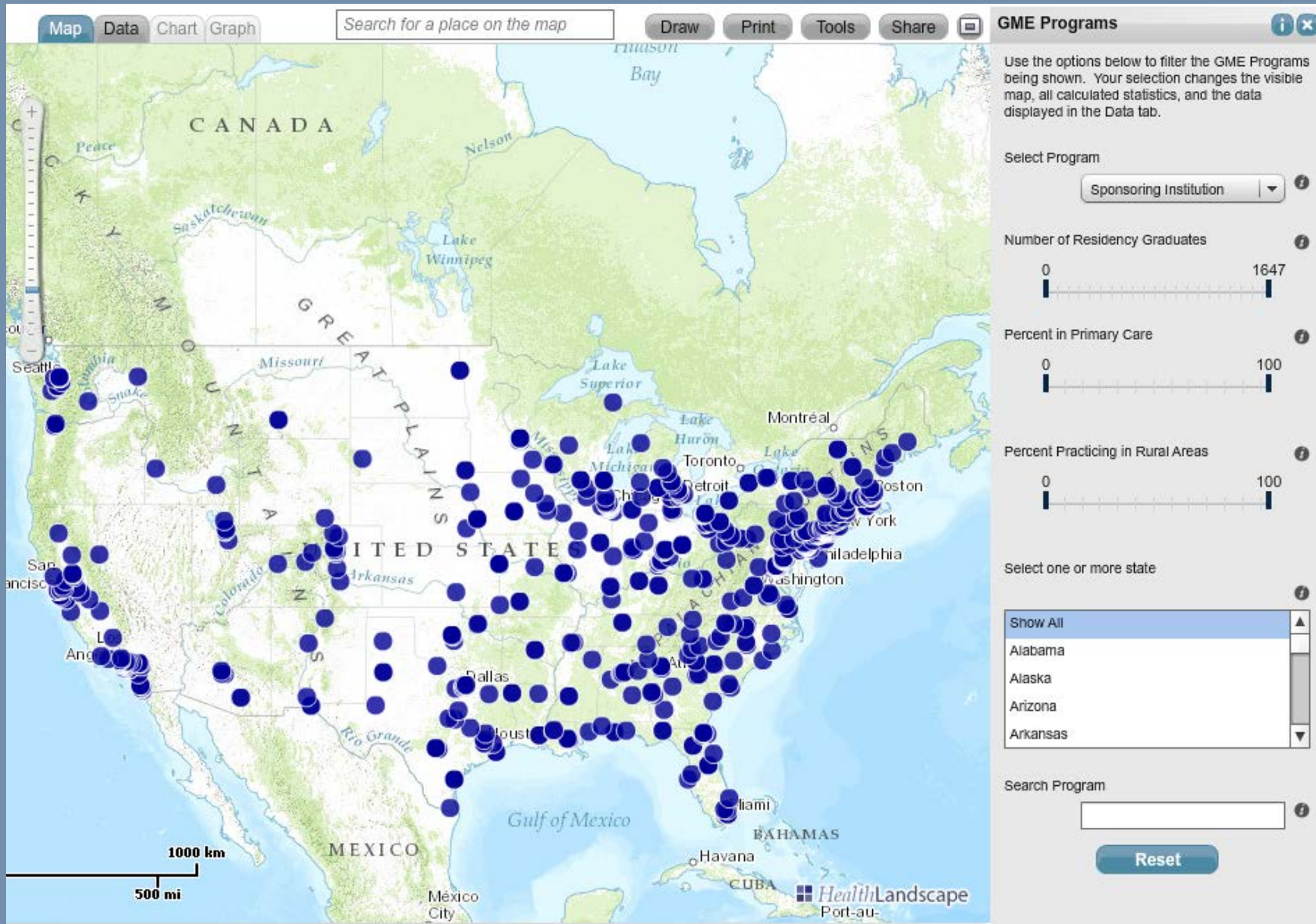


* Limited to Sponsoring Institutions with more than 3 graduates between 2006-2008.

** Puerto Rico institutions are excluded as PR is not included in the rural-urban continuum code designation

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www.graham-center.org/gmemapper

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Some Workforce Resources of interest

<http://www.ahrq.gov/research/pcwork1.htm>

www.medschoolmapper.org

<http://www.graham-center.org> – Goto
Tools & Resources

www.healthlandscape.org



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